2024 - 2029
Capitol Region Natural Hazard Mitigation Plan Update

Municipal Annexes Document

This document has been prepared as part of Connecticut's Capitol Region Council of Governments multi-jurisdictional hazard mitigation plan update. It presents details on the hazard risks and vulnerabilities, mitigation capabilities, and planned mitigation strategies and actions of each municipality in the Capitol Region. The multi-jurisdictional plan should be referenced for additional details about regional hazards, initiatives, and other hazard mitigation information. This document is not intended as a stand-alone planning document.

1. Table of Contents

1 ANDOVER **4**

2 AVON **21**

3 BERLIN **37**

4 BLOOMFIELD **55**

5 BOLTON **74**

6 CANTON **92**

7 COLUMBIA **109**

8 COVENTRY **126**

9 EAST GRANBY **145**

10 EAST HARTFORD **161**

11 EAST WINDSOR **181**

12 ELLINGTON **198**

13 ENFIELD **214**

14 FARMINGTON **232**

15 GLASTONBURY **250**

16 GRANBY **265**

17 HARTFORD **283**

18 HEBRON **307**

19 MANCHESTER **321**

20 MANSFIELD **340**

21 MARLBOROUGH **363**

22 NEW BRITAIN **378**

23 NEWINGTON **398**

24 PLAINVILLE **417**

25 ROCKY HILL **439**

26 SIMSBURY **455**

27 SOMERS **476**

28 SOUTH WINDSOR **491**
29 SOUTHINGTON **509**
30 STAFFORD **531**
31 SUFFIELD **548**
32 TOLLAND **548**
33 VERNON **577**
34 WEST HARTFORD **595**
35 WETHERSFIELD **615**
36 WILLINGTON **634**
37 WINDSOR **654**
38 WINDSOR LOCKS **670**

1 Andover

Community Overview

Andover is a rural community on the eastern edge of the Capitol Region with a population of about 3,151. The town is approximately 15.7 square miles and has an elevation of about 400 feet above sea level. Andover is located in the Willimantic River watershed. Several small rivers and streams flow through the town including the Hop and Skungamaug Rivers and their tributaries: Burnap and Staddle Brooks. Bear Swamp Brook runs through the Nathan Hale State Forest located in the northeast corner of town. The State-owned Bishop's Conservation Area is located in the southwest corner of town and includes the 53-acre Bishop Swamp Pond. Andover Lake is a 155-acre lake in the southeast corner that provides recreational opportunities to members of the private association that owns it. The Doris Chamberlain Nature preserve with small pond and walking trails is located on Route 316 near School Road. The major transportation routes through Andover include state routes 6, 87, and 316. Principal industries include agriculture and small wood and machine shops.

Town staff report that there has been little new development since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"); most construction activity has been related to improvements and renovations of existing structures and has not increased the Town's exposure to natural hazard risks.

The town staff report that there continues to be little development to report in Andover. A Dollar General was built at the intersection of Lake Road and Rt 6. This is not in the flood zone but could be potentially cut off from most of the town in the event of a flood emergency. This is not a critical facility. The town denied an application for a house in the floodplain. The town 's policy is to avoid allowing building in the floodplain.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Andover critical facilities include the Volunteer Fire Department, the Andover Police Department, the Andover Elementary School, the Town Hall, the Town Garage, and the Public Library and RHAM High School. The Fire Department, Police Department, and Elementary School are located adjacent to one another.

Table 1-1: Critical Facilities, Andover

Facility	Shelter	Cooling Center	Generator
Volunteer Fire Department			X
Andover Police Department			
Andover Elementary School	Primary		
Town Hall		X	Partial
Andover Town Garage			
Community Center	Future Primary	X	Not yet

Facility	Shelter	Cooling Center	Generator
Andover Public Library		X	
RHAM High School	Regional Shelter		
Hop River Homes Elderly Community			

During extreme heat events, Andover Public Library and Andover Town Hall can both be opened as public cooling centers. The Town is also constructing a new community center behind the town hall, which the town expects to serve as an additional cooling center and shelter when needed. Generators for these facilities will be needed.

A new community center is being built behind the town hall. This will need a generator. This will likely also serve as a cooling center and shelter. The town has joined with the two surrounding towns in the regional district and designated the RHAM high school in Hebron as a region-wide emergency shelter. The three towns pursued a large grant to fund the generator for this facility.

An elderly community is located off Riverside Drive. This is not town-owned, but is nevertheless considered critical. The access to this facility can be threatened by flooding. An evaluation of options to improve access/egress should be added as a new action in this plan.

The public works building needs a new generator, as the current generator is at least 50 years old. When the town runs the generator, they have to shut down all their electronics to achieve the desire voltage, so the generator is basically only running the fuel pump. A new generator should be added as a new action.

The town has the ability to refuel diesel vehicles in house. But the town owns and relies on many gasoline vehicles, and in the past they have had trouble with fueling these vehicles when gas stations are closed after storms. The town would like an action related to increasing their capacity to fuel gas vehicles during emergencies.

The public school buses are stored in the 100-year floodplain. This is a town-owned property. In the long term the town might want to move these, although it is not a major short-term concern because the buses can be moved prior to a forecast storm. The town has moved the buses twice in recent years. At some point they will need to add electric chargers for the buses, and they do not want to put electric chargers in the floodplain. So this transition will likely happen as they electrify the buses, but it would be good to have this mentioned in the plan in case funding sources are available. The town has another location in mind, but planning and improvements are needed before it can become the new bus area.

Capabilities

Andover's hazard mitigation capabilities include its emergency response departments, shelter, department of public works operations, and relationships with neighboring communities. Hazard mitigation is incorporated, to some degree, into the community's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

Andover addresses drainage complaints as they are reported. The Town has a small budget of approximately $50,000 per year for tree maintenance, and removes dangerous as they become aware of them, when possible. The Town has a woodchipper for removing fallen trees but does not own a bucket

truck. Eversource maintains trees along power lines. Municipal staff report that its tree-maintenance capabilities are lacking.

Andover has established working relationships with neighboring towns for assistance when needed. The Town has not permitted any new construction in the FEMA-mapped special flood hazard area (SFHA). A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Andover it will cover, is unknown.

The reconstruction of the Bunker Hill Road bridge over the Hop River, historically an area of flood concern, is currently in the design phase. Completion of this project is expected to relieve flooding in this area and better maintain travel on this route during flood events.

Route 6 through Andover and the neighboring towns of Bolton and Coventry was a recent focus of a transportation corridor study and review of economic development opportunities. As a follow-up to this study, the Town anticipates reviewing its zoning regulations to consider revisions that could encourage commercial development at appropriate locations in the corridor. It is thought that focusing development in this way, with hazard risk awareness in mind, will limit risks posed by natural hazards.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- On an at-least annual basis, check on the status of maintenance of the Andover Lake Dam and determine whether Town intervention is required.
- Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.
- 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.
- Develop a formalized procedure for tracking hazard events in Town and passing that information onto new Town Staff. Collecting and tracking information on event costs & losses should be part of that procedure.
- Educate the public on new warning notification system, sheltering facilities and other emergency preparedness measures.
- Coordinate with municipal agent for the elderly to update the special needs population list.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Hurricanes are a primary concern for the town due to tree damage. Storm damage from trees resulting in road blockages, power outages and debris accumulation is a major concern of the Town.

Andover identified that a 100-to-500 year flood of longer duration could result in portions of Rt 6 being underwater.

Andover identifies failure of the dam at Andover Lake as a major concern. The town worries a very expensive rain event could cause dam failure.

The Town's main concern regarding vulnerable populations is the senior community off Riverside Drive. This facility is very close to the floodplain, and the access road has flooded every few years.

The town has concerns about numerous culverts that are of marginal condition or capacity. Bishop's Swamp Outfall at Jurovaty Road was overtopped in 2021. A dam is owned by DEEP and a little bridge may be the town's. Some uncertainty exists about who is responsible for infrastructure here. The town keeps the inlet side of this clear. When the road is overtopped, the overtopping contributes to erosion in this area. Hutchinson Road has a failing culvert that needs to be addressed. Lake Road adjacent to Bausola Road has another failing culvert. The town has applied to State/Local Bridge program for funding. Bear Swamp Road has a culvert that is not quite failing but poor. This culvert has a rating of 3. At Merritt Valley Road adjacent to Lake Road, a 130-year old stone arch culvert needs to be addressed. Another bridge on Lake Road is a concern, located right off the spillway, on the outfall of Andover Lake.

The town reported that the Lake Road corridor in general seems like it has multiple concerns. The velocity of the water in this area is very high due to the rapid loss of elevation over a short distance. If the water overtops the road here, the road would likely be lost to washouts.

The town athletic fields are in the floodplain, and have flooded multiple times in the past. The town has previously lowered and paved the running track on the field so it will be less vulnerable to flooding and erosion compared to the cinder surface track

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Andover. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50-year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 1-2: Average Annualized Losses, Andover

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$8,097.53
	NRI	$163,110.98
	FEMA PA	$818.38
Tornados/High Winds	NCEI	$3,031.57
	NRI	$27,816.89
Winter Storms	NCEI	$2,401.54
	NRI	$13,433.35
	FEMA PA	$4,006.40
Flood	NCEI	$2,454.48
	NRI	$8,805.03
	NFIP	$99.62
Drought	NRI	$967.40
	USDA	$3,153.15
Extreme Heat	NRI	$537.46
Wildfire	NRI	$59.69
Earthquakes	NRI	$4,083.34
Dam Failure	HMP	$203.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Andover 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- A microgrid for the municipal complex could be considered, but the Town is not aware if the State is presently interesting in pursuing/advancing microgrids.
- An evaluation of options to improve access/egress for the elderly community homes on Riverside Rd should be addressed.
- New generators should be acquired for critical facilities.
- The town may want to look into a long-term solution for the location of their buses. The town could look for a town-owned property where the buses could be stored and moved from a floodplain.
- The Town may wish to pursue replacement/upsizing of many of their culverts that are failing or under preforming.
- The town should continue to work on and implement erosion control measures for riverbank stabilization.

Status of Previous Mitigation Strategies and Actions

The Town of Andover reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 1-3: Status of Previous Mitigation Strategies and Actions, Andover

No.	Action	Notes	Status
4	Complete replacement of Bunker Hill Road Bridge	This is fully funded as part of the Federal-Local Bridge Program and is at the 75% design phase. Construction will start in 12 months.	Carry forward (although check in with the town to see if this is complete by the time this plan is adopted).

No.	Action	Notes	Status
13	Initiate replacement of Long Hill Road Bridge. Consider impacts of that project on Hop River flooding and road access.	Also funded by the Federal-Local Bridge Program. At about 30% design phase. The road leading to the bridge will still flood in a major rain event, although the widening and raising of the bridge will reduce the risk. But this action as written ("initiate" and "consider impacts") has been completed.	Complete / Retire
12	Perform a study of the Hop River channel and watershed to identify drainage problems and erosion risk zones.	FEMA is completing an update to the flood study and delineating new maps, and the town is awaiting the new FEMA flood maps. The town is holding off on the study suggested by this action until the new FEMA maps are available.	Revise to indicate that the new FEMA maps should be considered / Carry forward.
8	On an at-least annual basis, check on the status of maintenance of the Andover Lake Dam and determine whether Town intervention is required.	Within the last twelve months, the town met with ALMA, the organization that is responsible for dam maintenance (this is a private dam). An updated flood Emergency Action Plan is available for this dam, along with a plan for lowering the water level prior to any significant storm event to mitigate the risk of dam failure. The town also has a copy of the emergency plan for the dam.	Capability / Retire
15	Investigate the CRCOG service sharing initiative, especially surrounding tree and other debris removal equipment.	The town met with one of the contractors that has a state bid for assisting town with disaster recovery and debris removal. The town is still working on this. The town does not have a staging area or a plan in place for dealing with a significant debris removal need. The transfer station is fairly limited. The soccer field is a less-than-ideal option for additional storage. The town would like to add an action item to sign a long-term contract for emergency debris management when it's beyond the capability of public works.	Revise to the new suggested action from town.
16	Implement an education and outreach initiative related to the pipeline that passes through town and public safety.	The pipeline company was proposing an infusion station in the town 5 years ago which would have involved trucking in liquified natural gas, and this proposal met with a lot of public opposition. This proposal did not more forward. The pipeline runs through town, but the town has not done much specific outreach. There is no longer a need for this action.	No longer a need / Retire
11	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	The town is not seeing a lot of development. The zoning regulations include LID. The town recently applied for a permit for a new community center and the zoning commission is requiring LID for this development.	Capability / Retire

No.	Action	Notes	Status
17	Install emergency generator at the Town Hall Addition to make progress on converting that space into a backup shelter.	This is still a concern. The Town Hall shares a generator with the fire department but it does not cover the entire building and the conduit between the buildings lacks the capacity needed to provide power from the generator. The community center is about to be built behind the town hall, which will also need back-up power.	Revise to include the need for a generator that can fully provide power to the town hall, the new community center, and the fire department.
10	Install emergency generator at the elementary school to improve its sheltering capabilities.	There is an old generator in the elementary school, which is designated as one of the town's emergency shelters. It should probably be replaced at some point.	Carry forward.
7	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.	Town staff isn't sure if this is referring to a specific place. The fire department has installed many dry hydrants, and every new subdivision is required to have either a fire pond with a dry hydrant or a 30,000 gallon tank with a dry hydrant. (Not many of these developments, only 3 in about 20 years.) The town has the capacity to keep up with these fire protection needs.	The intention of this has been completed / Capability / Retire
6	Develop a formalized procedure for tracking hazard events in Town and passing that information onto new Town Staff. Collecting and tracking information on event costs & losses should be part of that procedure.	Town staff not sure if this is still a need. It's not a bad idea. The town has all the data needed on hand to document costs related to FEMA disasters, etc.	This is no longer needed / Capability / Retire
3	Educate the public on new warning notification system, sheltering facilities and other emergency preparedness measures.	The town maintains its own notification system subscription, known as Civic. The town grapples with questions like how many times is too many times to notify, what level of storm should result in a notification, and how do they get enough people to subscribe to make it worthwhile. Nevertheless, the intent of this action has been met.	Capability / Retire
2	Coordinate with municipal agent for the elderly to update the special needs population list.	The municipal agent has a list of vulnerable senior population (those that require oxygen, have mobility issues, etc.)	Capability / Retire
5	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.	There are not many small businesses in Andover. A used auto parts dealer is located in a flood zone. The town would work on this on a case-by-case basis. CIRCA Staff suggests having town staff view the DEEP webinar or retiring this action. Attendees determined that this can be retired.	No longer a need / Retire

No.	Action	Notes	Status
16	Implement an education and outreach initiative related to the pipeline that passes through town and public safety.	This is a repeat and can be removed.	Remove - repeat
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Eric has attended some of these, but doesn't have the bandwidth for much engagement.	Revise to include more choices such as DEMHS workshops.
18	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	The town doesn't have any historic structures near the flood zone. The town is swapping out air conditioners at the town hall, and has to get SHPO approval because the building is over 50 years old. Town staff reports that this type of bureaucracy is invasive and time consuming.	This is no longer a need / Retire
19	Acquire a bucket truck to use for tree maintenance and removal.	Town never bought a bucket truck, but has established relationships with private companies for tree maintenance and removal. The town does not have enough staff to practically conduct its own tree work (although they would still like a bucket truck in an ideal world). The intent of this action has been accomplished.	Intent complete / Retire
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	The town is part of Sustainable CT, and is in the process of going for a Bronze Certification. The town has a Sustainable CT Committee.	Complete / Retire

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.

Table 1-4: Active Mitigation Strategies and Actions, Andover

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AN1	Acquire a generator that can fully provide power to the town hall.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Safety	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2026	High	All Hazards	No	18	4	72
AN2	Install emergency generator at the elementary school to improve its sheltering capabilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Safety	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2026	High	All Hazards	No	19	5	95
AN3	Acquire new generators for the Public Works building, Community Center, and Fire Department.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Safety	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2026	High	All Hazards	No	19	5	95
AN4	Evaluate the feasibility of a microgrid for the Municipal Complex.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Town Administrator	$10,000 - $50,000	DCRF; FEMA HMA	07/2024 - 06/2026	Low	All Hazards	No	17	4	68
AN5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Public Safety	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AN6	Evaluate alternative options for relocating the town's school buses to a site outside of a 100-year floodplain.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Public Works	$10,000 - $50,000	DCRF; FEMA HMA	07/2024 - 06/2026	Low	Riverine and Pluvial Floods	No	18	6	108
AN7	Increase town capacity to fuel gas vehicles during emergencies.	Reduce losses from other hazards.	Preparedness & Emergency Response	Public Safety	$10,000 - $50,000	Municipal CIP Budget	07/2024 - 06/2026	Medium	All Hazards	No	17	4	68
AN8	Evaluate options to improve access/egress from the elderly community located off Riverside Drive.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Planning	$10,000 - $50,000	STEAP; Municipal CIP Budget	07/2025 - 06/2027	High	All Hazards	No	19	5	95
AN9	Execute a long-term contract for emergency debris management when it's needed to augment the capability of public works.	Reduce losses from other hazards.	Preparedness & Emergency Response	Public Safety	$0- $10,000	Municipal Operating Budget	07/2025 - 06/2027	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	17	6	102
AN10	Complete replacement of Bunker Hill Road Bridge	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AN11	Use the FEMA maps published in 2023 of the Hop River channel and watershed to identify drainage problems and erosion risk zones.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning	$10,000 - $50,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2025	Medium	Riverine and Pluvial Floods	No	18	8	144
AN12	Conduct a town-wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	7/2024 - 6/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
AN13	Work with individual water users to ensure that their water supplies are drought resilient.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; Municipal Operating Budget	7/2024 - 6/2029	Medium	Drought	No	18	8	144
AN14	Conduct a dam failure table top exercise using the EAP for Andover Lake.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Public Works	$10,000 - $50,000	Municipal Operating Budget	01/2025 - 12/2025	High	Dam Failure	No	18	5	90
AN15	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat	More than one goal.	More than one type	Public Works	$0- $10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	concerns in Resilient Opportunity Areas (ROARs).												
AN16	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	No	17	6	102

Figure 1-1: CIRCA Environmental Justice Rank & Critical Facilities Andover

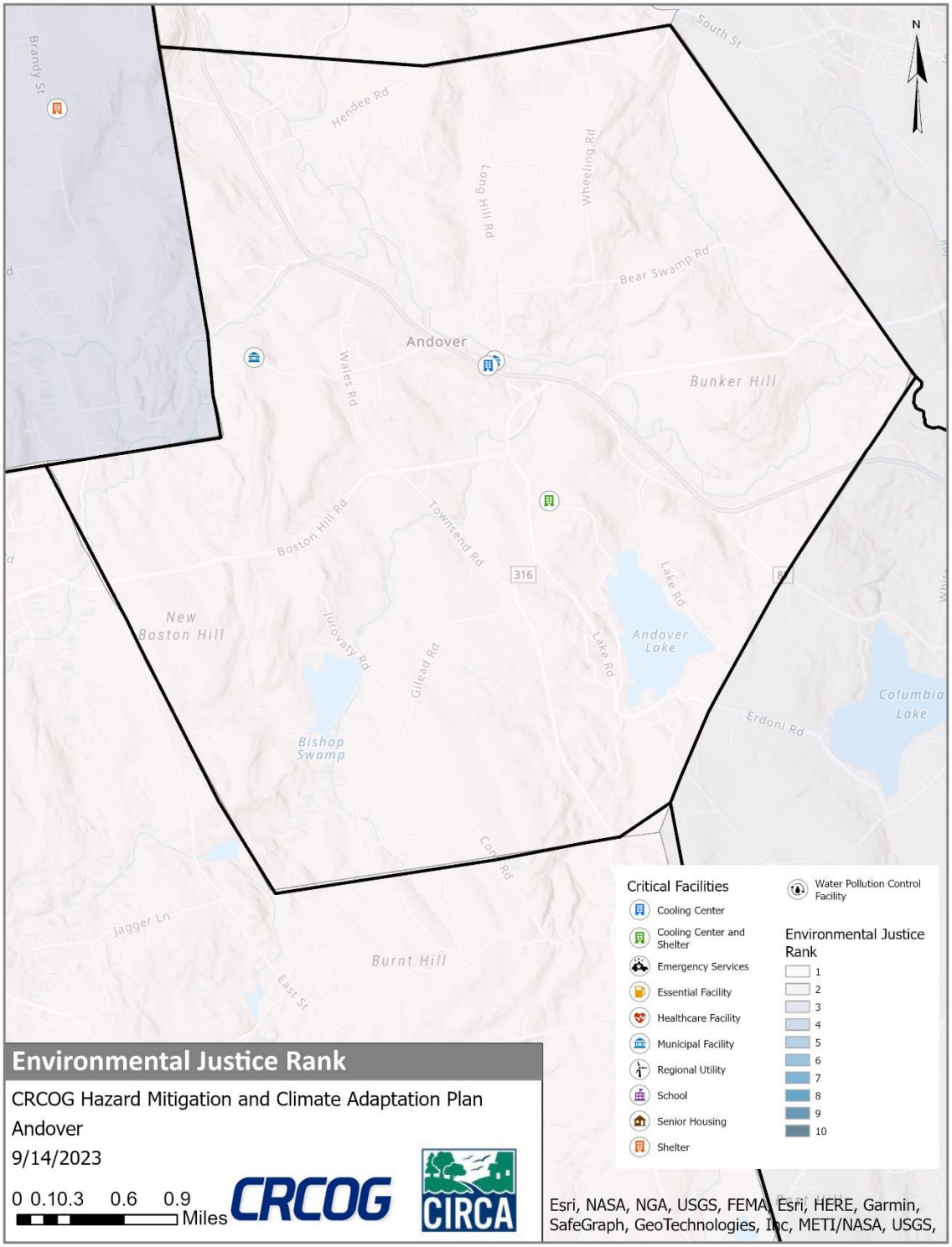


Figure 1-2: FEMA Flood Zones & Critical Facilities Andover

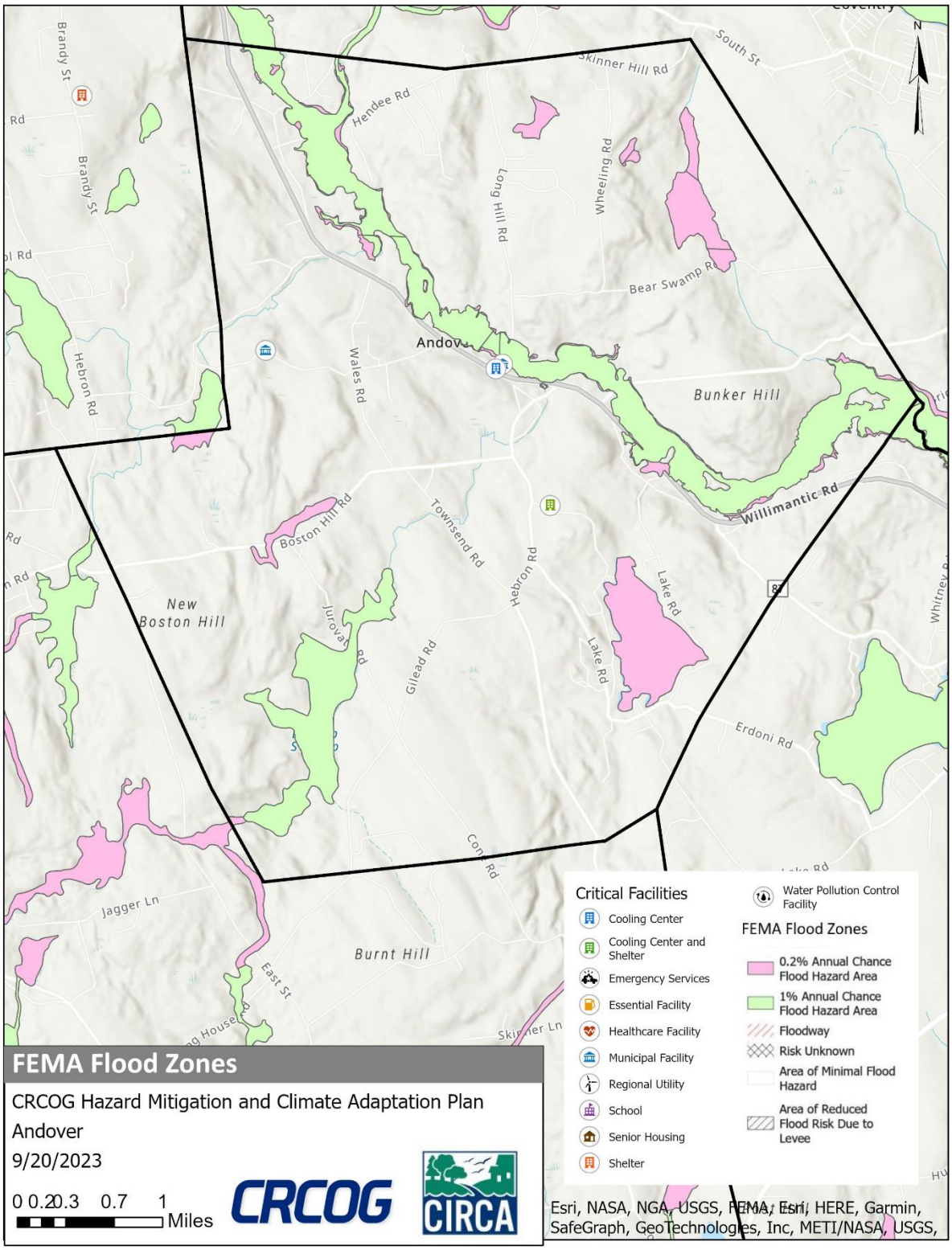


Figure 1-3: CIRCA Flood CCVI & Critical Facilities Andover

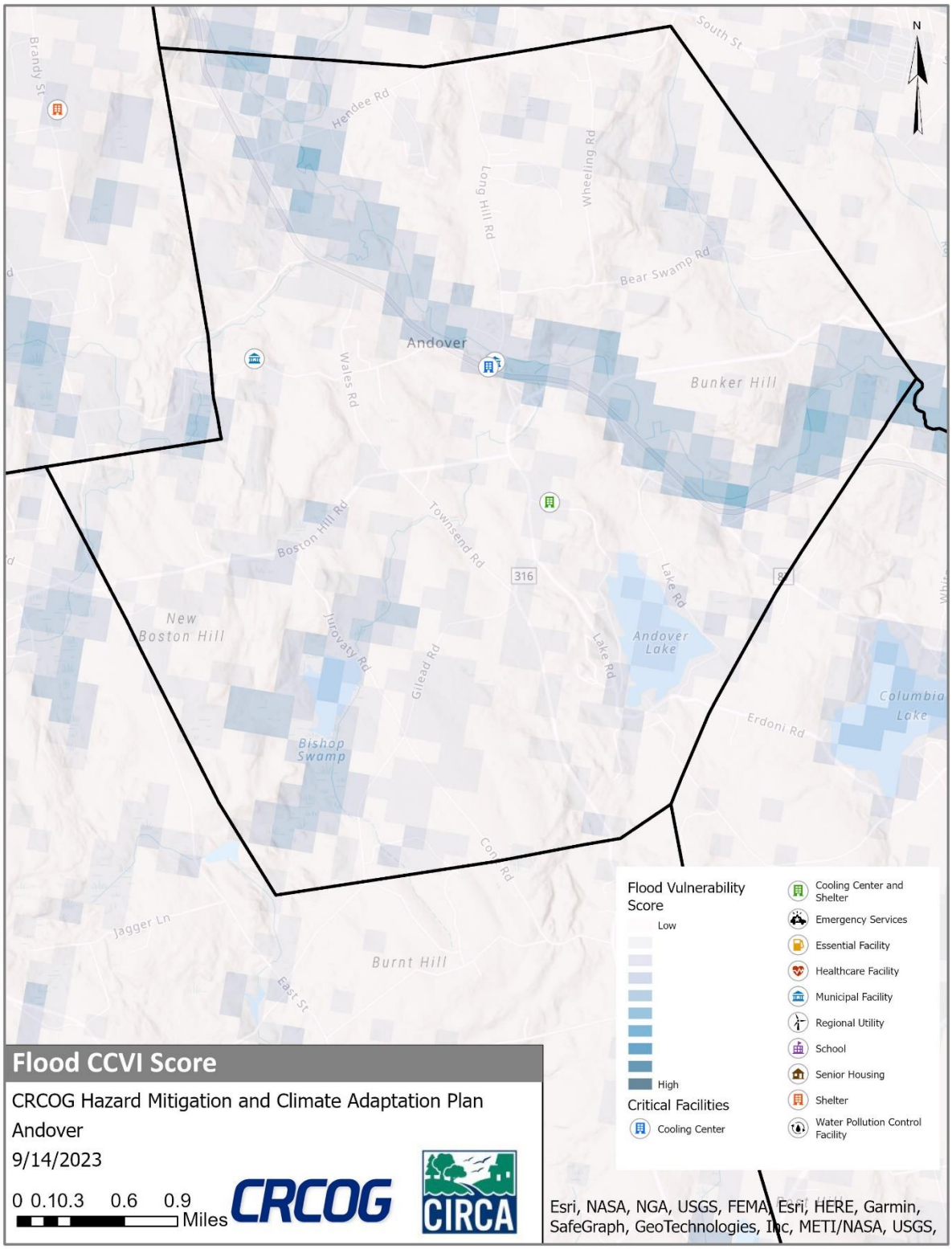
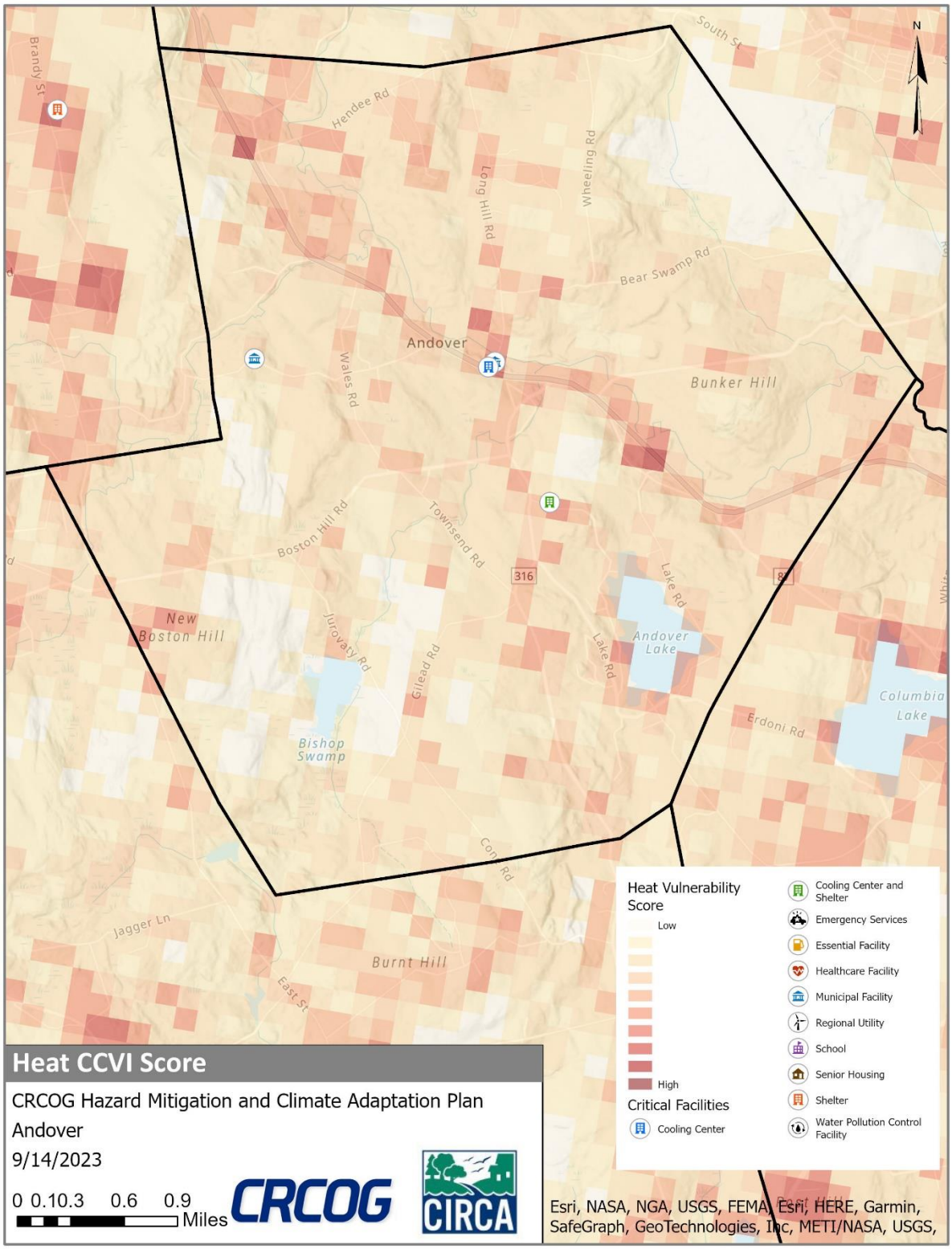


Figure 1-4: CIRCA Heat CCVI & Critical Facilities Andover



2 Avon

Community Overview

Avon is a suburban town in north-central Connecticut with a population of about 19,795. It has an average elevation of about 350 feet. The town encompasses 23.5 square miles, lying entirely within the Farmington River watershed. The Farmington River forms the town's western border then makes a U-turn in neighboring Farmington, to flow south to north in the eastern section of Avon. Major tributaries that course through town include Big, Chidsey, Cider, Hawley, Nod, Roaring, Thompson, and Wiggin Brooks. Major state routes that pass through Avon include Routes 10 and 44. Insurance, printing, concrete products, poultry processing, reflective tapes, fiber optics, and medical facilities are the major industries in Avon.

Any development whether residential or commercial, if built on property of which any part is mapped as floodplain, is required to meet all floodplain elevation regulations. This elevation is at least 1 or 2 feet above the known floodplain levels. There have been no new developments approved in the recent past that did not meet these elevations requirements. The existing zoning regulations are currently being comprehensively revised and will include a revised Design Flood Elevation (DFE) requirement.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Avon critical facilities include the Company 1 Volunteer Fire Department, the Town Hall complex, Avon High School, the Public Works facility, the Avon Free Public Library, the Avon Senior Center and a number of medical facilities.

Table 2-1: Critical Facilities, Avon

Facility	Shelter	Cooling Center	Generator
Avon High School	Primary		X
Town Hall Complex			X*
Company 1 Volunteer Fire Department		X	X
Public Works			X
Police Department			X
Library		X	
Senior Center		X	

*The Town Hall campus does not have generator facilities with the exception of the Police Department which does have generator power.

During extreme heat events, Avon Free Public Library and Avon Senior Center can both be opened as public cooling centers. Generators for these facilities are needed. These facilities typically rely on usage during normal hours of operations, although hours could be extended if needed or opened on Sundays. Most people in town have cooling access so there is not much demand for the cooling centers to be opened. The Fire Department could also be used on a more individual basis as a cooling center, barring emergency operations for the Department. People can call the non-emergency number to request assistance. Demand has typically been low. All fire houses and public schools in Avon have generators.

Capabilities

Avon's hazard mitigation capabilities include its emergency response departments, primary shelter, zoning regulations, and coordination with the regional energy provider. Hazard mitigation is addressed specifically in the community's Plan of Conservation and Development and Emergency Operations Plan.

The Town of Avon consistently replaces and upgrades culverts and bridges and takes other steps to reduce its risk to flooding. Avon has strict floodplain regulations that encompass areas within both the 1% and 0.2% annual-chance floodplains, and that limit development within those areas. The Town also maintains zoning regulations that address the sustainability of buildings using eight measures of sustainability.

Zoning regulations require cisterns and fire ponds in new developments. The Town has a Fire Marshal who, among other duties as Emergency Management Director and AVFD Chief, typically recommends sprinklers in all new homes.

Avon works closely with the electricity provider Eversource to coordinate tree trimming and respond to power outages. Coordination has been successful, though outages still occur occasionally. The Town's Public Works Director is the Town's Tree Warden.

No new development or changes in land use have been approved recently in the floodplain.

The Farmington River bridge at Old Farms Road has been replaced and upsized in 2023. A 1,000-foot section of Old Farms Road has been elevated with the bridge, with the capacity to convey a 4-percent annual-chance flood. Avon also recently replaced a box culvert at Old Wheeler Lane, though that project did not include upsizing.

New EAPs have been prepared for the Upper and Lower Unionville Reservoir dams, both of which are Town-owned Class B dams.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"), a furniture store on Waterville Road was approved to be constructed with a higher design-snow-load for the roof (greater than 30 pounds). This is an example of Avon building code requirements increasing the town's capacity to withstand natural hazards.

A dry hydrant was recently installed on Oak Bluff. Other fire suppression capabilities have increased somewhat with minor improvements throughout Avon Water Company, and with the acquisition of Avon Water Company by Connecticut Water Company which has improved the company's access to resources.

Coordination with Eversource has improved, and significant tree-trimming work has occurred. The Town evaluated potential microgrid use for the Town Hall complex and Company 1 Fire Department, with the nearby Village Center development benefiting as well; however, the microgrid appeared to have a poor benefit cost ratio, and application to PURA was not made.

Avon has been working to improve the Town's mapping capabilities, though resources are still somewhat lacking (see Challenges).

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- The Planning Director is also a certified Floodplain Manager (CFM)

Capabilities to address natural hazards, and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Tree management is a primary concern for Avon and a continual battle front. Avon has one tree truck. Eversource does do work in town, but on only a fraction of the streets at any given time. Eversource does not prune the trees by secondary lines, choosing to focus on the primary lines, which means that streets that have only secondary lines do not have much assistance with keeping the trees clear of the lines. The Route 44 corridor was out of power for about 24 hours due to a storm in 2021 and Town Hall was closed for a day. Parts of town were out of power for 4-5 days. There was not much damage within town, but the circuits that feed town were believed to be damaged. There was also tree debris down on roads.

The Marriott Residence Inn in the town lacks a generator, presenting a challenge for displaced occupants. Town staff note that there is a long waiting period for generators after they are ordered from distributors.

Avon identified issues on Eddy Street with a sanitary sewer line which experienced erosion under it and required emergency repairs. Erosion also occurred along New Road and Deepwood Drive, and this site still needs additional repairs. The Town has some ARPA funds that are going toward this in 2024.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Avon. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 2-2: Average Annualized Losses, Avon

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$48,651.99
	NRI	$948,584.90
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$18,214.42
	NRI	$239,738.26
Winter Storms	NCEI	$14,429.07
	NRI	$12,526.86
	FEMA PA	$8,673.48
Flood	NCEI	$14,747.11
	NRI	$29,107.31
	NFIP	$999.43
Drought	NRI	$42,785.61
	USDA	$0.00
Extreme Heat	NRI	$21,615.89
Wildfire	NRI	$3,481.67
Earthquakes	NRI	$32,179.75
Dam Failure	HMP	$32.00

Other Hazard Costs

A nor'easter on January 4, 2018, cost the Town approximately $35,500 in cleanup and response.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Avon 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- Increasing the Town tree management budget should be considered along with continued coordination efforts with Eversource to ensure proper limb and tree removal to avoid power outages and road blockages.
- New generators should be acquired for the Town Hall complex.
- To address the erosion under Eddy Street , New Road and Deepwood Drive, Avon should continue to utilize available funds for repairs and ongoing maintenance to ensure the stability of the sanitary sewer line.

Status of Previous Mitigation Strategies and Actions

The Town of Avon reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Avon

No.	Action	Notes	Status
13	Complete the replacement and upsizing of the Farmington River bridge at Old Farms Road	This was completed in 2020 with State funding. There is now no middle support under the bridge to reduce the likelihood of debris getting stuck. Old Farms Road was also raised approaching the bridge, and has stayed dry since.	Complete / Retire
12	Develop a flood mitigation plan for Buildings 1 at the Town Hall Complex using FEMA historic structure mitigation guidelines and public participation; this process can be used as a case-study for preservation-sensitive flood mitigation of historic properties.	There is a mitigation plan for flooding that includes building a masonry wall between Building 1 and Nod Brook. The Town has conceptual designs to renovate Buildings 1 and 2. There is an ongoing concern due to the heavy use of the buildings and the important storage space. The municipal campus is in a flood zone affecting all buildings including the Police Department and EOC. The buildings are not listed on any historic register, although they may be eligible.	Carry forward with revisions to de-emphasize the historic structure aspect and a focus on resilience of municipal buildings
11	Link properties in areas of flood risk to the Reverse 911 database to enable targeted messages.	Avon has the capability to use Everbridge and Reverse 911 to notify residents.	Complete
14	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Avon Engineering has never and has no plans to reach out to repetitive loss property owners. The Town does not know who has ever had a loss or how to identify them other than sending a blanket letter to residents within the FEMA base flood zone.	Carry forward or Retire
1	Develop written procedure for relocating personnel to areas at risk of isolation during floods.	The Town revised its emergency operations plan in 2023. Specific procedure for relocating personnel to areas at risk of isolation is not included in the EOP. FEMA is in the final stages of a project to remap flood zones within the Farmington River watershed which effectively includes all of Avon. As of the time of this update, it is unclear when the project is expected to be completed.	Capability / Retire

No.	Action	Notes	Status
2	Develop prioritized list of critical facility generator needs to guide future purchases.	The Town is upgrading and adding generator power to identified critical Town buildings that currently have needs. Each sewer pump station has a well maintained generator.	Carry forward to indicate a need for more generators
4	Install a satellite television system at the new EOC, once it is completed, to allow for monitoring of information when power and cable are out.	Some digital boxes for television are in some of the staff offices although not in the EOC, and the internet capability is strong. Intent has been met.	Intent has been met / Retire
5	Determine level of communication needed for all personnel and provide wireless communication in accordance with findings.	The Town has a project pending to update its communication network. The intent of this is complete.	Intent has been met / Retire
16	Complete a feasibility study to determine the effectiveness of implementing a microgrid at the Avon Town Hall campus.	The study was completed and the Town determined the project was not feasible to complete.	Complete/ Retire
8	Work with the Connecticut Water Company to designate new areas for fire protection.	No new expansions have occurred. The Town has spoken with CWC and in general this is cost-prohibitive if the only purpose is fire protection without gaining new customers.	Retire
9	Work with MDC to determine whether transmission routes can be mapped and used for emergency planning and response in Avon.	There is a major transmission line beneath Route 44 from the MDC reservoirs. Engineering has MDC drawings of transmission lines through Avon.	Potentially Retire
7	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.	The Town is compliant with MS4 requirements. This is a capability.	Capability / Retire
6	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.	Town staff works with existing and new businesses by continuing to monitor and enforce flood plain regulations.	Ongoing
10	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Ongoing capability – Director of Planning Hiram Peck and Emergency Management Director Bruce Appell regularly attend events.	Ongoing Capability

No.	Action	Notes	Status
15	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	The Town conducted a comprehensive historic resource inventory in 1998, although Town Staff are not sure if this indicated whether the properties were vulnerable. NOTE: The details of the 1998 Inventory are difficult to obtain. There are not many of these properties along the river or in flood zones. Revise this to instead have staff acquire and review the new SHPO GIS data.	Carry forward with revisions
3	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	The Town has joined Sustainable CT and was certified Bronze in 2020. Town Staff understand the value of this program but each iteration includes revisions to the criteria that get progressively difficult to meet. The Town will likely not renew its certification because it is reportedly not the most productive use of staff time.	Action Completed / Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Avon

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AV1	Complete the evaluation of the feasibility of a microgrid for Town facilities including commercial facilities important to the town, such as grocery stores.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Chief Elected Official	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2027	Medium	All Hazards	No	18	4	72
AV2	Acquire generators or standby power for critical facilities.	Ensure that critical facilities are resilient, with special attention to shelters, cooling centers, and sewer pump stations.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2025 - 06/2026	High	All Hazards	No	19	5	95
AV3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2025 - 06/2026	High	Extreme Heat	No	19	3	57
AV4	Encourage residents to register for emergency alerts to their cell phones through the Everbridge Reverse 911 system. Include links on the Town website and Facebook page.	More than one goal.	Preparedness & Emergency Response	Emergency Management	$0- $10,000	Municipal Operating Budget	01/2026 - 12/2026	High	All Hazards	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AV5	Develop a flood mitigation plan for Buildings 1 and 2 at the Town Complex using FEMA mitigation guidelines and public participation.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$50,000 - $100,000	FEMA HMA; DCRF	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
AV6	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning and Engineering	$0- $10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
AV7	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works and Engineering	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	No	18	6	108
AV8	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0- $10,000	SHPO, Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
AV9	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Droughts /Wildfire	No	19	8	152
AV10	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
AV11	Update Town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 2-1: CIRCA Environmental Justice Rank and Critical Facilities, Avon

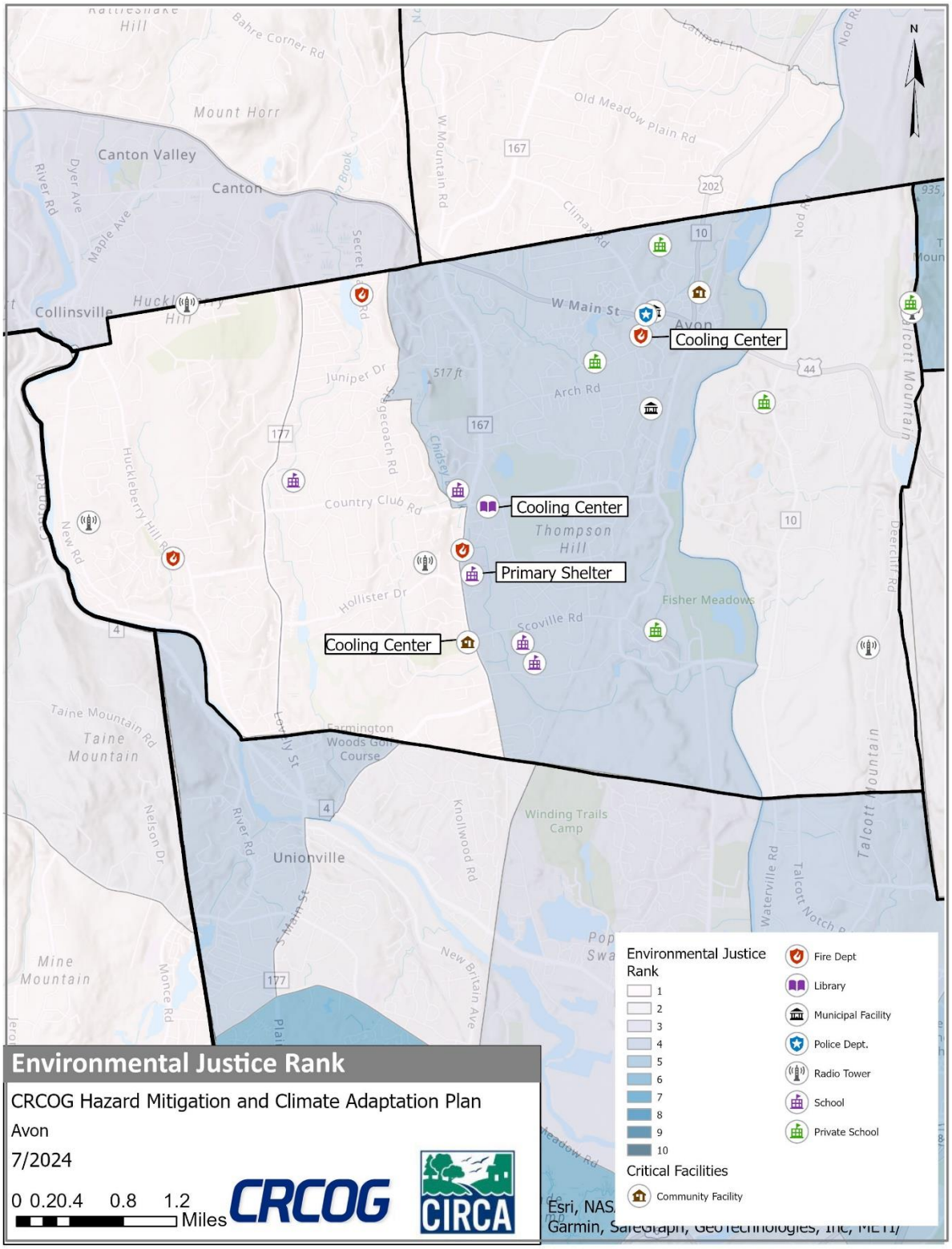


Figure 2-2: FEMA Flood Zones and Critical Facilities, Avon

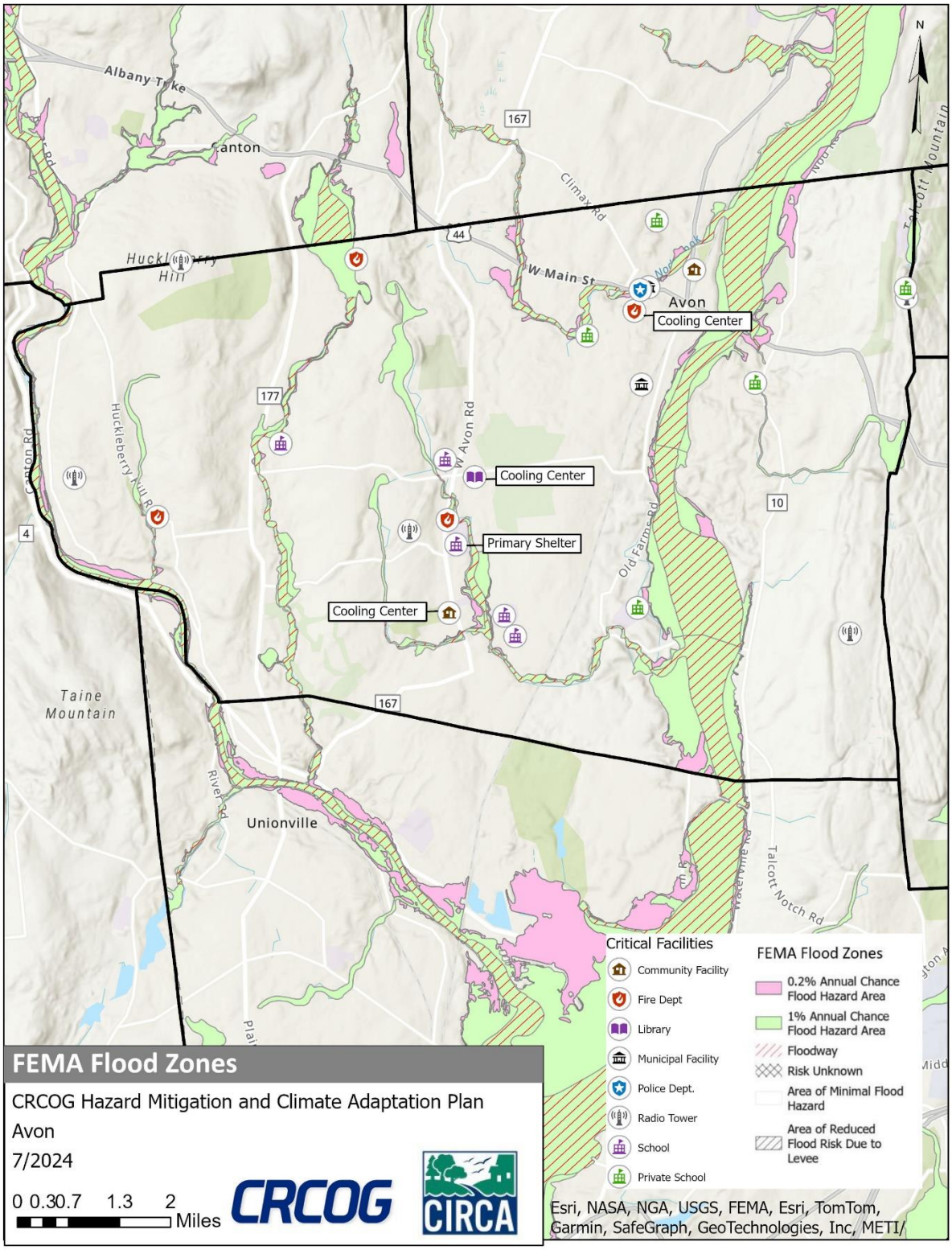


Figure 2-3: CIRCA Flood CCVI and Critical Facilities, Avon

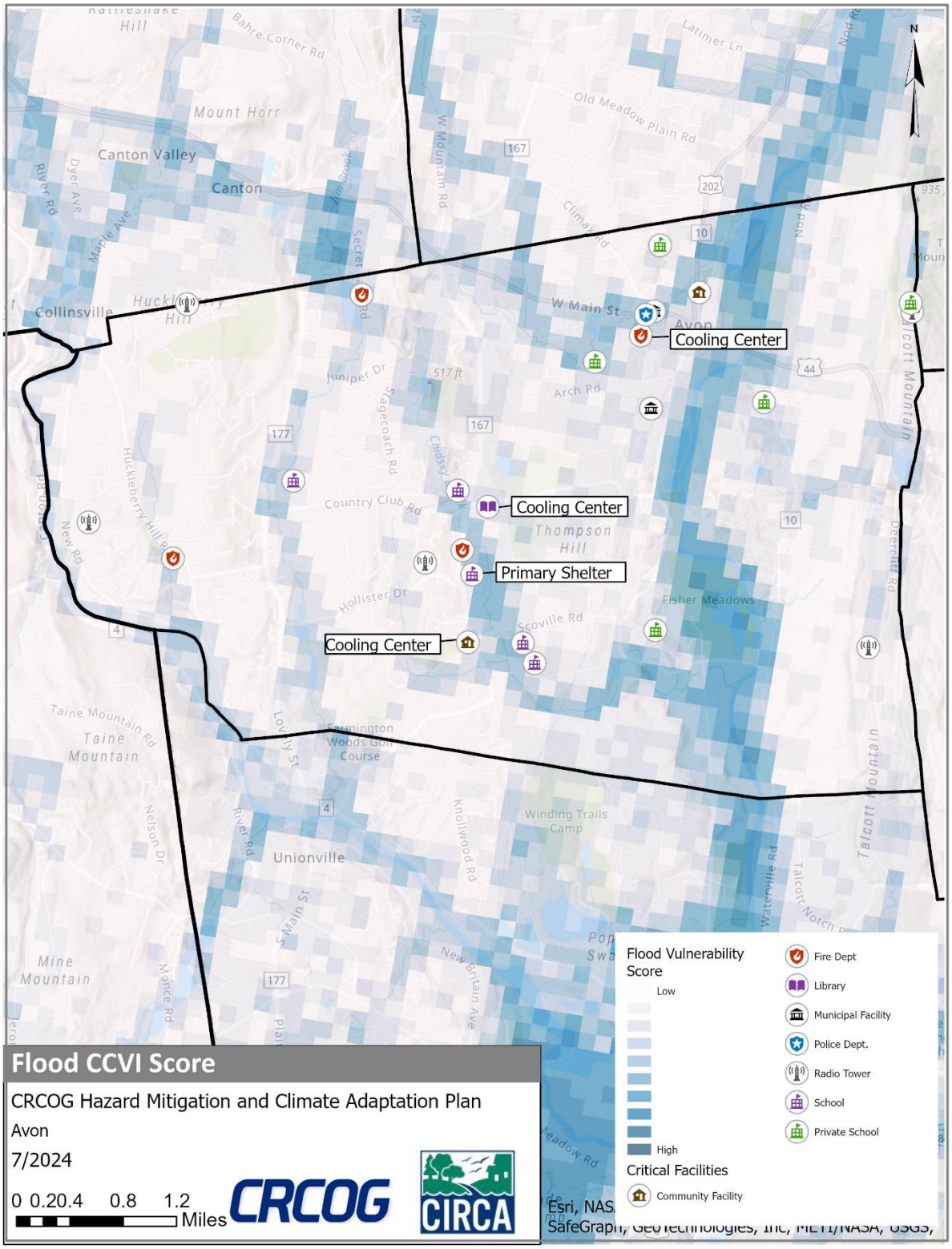


Figure 2-4: Dam Inundation Area and Critical Facilities, Avon

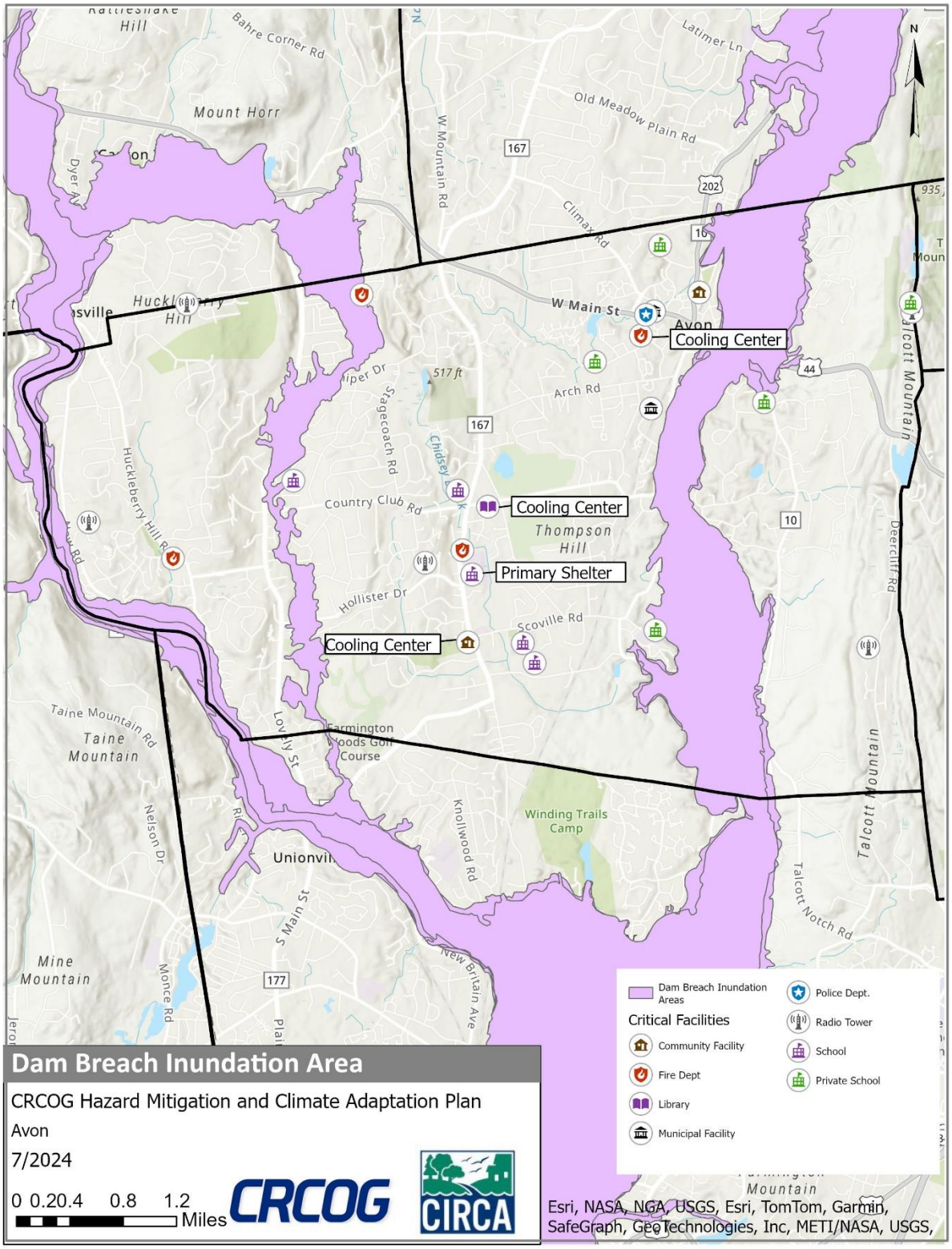
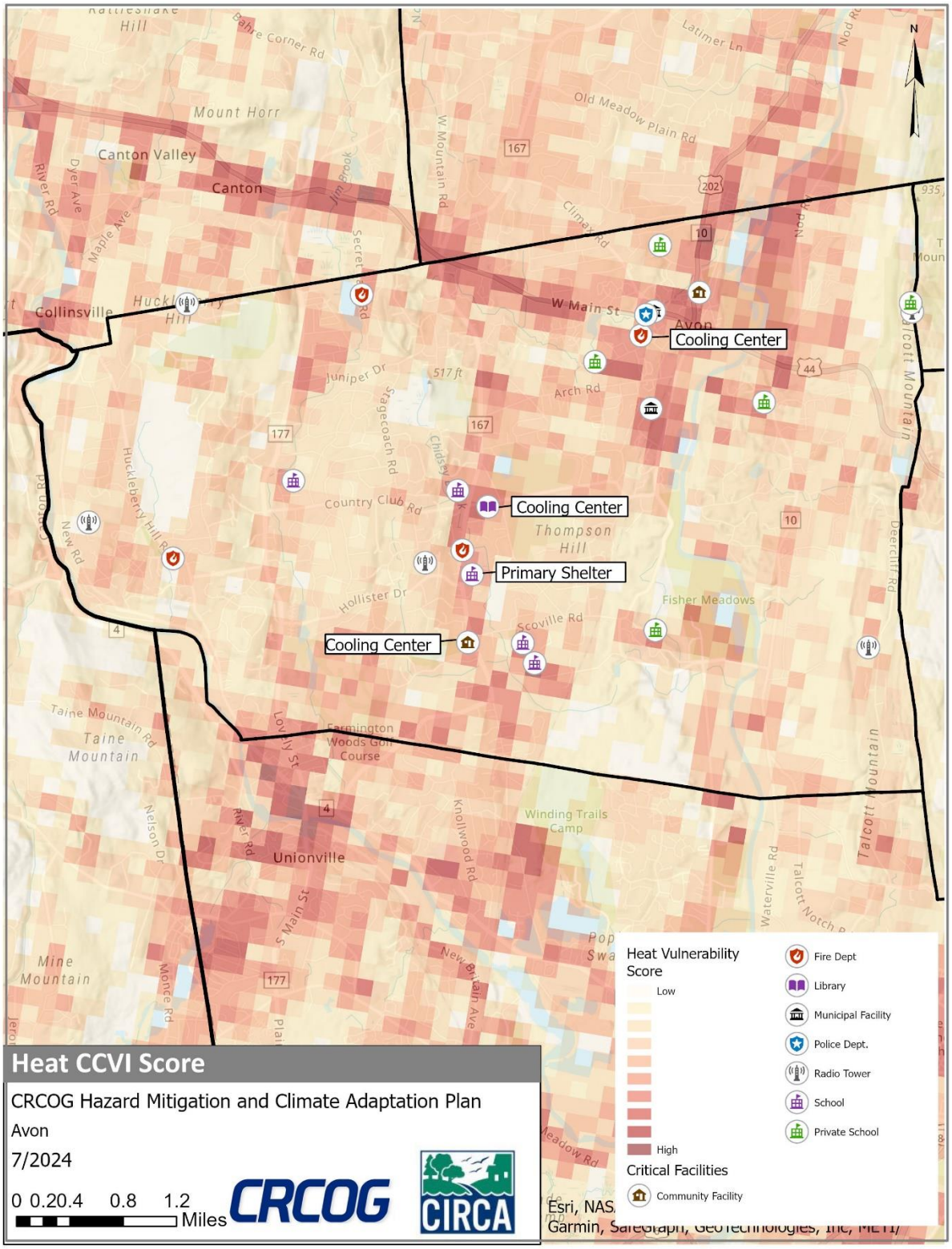


Figure 2-5: CIRCA Heat CCVI and Critical Facilities, Avon



3 Berlin

Community Overview

The Town of Berlin encompasses 26.3 square miles of land area and had 20,175 residents as of the 2020 census (a population density of 766 persons per square mile). Elevation ranges from approximately 15 to 767 feet. Nearly all the land area in Berlin drains to Mattabesset River, a tributary to the Connecticut River. Other major streams in Berlin include Belcher Brook, Willow Brook, and Webster Brook. A small portion of land in southern Berlin drains to Sodom Brook, a tributary to the Quinnipiac River.

Berlin is primarily a suburban community, with some rural areas. The town features mainly decentralized development, with a large retail strip located along the State Route 5/15 corridor and three distinct village centers (Berlin, East Berlin, and Kensington). In addition to State Route 5/15, other major transportation routes through Berlin include State Routes 9, 71, 71A, 72, 160, 364, and 372. An Amtrak commuter rail line and the Hartford Line commuter rail pass through Berlin and make a stop in the Kensington area on the west side of town. Berlin's major businesses and industries include construction, manufacturing, retail trade, and health care and social assistance.

Since the last plan update, several mixed use and apartment complexes have been constructed along the Berlin Turnpike and by the Berlin Train Station. While some redevelopment might occur in areas of flood risk, strict adherence to state and local flood regulations and the state building code will reduce overall risk.

Critical Facilities

In Berlin critical facilities include the Town Hall (which serves as the Emergency Operations Center), the Police Department (back-up EOC), four volunteer fire stations, the Senior Center, three Elementary Schools, one Middle School (secondary shelter), one High School (primary shelter), the Public Works Facility, an Ambulance Facility, and Marjorie Moore Housing Complex. The Town Hall has full backup power from a generator. The municipal sewer system includes twelve sewer pumping stations; the Water Control Department moves a portable generator from station to station during outages. The Town's Physical Services (Public Works) Complex at 19 Town Farm Lane is in the Special Flood Hazard Area (SFHA).

Table 2-2: Critical Facilities, Berlin

Facility	Shelter	Cooling Center	Generator
Town Hall			X
Berlin Fire Department (EOC)			X
East Berlin Fire Department			X
Kensington Fire Department			X
South Kensington Fire Department			X
Police Department (Backup EOC)			X
Senior Center		X	
Berlin High School	Primary		800 kW
Berlin Middle School	Secondary		Portable
3 Elementary Schools			
Marjorie Moore Section 8 Housing			X
12 sewer pumping stations			1 portable
Library		X	

Facility	Shelter	Cooling Center	Generator
1 Eversource Substation			
3 Eversource Area Work Centers			

During extreme heat events, Berlin Library and Senior Center can be opened as public cooling centers. Both of these facilities do not have generators. The Town is in discussions with the Housing Authority to pursue acquisition of a generator for the Senior Center; if a generator is obtained, this building could be used as a backup shelter.

The library would be used as a back up facility to the town hall if the town hall was ever rendered unusable.

Capabilities

The Town of Berlin's hazard mitigation capabilities include its sheltering capacity, Plan of Conservation and Development (POCD) and Emergency Operations Plan (EOP), training program, building codes and land use regulations, emergency supplies, and mutual aid agreements.

Berlin is committed preservation of open space and rehabilitation of flood hazard areas. The POCD emphasizes strategic and smart growth principles and redevelopment. The Town recognizes that the 1% and the 0.2% annual chance floodplains and floodways should be protected. The POCD incorporates elements of the initial hazard mitigation plan, including a discussion of climate change impacts on flooding, and the potential impacts of dam failure.

Berlin's municipal codes and ordinances limit any activities on floodplains that would increase flood risk, and stipulate multiple floodproofing requirements. The Town seeks conservation easements for all new developments and acquires properties (when funding allows) that provide ecosystem services. Subdivision regulations require burial of utilities in new developments.

Berlin maintains an Emergency Operations Plan, has identified a variety of resources to assist with response to hazard events, and runs a training program for its emergency personnel. The CivicReady emergency notification system provides alert coverage above the CT Alerts system.

Drainage and flooding complaints are submitted through the town website, to Public Works, or to the Police Department, and are then routed to either the Fire Department or Public Works. The Town regularly sandbags certain properties at risk of flooding and owns a sandbag loader to lower the response time. The Town also evacuates flooding areas when necessary.

Berlin has an annual inspection and maintenance schedule for its 37 bridges and its culverts. Bridge replacements are prioritized based on whether or not a bridge is undersized based on the most recent NRCC rainfall return periods. New construction is designed using the most recent NRCC rainfall return periods.

Removal of the ice and snow for town-owned roads is handled by town workers and contractors; the town handles debris removal. The Town has an informal program to review snow accumulation on town-owned roofs each winter, with clearing occurring when depths are sufficiently deep or wet.

Town departments have sufficient supplies to be prepared for the next major storm event. The Town has several chainsaws and a wood chipper, and a chipping and trimming contractor on call. Much of the tree trimming near power lines is conducted by Eversource Energy. The Town has a limited budget for tree maintenance (~$15,000) which is considered sufficient at this time.

Berlin maintains mutual aid agreements with surrounding communities for fire protection. The Town has two dry hydrants, four 10,000-gallon underground storage tanks, and hydrants connected to municipal water systems. The Fire Department can require dry hydrants or cisterns in new developments. The Town has three Open Burning Officials.

The Town hired a consultant to perform dam inspections on a two-year and 5-year basis for its two dams based on the inspection requirements of Connecticut DEEP. The Town has prepared Emergency Action Plans (EAPs) for both dams and has copies of EAPs prepared for other dams whose failure could affect Berlin.

Bridges and culverts replaced since adoption of the 2016-2021 Hazard Mitigation Plan for the Former Central Connecticut Region ("2016 HMP") include the Farmington Avenue bridge and a culvert on High Road. Additional bridges are being reviewed for future replacement.

Berlin has posted information encouraging residents to sign up for the CivicReady emergency notification system on its website and emergency management Facebook page. Additionally, the police department has reverse 9-1-1 capabilities.

The Town's "Dam Breakage Plan" is scheduled for completion in July 2018. The plan evaluates the dam-failure inundation areas for the two Town-owned dams. The Town will encourage residents in the at-risk areas to sign up for the CivicReady emergency notification system.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- 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.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Berlin has experienced recurrent flooding throughout Town, with regular, localized flooding at known locations. Town staff report the Berlin is called "The Great Swamp" and that the town is always wet but the town knows the problem areas.

The town said they have seen an increase in people living in hotels and motels. There are some hotels and motels that will be converted into permanent housing. None of those facilities have generators.

Berlin is served by three public water systems that are interconnected with one another. The greatest areas of wildfire concern are the areas of Town that do not have public water service. These areas are located on the Metacomet side and the Southington side of Berlin. At the time of development of the 2016 HMP, the Town anticipated that a major burn would occur in the Ragged Mountain Preserve in the coming years because a significant amount of deadfall had accumulated. A number of fires have indeed occurred in that area, including small ones on May 5 and August 9, 2015, a large one on July 25, 2016, and another minor fire on April 17, 2017. Hikers are common in this area which increases potential risk for an accidental fire. A major burn in 1984 continued for a week and a half in this area.

A total of twenty-three dams could affect the Town of Berlin with their failure, and six Class C (high hazard) dams lie within the Town boundaries. The rupture of the Kenmere Dam in 1987 forced 80 million gallons of water into town; most of this water inundated a golf course, but had the downstream area been developed differently the outcome could have been far worse.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Berlin. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 3-2: Average Annualized Losses, Berlin

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$51,846.29
	NRI	$938,769.89
	FEMA PA	$26,001.55
Tornados/High Winds	NCEI	$19,410.30
	NRI	$215,527.68
Winter Storms	NCEI	$15,376.43
	NRI	$11,789.86
	FEMA PA	$17,096.89

Hazard	Source	Average Annualized Losses (AAL)
Flood	NCEI	$15,715.35
	NRI	$73,434.10
	NFIP	$7,725.98
Drought	NRI	$15,552.07
	USDA	$0.00
Extreme Heat	NRI	$23,037.85
Wildfire	NRI	$1,004.67
Earthquakes	NRI	$54,866.18
Dam Failure	HMP	$36.00

Other Hazard Costs

The impact of Severe Winter Storms on the Town of Berlin based on Winter Storm Alfred in late October 2011. Debris removal was the biggest impact, costing $615,000.

Table 2-3: Estimated Impacts from a Severe Winter Storm Comparable to Winter Storm Alfred, Berlin

Impact of Severe Winter Storm	Estimated Losses
Number of Electrical Customers Served (2013)	9,622
Maximum Outages During Severe Winter Storm (2011)	6,868
Maximum Outages Percentage of Customers (2011)	71.38%
Number of Businesses Experiencing Outages	9
Total Lost Wages (Daily)	$1,872.08
Average Lost Wages (Weekly)	$55,514.00
Miles of Local Roads Plowed by Town of Berlin	103.72
Municipal Cost (Plowing, Road Treatment)	$806,438.88

Sources: Eversource, CCRPA Internal Analysis

The total property damage related to the 1987 Kenmere Reservoir dam failure was $187,000.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Berlin 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.

- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- Acquire one a generator for the town library so it can be used as a backup facility to the town hall if needed.
- Acquire additional portable generators for all the sewer pumping stations.
- Purchase or elevate a home on Becker Avenue that frequently floods.
- Move forward with determining if the Physical Services Complex can be wet floodproofed and apply for funding.

Status of Previous Mitigation Strategies and Actions

The Town of Berlin reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-4: Status of Previous Mitigation Strategies and Actions, Berlin

No.	Action	Notes	Status
4	Complete the Dam Breakage Emergency Plan.	Town staff said the plan has been updated through engineering and has been sent to the insurance carrier and DEEP.	Complete/ Remove
12	Explore rerouting of culverts upstream of Becker Avenue to protect Becker Avenue property.	Town staff report that rerouting of these culverts has not been completed. The Becker Avenue property in question is a single dwelling. The town has cleaned out the culvert which has lowered the potential for flooding for the one dwelling. Because of this increased maintenance, rerouting these culverts is not a priority for the town but town staff would still like to carry this action forward.	Carry Forward
14	Relocate gasoline lines feeding the Physical Services Complex to protect from flooding.	Town staff reported that relocation has not been completed. The tanks are all above ground and are not themselves very vulnerable to flooding, but there is an access concern about getting to the site during flood events. If access is blocked by floodwaters, the town can't refill the tanks. The town would need to purchase property to relocate the Physical Services Complex and the town staff report that this is unlikely to happen (See Action 9 for further discussion of this). The town has been working on a back-up plan for augmenting the gas supplies with the gas tanks located at the golf course. Town staff will check on the status of the golf course fuel back-up plan and will follow up with CIRCA about whether to revise or retire this action.	Retire
6	Update the local floodplain management ordinance to meet current State guidelines.	Town staff report that this is complete.	Complete/ Remove.
10	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff said this has not been completed. This action will be retained since Berlin has multiple RL properties.	Carry Forward

No.	Action	Notes	Status
11	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Town staff said this has not been completed. This action will be retained since Berlin has multiple RL properties.	Carry Forward
2	Revise the subdivision/zoning code to offer incentives for low-impact development.	Town staff said the town has substantial requirements for drainage in the regulations related to development. The town also recently completed a new POCD, which will be incorporated into the zoning. The intent of this action is complete.	Intent is complete / Retire
9	Construct duplicate facilities for the Physical Services Complex at the golf course and Sage Park.	(See Action 14 for additional discussion related to the gas tanks at this facility). Town staff reported that the public works facility is located in a floodway and previous flooding occurrences have led to damages and cost the town money. There are four buildings that have been repeatedly flooded. The town has previously discussed relocating this complex, but town staff report that relocation is unlikely because there is no feasible property for relocation. Town staff report that the town has shifted its goal to be floodproofing this facility rather than relocating it. Town staff pointed to the Hartford Boathouse as an example of a floodproof facility. The town has already completed some studies related to this goal, and would be interested in seeking grant funding for this floodproofing project. Revise this action to incorporate this town input.	Carry Forward with Revisions Instead of relocating the facilities, floodproof the facilities.
3	Acquire generators for shelters and other critical facilities. The need for three generators has been identified to ensure that backup power is available for critical town functions. These include the purchase of an additional portable for the Town for general use, an additional portable generator for the Water Control Department to ensure that sewer pumping stations can be maintained during outages, and a new generator for the senior center.	Town staff reported that a generator has been installed for the Water Control Department well site. The town is in the process of transferring an extra generator from the high school to the senior center, which involves working with the housing authority. There is still interest in additional generator power for pump stations, as well as a generator for the library. CIRCA will follow up with town staff about the status of the generator for the senior center, and will update this action accordingly. Carry forward this action with revisions.	Carry forward with revisions based on the facilities that still need generators

No.	Action	Notes	Status
7	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.	Town staff said they are compliant with MS4. This is a capability.	Capability/ Remove
8	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff reported that this has not been completed but they would like to carry this action forward.	Carry Forward
5	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.	Town staff said they ensure that all potentially hazardous chemicals are stored out of floodplains. This is a capability.	Capability/ Remove
13	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff would like to revise the action to "Acquire and review the new SHPO inventory layer", as recommended by CIRCA to other towns.	Carry forward with Revisions
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff said they have not joined SCT. The town does not currently have the capacity to enter the program but would like to keep this action for the future.	Carry Forward

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.

Table 2-5: Active Mitigation Strategies and Actions, Berlin

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
BE1	Seek funding opportunities to floodproof the Physical Services Complex.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Property Protection	Public Works	$50,000 - $100,000	FEMA HMA; Municipal CIP Budget; STEAP	07/2024 - 06/2029	Medium	Riverine and Pluvial Floods	Serves an EJ tract	19	6	114
BE2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57
BE3	Acquire generators for shelters and other critical facilities. The need for three generators has been identified to ensure that backup power is available for critical town functions. These include the purchase of an additional portable for the Town for general use, an additional portable generator for the Water Control Department to ensure that sewer pumping stations can be maintained during outages, and a new	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Serves an EJ tract	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	generator for the senior center.												
BE4	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
BE5	Explore rerouting of culverts upstream of Becker Avenue to protect Becker Avenue property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	4	72
BE6	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
BE7	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	High	Riverine and Pluvial Floods	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
BE8	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2024 - 06/2027	High	Drought/ Wildfire	Serves an EJ tract	20	8	160
BE9	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	Benefits an EJ tract	19	5	95
BE10	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO, Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	Benefits an EJ tract	19	9	171
BE11	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	Benefits an EJ tract	19	6	114
BE12	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions	Reduce losses from other hazards.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2026	Low	All Hazards	Benefits an EJ tract	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	related to hazard mitigation.												
BE13	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	Reduce losses from other hazards.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Figure 3-2: CIRCA Environmental Justice Rank and Critical Facilities, Berlin

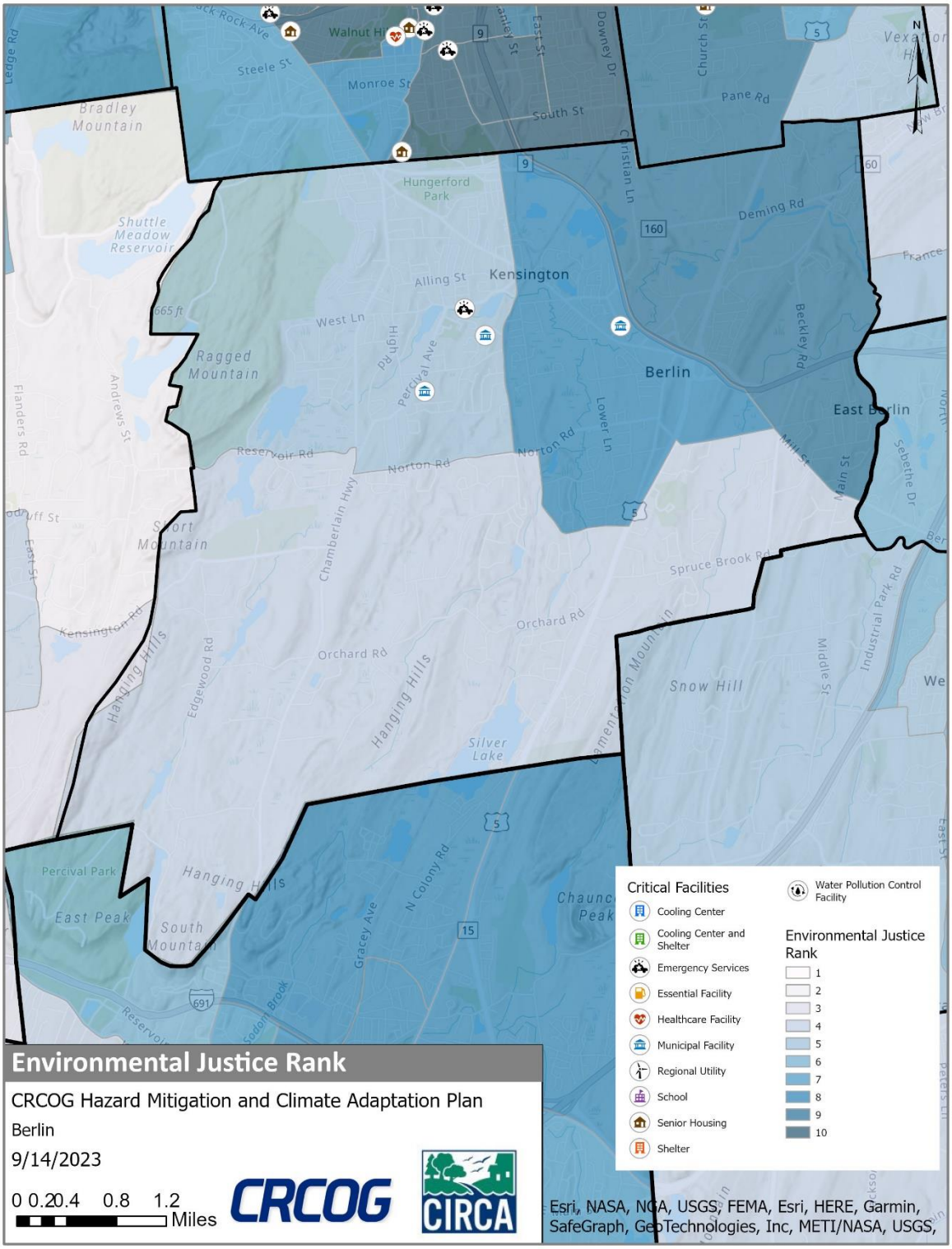


Figure 3-2: FEMA Flood Zones and Critical Facilities, Berlin

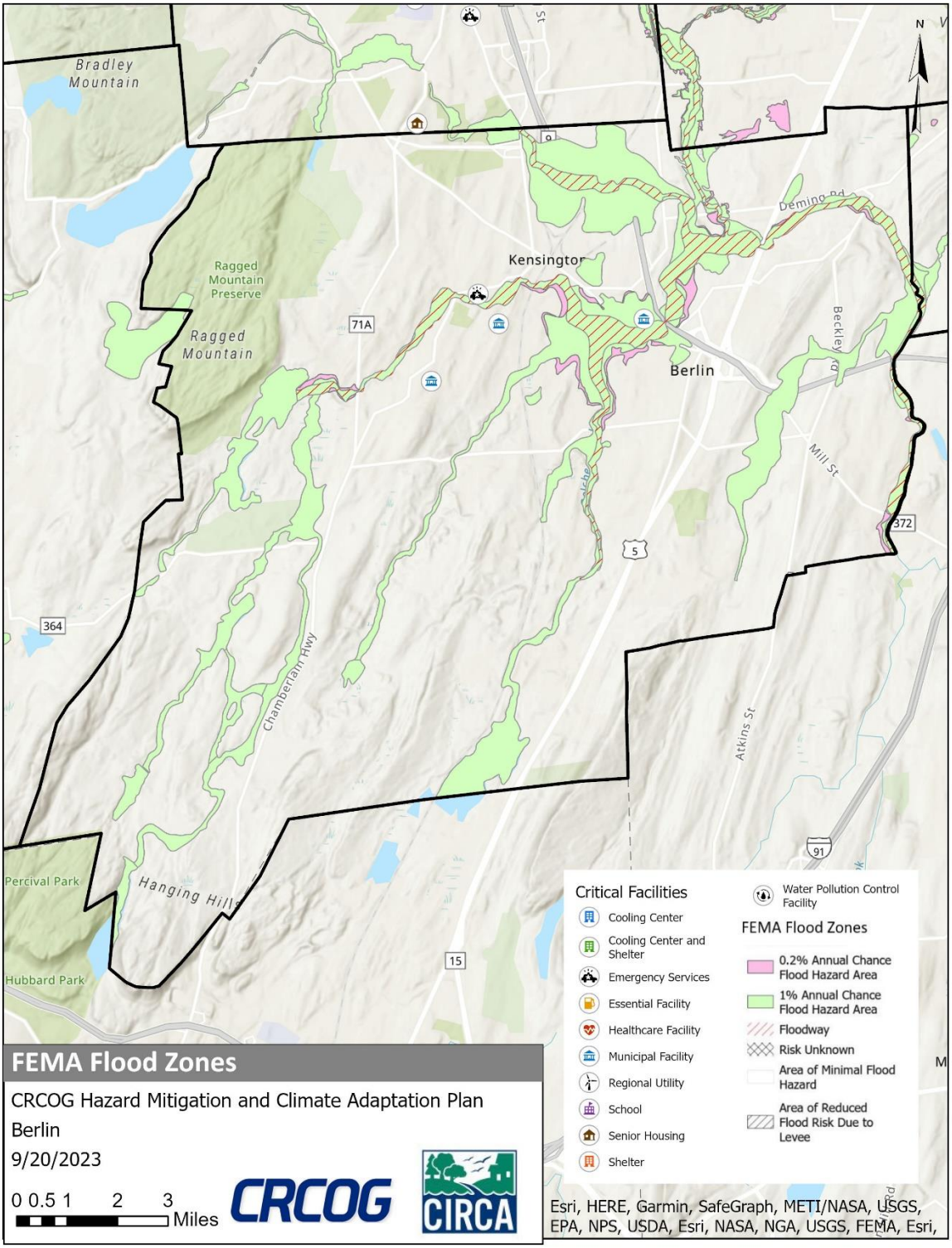


Figure 3-3: CIRCA Flood CCVI and Critical Facilities, Berlin

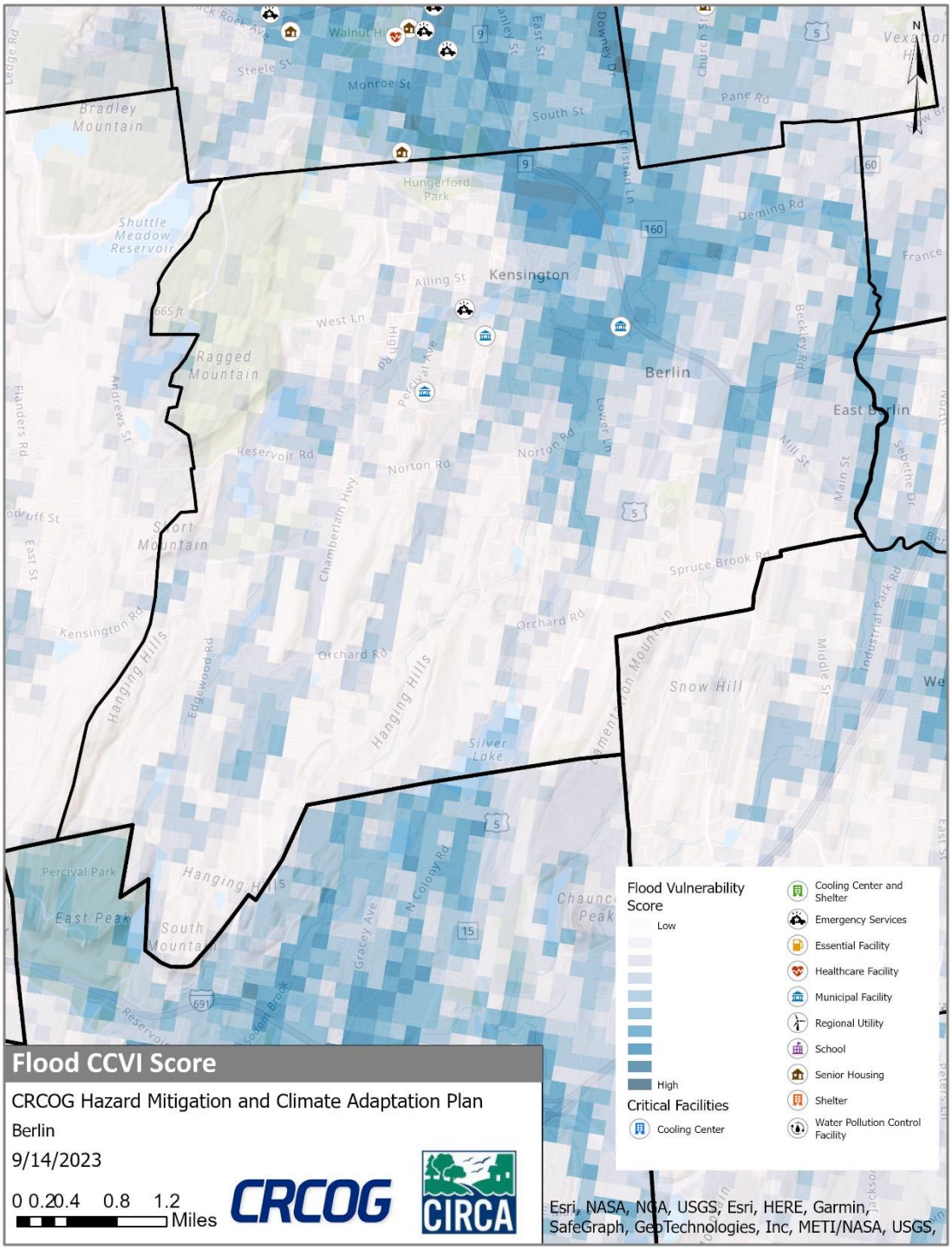


Figure 3-4: Dam Inundation Area and Critical Facilities, Berlin

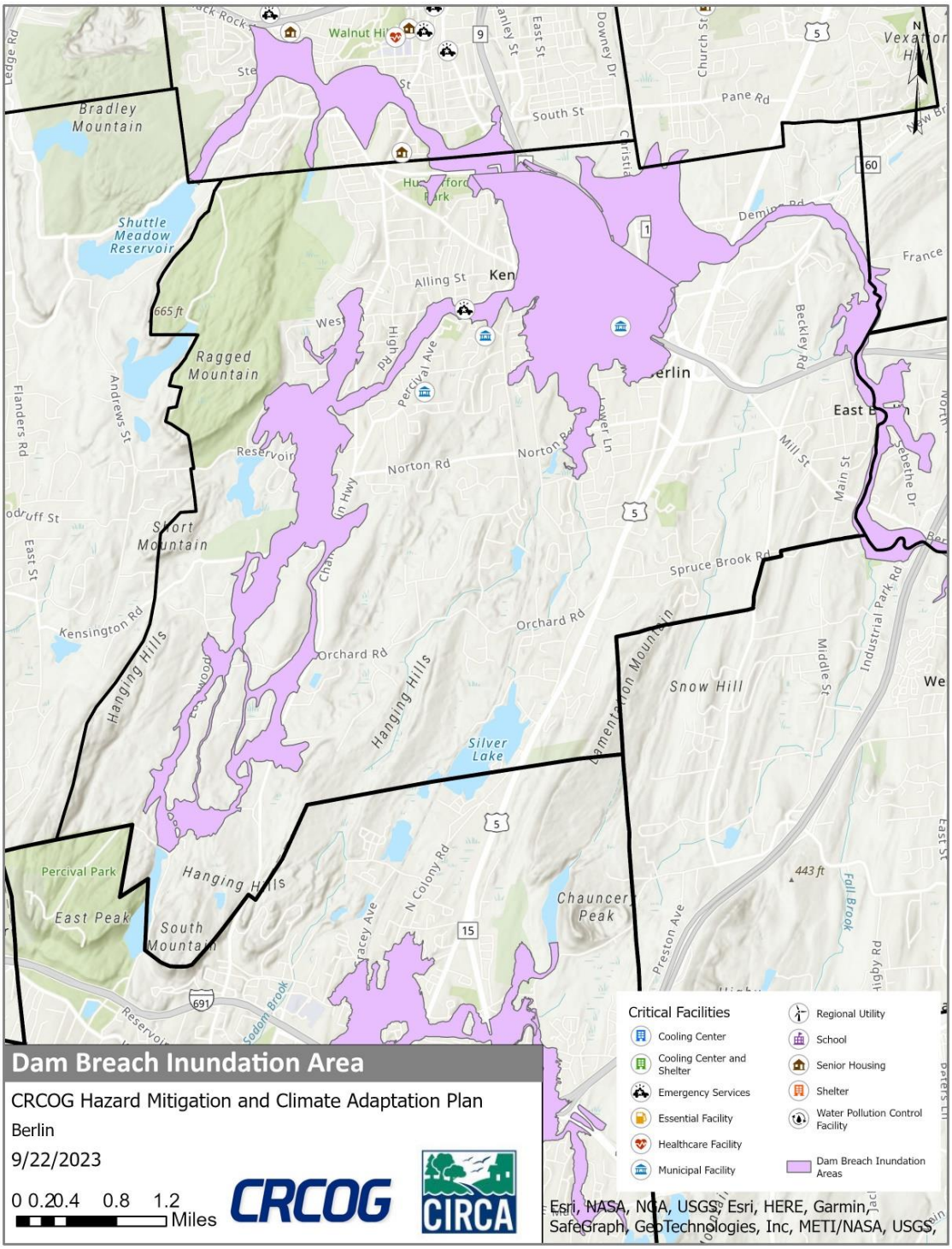
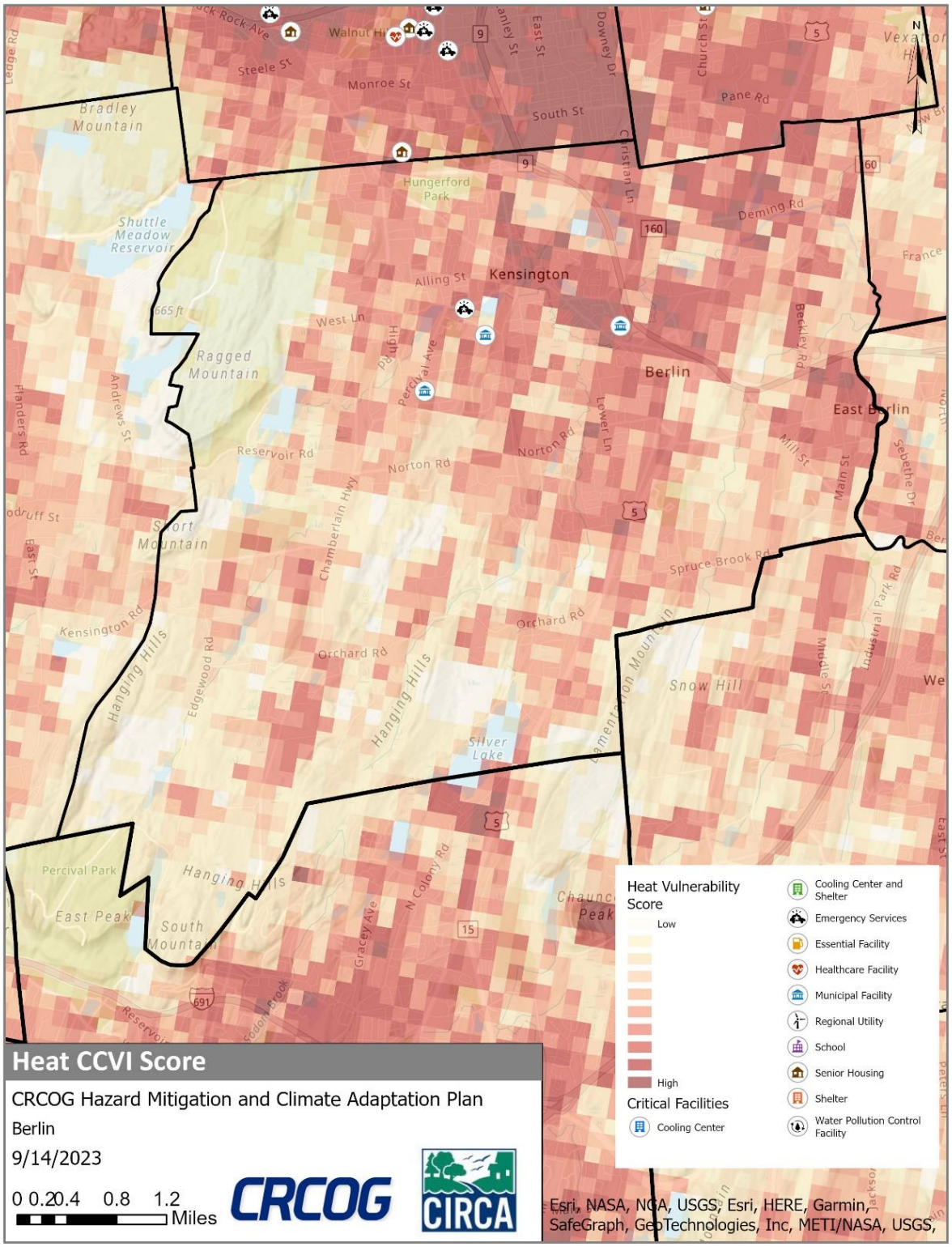


Figure 3-5: CIRCA Heat CCVI and Critical Facilities, Berlin



4 Bloomfield

Community Overview

The Town of Bloomfield encompasses 26.4 square miles with an average elevation of about 150 feet. The 2020 Census reported Bloomfield's population at 21,535. Bloomfield is primarily within the Park River Watershed. Portions of the Town at the northwest and eastern edges also drain to the Farmington River and directly to the Connecticut River via local brooks. Main water-courses within the Town include Wash, Tumbledown, Beaman, Griffin, and Mill Brooks. Four major flood control reservoirs owned by CT DEEP, and jointly maintained by DEEP and the Town, are located in Bloomfield within the Park River watershed. Large portions of an MDC reservoir and Penwood and Talcott Mountain State Parks are also located in the Town. Major transportation routes through Town include east-west state Routes 218 and 178, as well as north-south running routes 185, 187 and 189.

Bloomfield industries include insurance, aerospace products, specialized tools, electronics, gold and diamond products, diversified industries and agriculture. Bloomfield is reportedly the 14th busiest municipality in the state for construction. Bloomfield has experienced growth in apartment development, particularly in the downtown area around Jolley Drive, over the past 5 years, and the town continues to receive applications for new developments. Additionally, there has been some industrial development, including a warehouse project currently on hold but expected to proceed. However, there has been relatively limited commercial and single-family development. It's worth noting that these developments are situated near, but not within, floodplains.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Bloomfield, critical facilities include the Carmen Arace School (primary shelter), the Blue Hills Fire Department (backup shelter), Police Department, Public Works Facility, Bloomfield Ambulance (EOC), Town Hall, and another Fire Department

Table 2-3: Critical Facilities, Bloomfield

Facility	Shelter	Cooling Center	Generator
Carmen Arace School	Primary		X
Blue Hills Fire Department	Backup		X
Police Department			Needs replacing
Public Works Facility			X
Bloomfield Ambulance (EOC)			X
Town Hall			
Fire Department			
Senior Center		X	
3 Eversource Substations			

During extreme heat events, Bloomfield Senior Center is used as the cooling center. This facility can also be used as a heating center. The senior center does not have a generator.

Carmen Arace Middle School is Bloomfield's emergency shelter. This facility can be used as an overnight shelter, if needed.

Capabilities

Bloomfield's hazard mitigation capabilities include its primary and backup shelter, large state-owned flood control structures, property acquisition program, and zoning regulations. Hazard mitigation is incorporated into the community's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

The Connecticut Department of Energy and Environmental Protection (DEEP) owns and manages most of large flood control structures within Bloomfield's borders. The Town does provide limited maintenance to flood control structures.

The Town has taken steps to reduce its vulnerability to flooding. Since 2008, there have been three demolitions of structures located totally or partially in the floodplains. The Old Masonic Hall at 3 Tunxis Avenue, a residential outbuilding at 60 Tunxis Avenue and the warming shed on Filley Park. The Town also adopted new zoning regulations which included a major overhaul and updating of the Floodplain section in 2009. That overhaul was in response to directives from FEMA to strengthen the regulations to continue the community's participation in the Flood Insurance Program.

Bloomfield coordinates with Eversource to maintain power lines and minimize outages. This coordination has been effective and productive, and fewer outages have occurred in recent years.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"), a number of changes to Bloomfield's hazard mitigation capabilities have occurred; examples include:

- A small FEMA map revision was completed near West Hartford and the Park River.
- The drainage culverts on Applewood Road were replaced to address structural issues that prevented proper function. Street flooding was occurring in this area.
- Stormwater system repairs and upgrades were completed on Ryefield Hollow.
- East Newberry Road drainage improvements were made to prevent some flood damage to private property.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Increase budget for tree maintenance and urban forestry.
- Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.
- Conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster plans and kits, and improving their disaster readiness.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The town of Bloomfield has observed a rise in precipitation levels, leading to drainage-related flooding issues within the community. Town staff anticipates being able to pinpoint problem areas, as indicated in the action table. However, there is uncertainty regarding the availability of funding to address these

identified issues once they are recognized. Furthermore, it is noteworthy that some of these drainage problems are concentrated in denser areas characterized by older housing, constructed before the implementation of many contemporary land use regulations.

Another challenge to the Town is maintaining vehicle access through the town during and after disasters. Route 185 is a major east-west route over the ridge in western Bloomfield and the Farmington River in neighboring Simsbury. When Route 185 is closed due to debris or ice and snow, significant traffic volumes must be re-routed in Bloomfield.

The town-owned golf course, Wintonbury Hills, depends on a reservoir for irrigation. When the reservoir gets low, the town is unable to pump for irrigation supply. Going forward this may be a more frequent concern.

Bloomfield notes that there is some agriculture in town. Farmers have reported that this year has been particularly tough because of how much rain has occurred. Town staff report that climate change is affecting agriculture.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Bloomfield. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 4-2: Average Annualized Losses, Bloomfield

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$55,341.26
	NRI	$855,024.64
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$20,718.75
	NRI	$227,239.93
Winter Storms	NCEI	$16,412.96
	NRI	$12,772.50

Hazard	Source	Average Annualized Losses (AAL)
	FEMA PA	$7,729.89
Flood	NCEI	$16,774.72
	NRI	$26,381.78
	NFIP	$7,154.49
Drought	NRI	$82,342.19
	USDA	$0.00
Extreme Heat	NRI	$24,621.16
Wildfire	NRI	$589.50
Earthquakes	NRI	$70,545.57
Dam Failure	HMP	$37.00

Other Hazard Costs

The Town estimates that responding to a single severe winter storm event costs the Town $65,000, and responding to a single severe thunderstorm costs $25,000.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Bloomfield 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town of Bloomfield needs to continue to address increased precipitation-related drainage issues and secure funding for identifying and rectifying problem areas, especially in older housing-dense zones.
- The town should consider strategies for managing water supply in light of more frequent low reservoir levels in order to sustain irrigation at Wintonbury Hills golf course
- Bloomfield should support local agriculture by addressing challenges such as excessive rain, increased erosion and emphasize the need for climate-resilient agricultural practices.

Status of Previous Mitigation Strategies and Actions

The Town of Bloomfield reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Bloomfield

No.	Action	Notes	Status
18	Perform a town-wide drainage study to identify and prioritize stormwater drainage system improvement and replacement needs.	The town has an outdated drainage study from 1977. Public Works floated a proposal during the last fiscal year to update this study, but the town council did not have adequate funds to support it. Carry forward.	Carry forward.

No.	Action	Notes	Status
3	Review maps of flood risk associated with failure of the Hartford Flood Control System and determine needs for additional education or action.	The needs in this area include ongoing maintenance (for example, mowing) and renewing appropriate leases. The town does not have maintenance responsibility for the flood control structures and outlet structures. The public often uses these areas as open space providing passive recreation opportunities, so the town would like to maintain these areas as viable usable open space for residents. The town has tried to get changes made to the long-term leases during the renewal process but has encountered delays with DEEP and the Attorney General's office and the other bureaucratic steps of this process. So updating the leases to include changes to maintenance and changes in use has been a challenge. The initial leases reinforced the idea that these areas should be mowed annually; the town would like to change this. Town staff suggest revising action to be "continue coordination with the state of Connecticut regarding updating the leasing and maintenance of these properties." The town staff reports that the state may not be providing enough resources to maintain these areas adequately. CIRCA Staff's recommendation appeared to have general concurrence: Develop one action related to risk communication (consistent with the three actions from 2019), one new action related to leasing, and one new action related to maintenance.	Carry forward with revisions
1	Provide information about the risks of living near the Flood Control System to individuals considering purchasing property in that area.	See above.	Carry forward with revisions – see above
11	Conduct public outreach and education campaign to residents living near the Flood Control System about the risks of living in that area.	See above.	Carry forward with revisions – see above

No.	Action	Notes	Status
5	Conduct public outreach and a cost-benefit analysis to determine a preferred flood mitigation measure (from those determined through previous studies) to implement at the library.	Regarding the library: A referendum approval in Nov 2021 authorized funding for a new library and the Building Committee moved ahead. The project was put out to bid and the bids came in a few weeks ago at about $10 million over the previous cost estimate. There is an upcoming meeting in August 2023 which may provide more direction for how the town will move forward. Regarding the sources of flooding: there have been improvements made to Filley Pond north of the library, and this has reportedly helped to mitigate some of the flooding potential downstream in front of the library, which was one of the major flooding concerns. This work included removing a dam, installing a fishway, dredging Filley Pond, and putting rip-rap and supporting material around the edge of the pond.	Retire
21	Develop an ordinance related to maintenance of and removal of debris from stream channels on private property. The ordinance should consider the importance of large woody debris in streams to the health of the river habitat.	The town staff is not aware of any ordinance related to this. Town staff report that debris is not a big challenge, and they will work with property owners on this as needed. Refer to the next action (below) for more about interacting with the public about flooding.	No longer a need/Retire action
16	Complete a public campaign to educate property owners about the importance of maintaining and clearing debris from stream channels. The campaign should result in permanently available educational materials, such as through links on the Town website. The campaign should consider the importance of large woody debris in streams to the health of the river habitat.	There is a lot of concern related to flooding in town, and so any information that can be pushed out to property owners would be helpful. Some property owners are reporting flooding on their properties/basements that has increased in recent years. Nevertheless, a public education program has not been developed regarding debris removal, or regarding flooding in general.	Carry forward with revisions to indicate role of the Department of Communication in communicating flood risks townwide
10	Develop a simple guide for property owners laying out whether or not they should remove debris from their streams, and providing contacts for contractors that can assist them.	As suggested above, nothing has been done on this. There is now a department of communication in the town, so there is renewed likelihood that this could be done. Revise to indicate department of communication's role.	Carry forward with revisions to indicate role of the Department of Communication

No.	Action	Notes	Status
13	Identify funding sources and personnel to complete an urban tree canopy inventory and study.	The town has funded a consultant to do a study in the rights-of-way. This will be done by the time this plan is adopted.	Complete / Retire
19	Increase budget for tree maintenance and urban forestry.	There was a nominal increase. The conservation and energy committee along with the Bloomfield Beautification Committee has a tree planting program that has planted approximately 100 trees in areas with little tree canopy. This is a capability.	Capability / Retire
23	Identify site for debris storage. Purchase a bucket truck for tree trimming and maintenance.	One of the state flood control areas was utilized for debris storage in 2011. In more recent years there have been a few additional areas considered for storage. The town does have many options of open space, even though they are not explicitly listed in the plan. The intent has been met on this action.	Intent has been met / Retire
4	Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.	The town has a designated emergency shelter in one of the middle schools with cots, food service, and generator. The senior center is also very active and has many connections to the senior residents in the town. The senior center (330 Park Avenue) is used as heating/cooling center as well. The senior center does not have a generator – add an action for this.	Capability / Retire
6	Replace Police Department emergency generator.	Complete.	Complete / Retire
7	Upgrade or supplement Public Works emergency generator to expand its backup power capacity.	In 2020 there was a Public Works facility renovation, including a new larger-capacity generator.	Complete / Retire
8	Improve/replace existing Town communication system in favor of one that is more reliable and has better coverage during storm events. Implement 2020-2021.	This is complete; the town is reportedly now participating in the state's communication system.	Complete / Retire
17	Conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster plans and kits, and improving their disaster readiness.	The town has an outreach campaign related to encouraging residents to sign up for CodeRed system, plus the CRCOG Everbridge system. Both of these notification systems are in place, so this is a capability.	Capability / Retire
12	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.	The town is compliant with MS4. The town does not make much use of outside resources. The town staff would like to carry this forward.	Carry forward with revision to update available resources.

No.	Action	Notes	Status
15	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	CIRCA will list MDC facilities in the Bloomfield annex in this HMP update. Whenever there is an extreme weather event predicted, Bloomfield participates in the MDC preparation meetings. Bloomfield also participates in their training exercises.	Complete with this plan / Retire
20	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	This needs to be carried forward for FEMA requirements. Town staff note that it is an arduous process to get FEMA funds, and it can take years to get funds back for emergency activities.	Carry forward
9	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.	Town staff are not aware of anything that's been done on this. The related DEEP program has ended. Replace this action with having town staff watch the DEEP webinar.	Carry forward with revisions to watch the DEEP training webinar
14	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	The town has various operations plans that get activated depending on circumstance. Town staff say to keep this action, especially given that there will be more staff turnover in the future.	Carry forward
22	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Nothing has yet been done related to this. There is a push to have a Historic Commission, so the town staff would like to keep this action.	Carry forward
2	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	The town joined and were certified in 2019, and then the certification lapsed last year. The town is working to restore the certification, so would like to keep this action.	Carry forward (perhaps with revisions to reflect the recent history).

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.

Table 2-4: Active Mitigation Strategies and Actions, Bloomfield

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
BF1	Acquire a generator for the senior center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
BF2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
BF3	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
BF4	Perform a town-wide drainage study to identify and prioritize stormwater drainage system improvement and replacement needs.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114
BF5	Continue coordination with the state of Connecticut regarding updating the	Reduce losses from other hazards.	Property Protection	Building & Land Use	$0-$10,000	Municipal Operating Budget	07/2026 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	10	180

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	leasing and maintenance of these properties.												
BF6	Implement a new public outreach strategy for residents in Bloomfield related to the purpose of the Flood Control System and their use of the resource.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	18	8	144
BF7	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	No	18	5	90
BF8	Complete a public campaign to educate property owners about the importance of maintaining and clearing debris from stream channels. The campaign should result in permanently available educational materials, such as through links on the Town website. The campaign should consider the importance of large woody debris in streams to the health of the river habitat and should be completed by the towns Department of Communications.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods/ Extreme Heat	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
BF9	Develop a simple guide for property owners laying out whether or not they should remove debris from their streams, and providing contacts for contractors that can assist them. This guide can be developed by the Department of Communications	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Department of Communications	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods	No	18	9	162
BF10	Coordinate with CLEAR/NEMO 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.	More than one goal.	Prevention	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	Low	Riverine and Pluvial Floods	No	18	7	126
BF11	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
BF12	Wach the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Management-and-Climate-Resilience	increases frequency and severity of floods.											
BF13	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	No	18	6	108
BF14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$10,000 - $50,000	SHPO	01/2026 - 12/2026	Medium	All Hazards	No	18	7	126
BF15	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	More than one goal.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
BF16	Pursue Certification in the SustainbleCT program. Make progress with the actions related to hazard mitigation.	More than one goal.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2027 - 12/2027	Low	All Hazards	No	18	7	126
BF17	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Department of Communications	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 4-3: CIRCA Environmental Justice Rank and Critical Facilities, Bloomfield

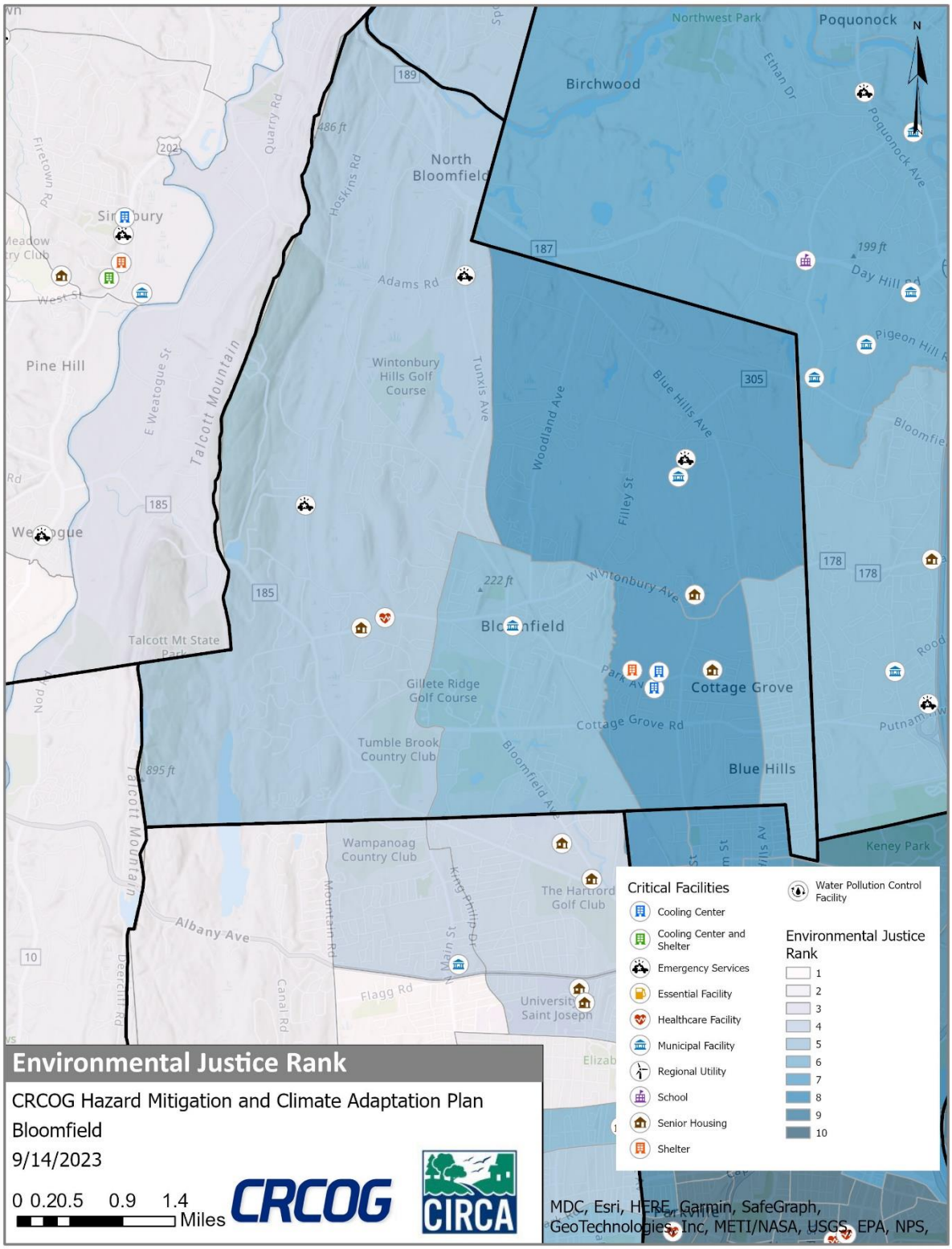


Figure 4-2: FEMA Flood Zones and Critical Facilities, Bloomfield

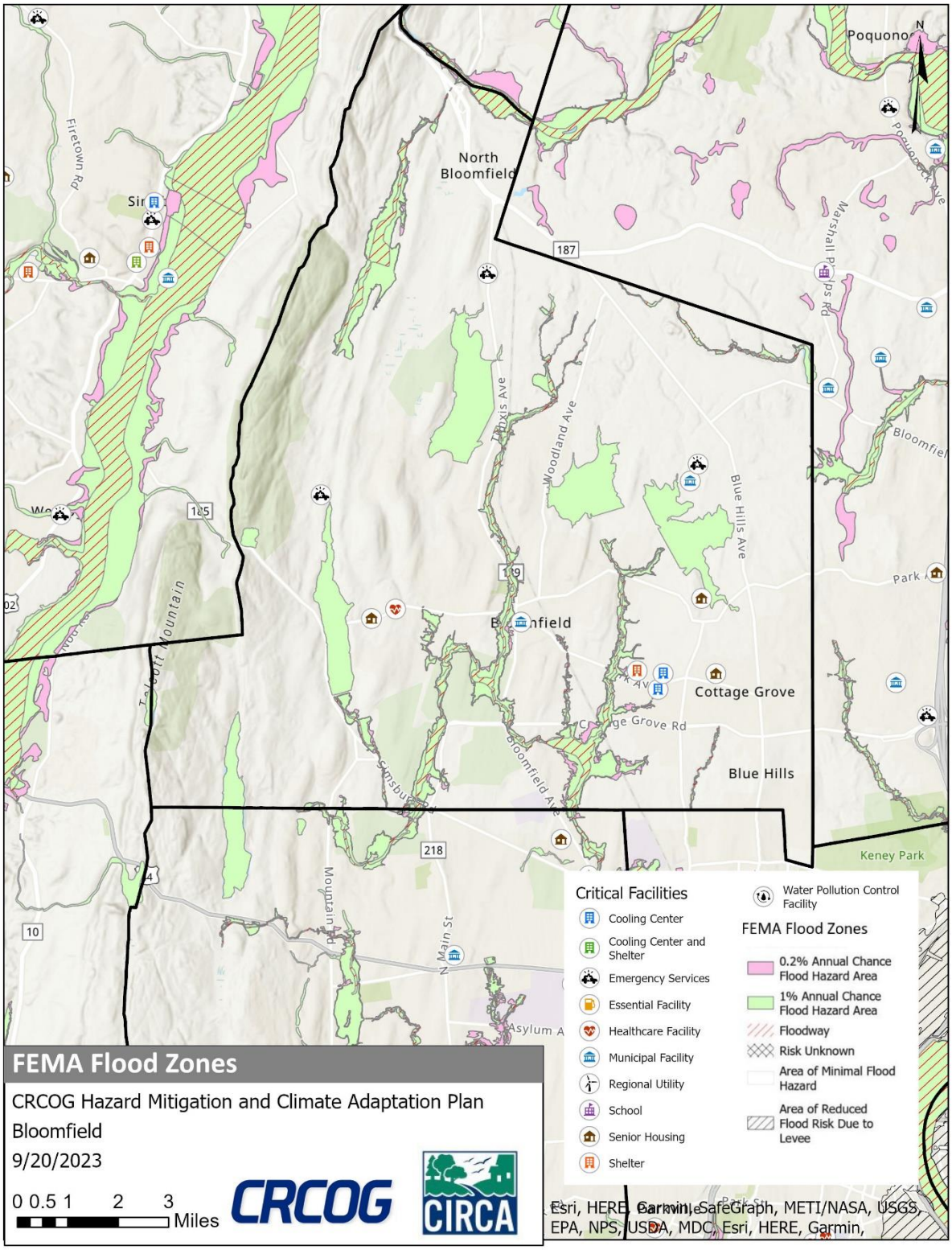


Figure 4-3: CIRCA Flood CCVI and Critical Facilities, Bloomfield

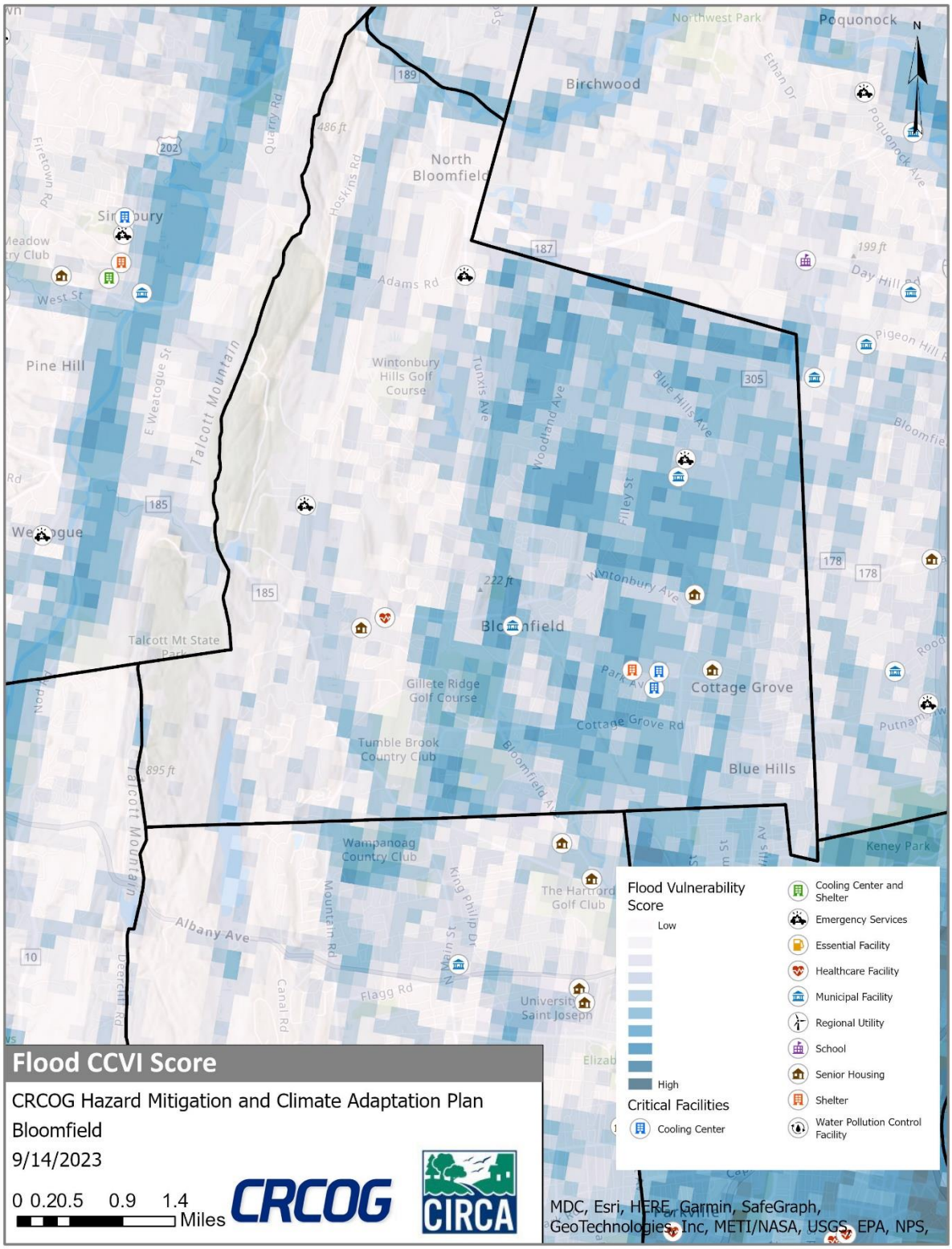


Figure 4-4: Dam Inundation Area and Critical Facilities, Bloomfield

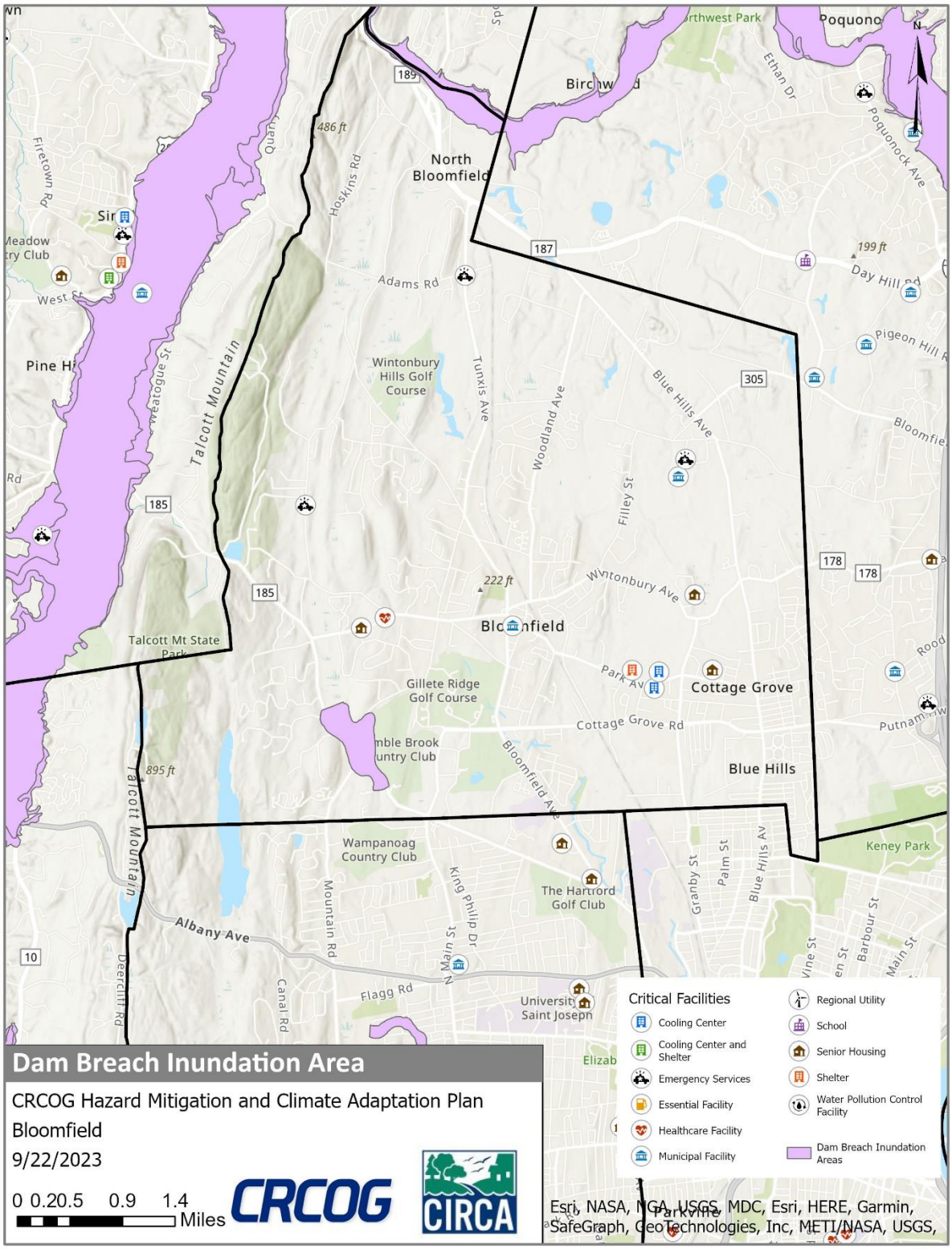
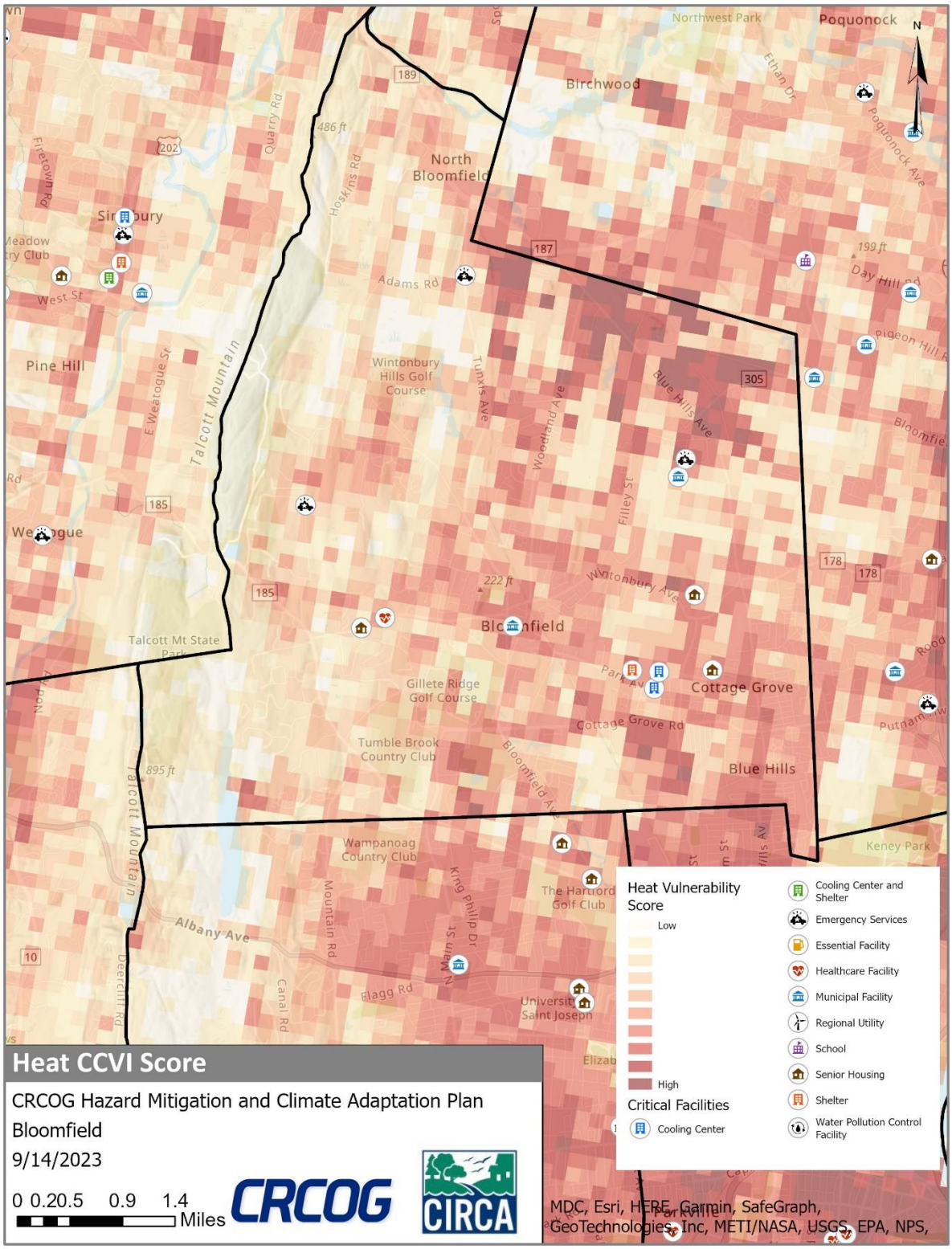


Figure 4-5: CIRCA Heat CCVI and Critical Facilities, Bloomfield



5 Bolton

Community Overview

Bolton is a rural community in Tolland County with a population of about 4,858. 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.

New development has occurred since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update, including a Dollar General and a dentist office at 1100 Boston Turnpike, and east of that is Able Coil. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Bolton critical facilities 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, Notch Road Municipal Center and Bolton Senior 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. ConnDOT also has a property on Route 44 that houses a satellite ConnDOT garage and salt storage.

Table 2-4: Critical Facilities, Bolton

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

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.

During extreme heat events, Bolton Bentley Memorial Library, Bolton Town Hall and Bolton Town Senior Services can all be opened as public cooling centers. Generators for the library and senior center are still needed. The Town hall currently has a generator.

Herrick Park Community Building is also a pet friendly shelter.

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.

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.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Adopt a regular maintenance schedule for keeping drainageways and drainage structures clear, especially following flood events.
- Monitor and maintain drainage and flood control systems through the completion of annual inspections.
- Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.
- Implement the recommended improvements as identified in the plan to power residential grinder pumps during prolonged power outages.
- Conduct a review of the Everbridge system and conduct a test to ensure its effectiveness.
- 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

- Review the Low Impact Development (LID) Regulations periodically and update as needed. Utilize the LID Manual developed by the Northwest Hills Council of Governments.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

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. Lyman Road has a failing culvert but the town recently completed an inspection of the culvert and has an engineered plan to replace it. The remaining challenge is funding the project.

Dams at various locations are a concern for localized flooding, specifically at Notch Pond Dam and Sperry Pond Dam. The Notch Dam is operated by DEEP and the Sperry Pond is owned privately. When they are clogged, the town communicates with DEEP/homeowner that the Dam needs to be cleaned. The town prefers to trap beavers but this is not always possible. The town has a beaver prevention structure at Deming Road Culvert that requires maintenance.

Bolton noted that the town has been working with Eversource since this last year to do a lot of cutting in the Bolton Notch area, focusing on vegetation in and around power lines. The primary goal here is to reduce power outages from vegetation falling on the power lines, with less of a focus on fire management as stated in the last plan update. The town did notes that they have had two wildfire events there. The terrain is very difficult but DEEP is resistant to removing trees. This property is owned by DEEP, which limits directly undertaking Town actions. There is a large rock with an American Flag painted and attendees believe that people would prefer some visibility from the Greenway, which would require more tree trimming. Have taken the trimming as far as they can given DEEP ownership.

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.

On Mark Anthony Lane, a private road with a bridge washed out during storm Isaias. The bridge has been replaced but not certified. The bridge is the access point for 7-8 houses and if the bridge lacks fire truck certification that raises concerns about emergency vehicle access for the town.

Bolton Pond Brook, serving as the outfall from Lower Bolton Lake controlled by DEEP, has a watershed of significant size. To address neighborhood concerns and Lower Bolton Lake's importance, town staff propose opening a dialogue with DEEP about dam release during severe rainfall events to mitigate flooding.

A homeowner's association owns a dam on Tinker Pond Road, and there are reports of small leaks. Failure to address this issue could lead to downstream consequences that raise concerns among town staff.

Multiple extreme and sudden weather events have been observed by town staff, establishing climate concerns as a primary focus for the town.

While attendees have not observed significant use of cooling centers and express little concern about extreme heat, an ongoing project is underway to identify vulnerable populations through the senior center, tax collector, and fire department. The town aims to provide assistance, such as water and transportation, to those in need.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Bolton. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 5-2: Average Annualized Losses, Bolton

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$12,484.23
	NRI	$239,896.77
	FEMA PA	$11,335.15
Tornados/High Winds	NCEI	$4,673.87
	NRI	$41,601.12
Winter Storms	NCEI	$3,702.54
	NRI	$19,675.55
	FEMA PA	$5,321.02
Flood	NCEI	$3,784.15
	NRI	$8,048.44
	NFIP	$79.79
Drought	NRI	$3,283.75

Hazard	Source	Average Annualized Losses (AAL)
	USDA	$0.00
Extreme Heat	NRI	$865.67
Wildfire	NRI	$225.56
Earthquakes	NRI	$6,675.17
Dam Failure	HMP	$306.00

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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is result over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The Town may wish to further develop a tree-trimming program to protect power lines in the Bolton Notch area. The town should continue to strengthen their debris management protocol and adapt it as needed.
- Funding for the Lyman Road failing culvert that needs to be replaced and upgraded needs to be secured.
- The town should continue dialogue with the property owners on Mark Anthony Lane ir order to facilitate them obtaining the necessary certifications for the newly replaced bridge on Mark Anthony Lane to ensure emergency vehicle access or should ensure different approach to access those houses in emergency situations.
- The town should continue to establish regular communication and cooperation with the Department of Energy and Environmental Protection (DEEP) regarding the dam control at Lower Bolton Lake. Collaborate on a plan to release water during severe rainfall events, aiming to mitigate flooding in the Bolton Pond Brook area and downstream.
- The town should consider ways to educate the homeowner's association on Tinker Pond Road to prioritize the maintenance and repair of the dam.
- The town could investigate developing a comprehensive climate resilience plan to address the observed extreme weather events and their impact on the town.
- Bolton should continue the ongoing project to identify vulnerable populations in the town through the senior center, tax collector, and fire department. Ensure these identified individuals receive regular check-ins, assistance with water supply, and transportation, especially during extreme weather events to enhance community safety and well-being.

Status of Previous Mitigation Strategies and Actions

The Town of Bolton reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Bolton

No.	Action	Notes	Status
1	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	The town joined Sustainable CT in 2020	Completed /retire
2	Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.	Happens on an ongoing basis. Capability.	Intent is Completed /retire
3	Develop informal arrangements with private contractors for emergency tree/debris removal and evaluate these arrangements on an annual basis.	Have had some conversations. Have this under control. When the town is expecting a heavy storm with tree damage, they have a relationship with tree care vendors and get them on the schedule to be out here before the storm hits.	Intent is Completed /retire

No.	Action	Notes	Status
4	Adopt a regular maintenance schedule for keeping drainageways and drainage structures clear, especially following flood events.	Before or after every rain town staff check drainageways and make sure everything is clear. This regular maintenance is a capability.	Completed /retire
5	Monitor and maintain drainage and flood control systems through the completion of annual inspections.	Town staff asked how much of this monitoring/maintenance happens when completing the MS4 paperwork every year, as the town is on track with its MS4 requirements. Will check on but likely a capability.	Intent is Completed /retire
6	Update Everbridge system participant list and perform tests on an annual basis.	The town has an Everbridge system (separate from CTAlert), which is used multiple times a year. They do not perform tests, but because they use it regularly they are sure it is working; the town employees use it themselves. At regular intervals, the town reminds residents that they have this system and to sign up.	Intent is Completed /retire
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.	The town has been working with Eversource since this last year to do a lot of cutting in this area, focusing on vegetation in and around power lines. The primary goal here is to reduce power outages from vegetation falling on the power lines, with less of a focus on fire management. But they have had two wildfire events there. The terrain is very difficult but DEEP is resistant to removing trees. This property is owned by DEEP, which limits directly undertaking Town actions. There is a large rock with an American Flag painted and attendees believe that people would prefer some visibility from the Greenway, which would require more tree trimming. Have taken the trimming as far as they can given DEEP ownership. This is an ongoing area of interest for the town/still an area of concern.	Carry Forward with Revisions
8	Implement the recommended improvements as identified in the plan to power residential grinder pumps during prolonged power outages.	A plan is in place and grinder pumps have been powered multiple times. The town staff don't believe further improvements are needed.	Completed /retire
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.	This dam is owned by DEEP. DEEP wants to transfer ownership of the dam to the Town of Bolton, but town staff are concerned about the state of the dam and whether they would be in violation of DEEP standards once they owned it. Not much movement here. They would like DEEP to clean/maintain the dam more than the present level of maintenance.	Carry Forward

No.	Action	Notes	Status
10	Make information about available assistance for property acquisition or relocation available at Town Hall and on the Town website	Town staff can't think of any properties in Bolton that are built in a flood plain. New construction is not permitted in a flood plain. One neighborhood has a private bridge that is vulnerable and washed away. No house has complained of flooding issues. Look into.	No longer needed/retire
11	Develop written protocols for optimal communications with new gas company.	The company in question is CT Natural Gas. The town regularly communicates with CT Natural Gas with no issue. Their contacts have been added to dispatch center so during emergencies they are easy to communicate with.	Complete/ retire
12	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.	The LEPC reportedly reviews manufacturing with hazardous chemicals.	Complete/ retire
13	Conduct a review of the Everbridge system and conduct a test to ensure its effectiveness.	This was covered in Action 6.	Complete/ retire
14	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.	Bolton's MS4 is all set and they do not need further coordination here.	Complete/ retire
15	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.	The dry hydrant went in two years ago.	Complete/ retire
16	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	This is ongoing. Trimming 21 miles of road this year. Bolton has also had a very robust tree trimming budget. Bolton has been hit hard with the Emerald Ash Borer. Bolton has been ahead of the game with tree trimming so will begin to cut their budget. $50,000 a year was being spent on tree trimming.	Complete/ retire
17	Educate private property owners on how to properly maintain culverts, spillways, and other drainageways to prevent obstructions, especially as related to beaver activity.	The town does work to manage beaver activity. The town has put some effort into trying to educate individuals but reportedly does not get a lot of cooperation. Combine/rewrite the beaver actions.	Carry forward with Revisions
18	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff does not consistently attend the conference by the Association of CT Flood Managers, but the flood manger does participate in ongoing training.	Intent is completed /retire.

No.	Action	Notes	Status
19	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.	This happens regularly and is an ongoing concern. The town has not had any deaths or carbon monoxide poisonings but they have still seen generators operating in people's garages. Anytime the town is expecting outages, the town distributes generator safety information. There are always new people moving into town, so education needs to be ongoing work. Keep because it is a concern but revise because the public outreach piece is well-handled.	Carry Forward
20	Develop a beaver monitoring and management program to address damming issues, specifically at Notch Pond Dam and Sperry Pond Dam.	Observe and take action when necessary. The Notch Dam is operated by DEEP and the Sperry Pond is owned privately. When they are clogged, the town communicates with DEEP/homeowner that the Dam needs to be cleaned. The town prefers to trap beavers but this is not always possible. The town has a beaver prevention structure at one site that requires maintenance (Follow-up research suggests that this structure is at Deming Road Culvert). Keep the action but combine with 17. Revise to reflect the ownership issues for Notch Pond and Sperry Pond.	Carry Forward with Revisions
21	Review the Low Impact Development (LID) Regulations periodically and update as needed. Utilize the LID Manual developed by the Northwest Hills Council of Governments.	Ongoing by planning and zoning commission.	Completed /retire
22	Study Lyman Road culvert associated with Blackledge River and recommend improvements.	The town recently completed an inspection of the culverts and has an engineered plan to replace it. The remaining challenge is funding the project. Rewrite to implement.	Completed /retire
23	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.	The town staff are not aware of any progress on this item, but it is still a goal..	Intent is Completed /retire
24	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.	New action should be similar to "acquire the new SHPO GIS layer and review Bolton properties included in this inventory to identify vulnerable properties"	Intent is Completed /retire

No.	Action	Notes	Status
25	Conduct a wildfire vulnerability and needs assessment to guide mitigation actions in the northwest corner of Town, near Bolton Notch and Freja Park.	Addressed this with their earlier comments related to the tree trimming.	Completed /retire
26	Develop a scope of work document to implement any actions recommended by the Hop River/Johnson Road culvert/dam flood mitigation study.	This study hasn't happened yet, but this is still a goal for the town. Move next to Action 23.	Intent is Completed /retire
27	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.	The town has the scope of work defined and are putting funds aside so they can afford to do it. The town is putting aside money from their capital fund. Combine with action 22. Keep and revise to indicate that the project has progressed past the scope of work stage.	Intent is Completed /retire
28	Conduct an evaluation to identify specific opportunities to update and/or underground transmission lines.	The town has discussed this possibility with Eversource, but Eversource is resistant due to the expense. Complete.	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.

Table 2-4: Active Mitigation Strategies and Actions, Bolton

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
BT1	Acquire generators for the town library & senior center; high school and Herrick Park facility are already equipped.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2027 - 06/2028	High	All Hazards	No	19	5	95
BT2	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.	Reduce losses from other hazards.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	Ongoing. Happens every time there is a significant power outage 01/2026 - 12/2026	High	All Hazards	No	18	6	108
BT3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
BT4	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Building & Land Use	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	No	18	6	108
BT5	Develop and implement, in conjunction with DEEP and DOT, a solution for the	Reduce flood and erosion risks by reducing	Prevention	Fire Department	$500,000 - $1M	DCRF; FEMA HMA;	07/2026 - 06/2028	High	Dam Failure	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Notch Pond Dam issues and address silting of Notch Pond to reduce flood risks and provide a possible firefighting water supply.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.				Municipal CIP Budget							
BT6	Work with DEEP to remove trees near Bolton Notch and Freja Park to reduce wildfire risk in this area.	Reduce losses from other hazards.	Prevention	Fire Department	$50,000 - $100,000	DEEP	07/2025 - 06/2027	High	Wildfires	No	19	5	95
BT7	Work with DEEP to develop and implement a tree trimming program for Bolton Notch to primarily reduce power outages from fallen trees/branches.	Reduce losses from other hazards.	Prevention	Planning	$50,000 - $100,000	DEEP	01/2025 - 12/2025	High	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	19	3	57
BT8	Work with DEEP to ensure the Maintenance of the Notch Pond Dam and with the private homeowner to educate them and ensure the Maintenance of the Sperry Pond Dam to address damming issues related to beavers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Planning	$0 - $10,000	Municipal Operating Budget	07/2026 - 06/2028	High	Dam Failure	No	18	6	108
BT9	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.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Building & Land Use	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Dam Failure	No	19	6	114
BT10	Develop a scope of work document to implement any actions recommended	Reduce flood and erosion risks by reducing	Structural Project	Building & Land Use	$50,000 - $100,000	DCRF; FEMA HMA;	07/2025 - 06/2026	High	Dam Failure	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	by the Hop River/Johnson Road culvert/dam flood mitigation study.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.				Municipal CIP Budget							
BT11	Seek funding and implement improvements recommended in the Lyman Road culvert study associated with Blackledge River.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Building & Land Use	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
BT12	Work to open dialogue with DEEP to open the Lower Bolton Lake Dam when severe rainfalls occur to prevent flooding to Bolton Pond Brook and surrounding areas.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Building & Land Use	$0-$10,000	Municipal Operating Budget	07/2026 - 06/2028	High	Dam Failure	No	19	7	133
BT13	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
BT14	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	01/2026 - 12/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
BT15	Update town website to include hazard mitigation and emergency	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.												

Figure 5-4: CIRCA Environmental Justice Rank and Critical Facilities, Bolton

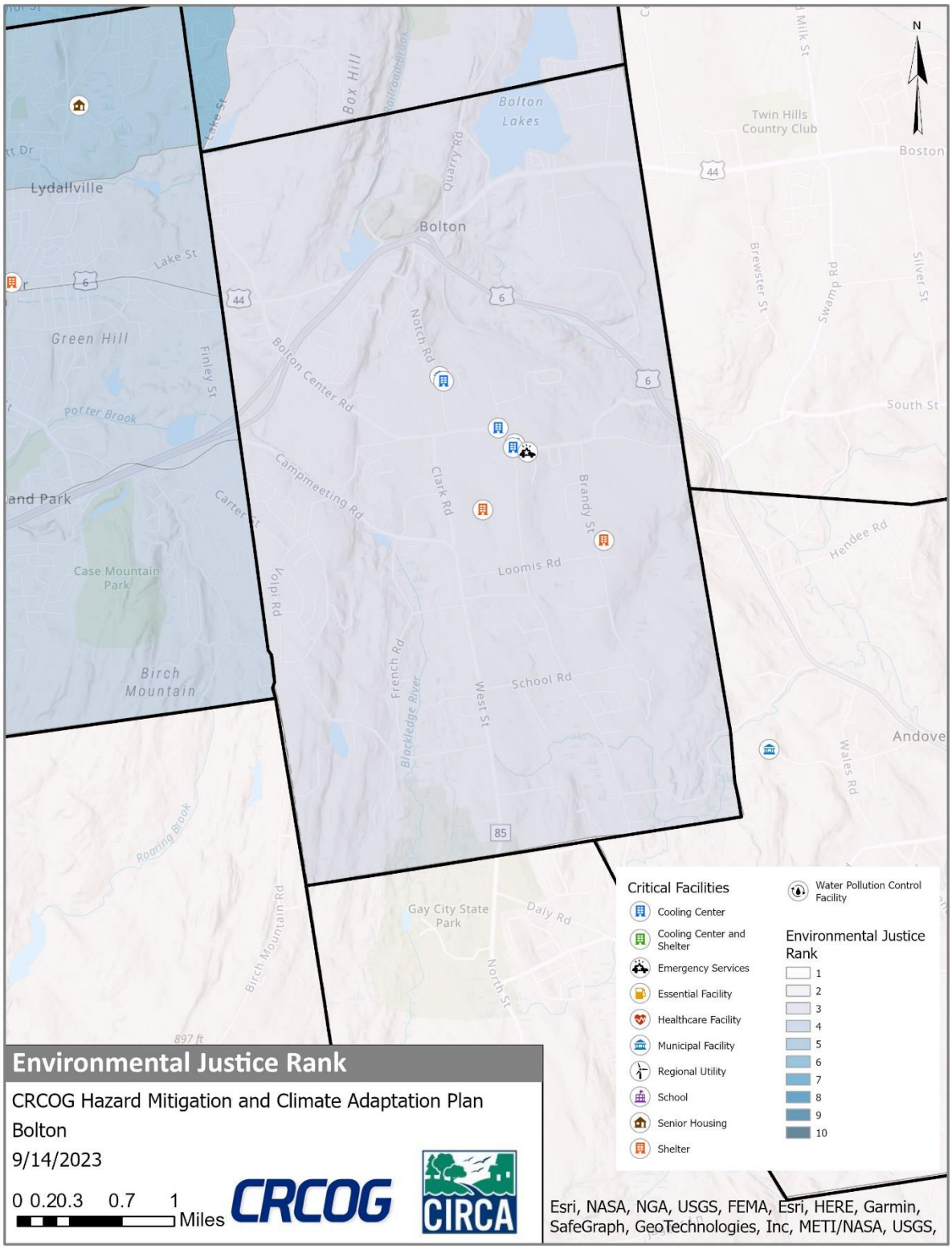


Figure 5-2: FEMA Flood Zones and Critical Facilities, Bolton

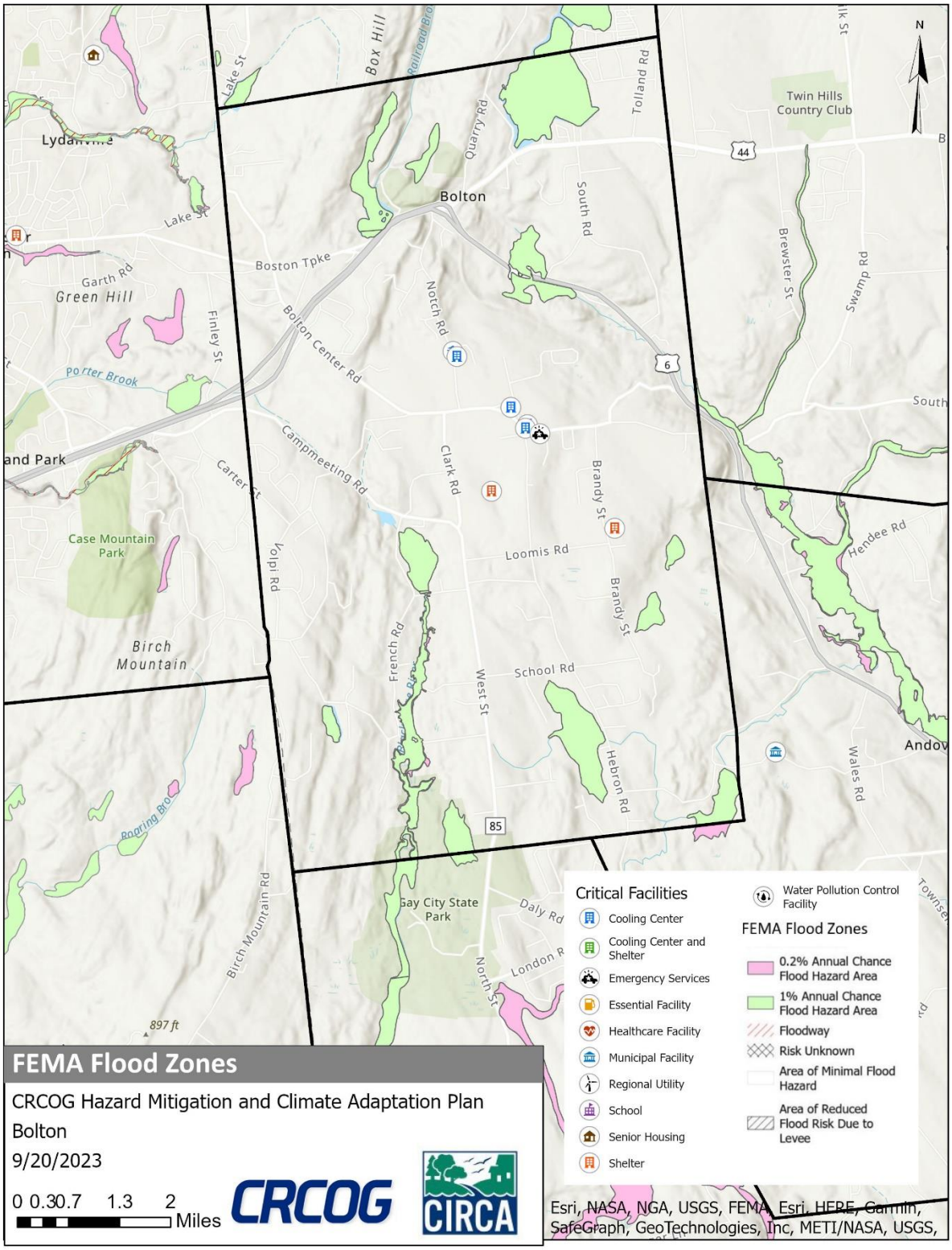


Figure 5-3: CIRCA Flood CCVI and Critical Facilities, Bolton

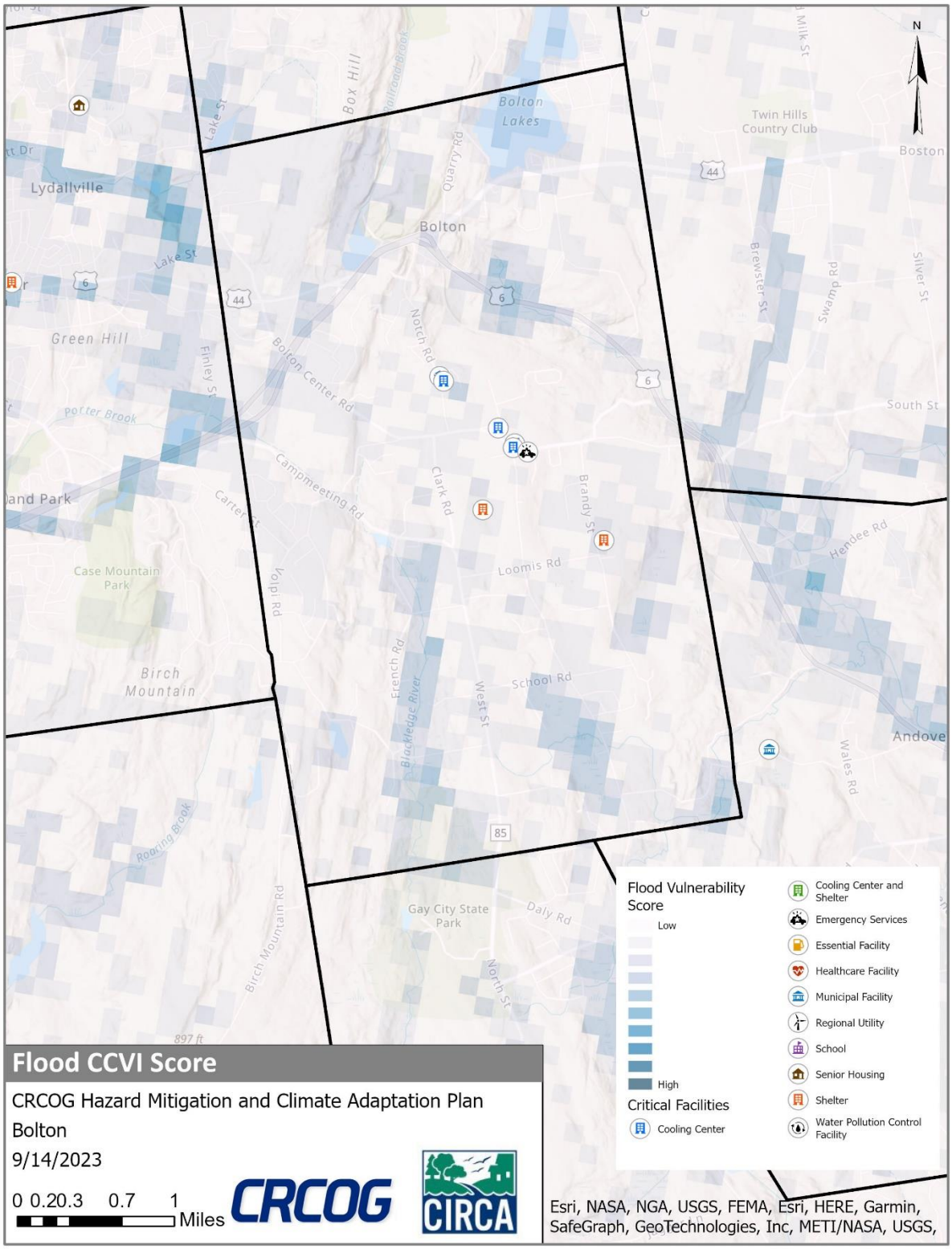
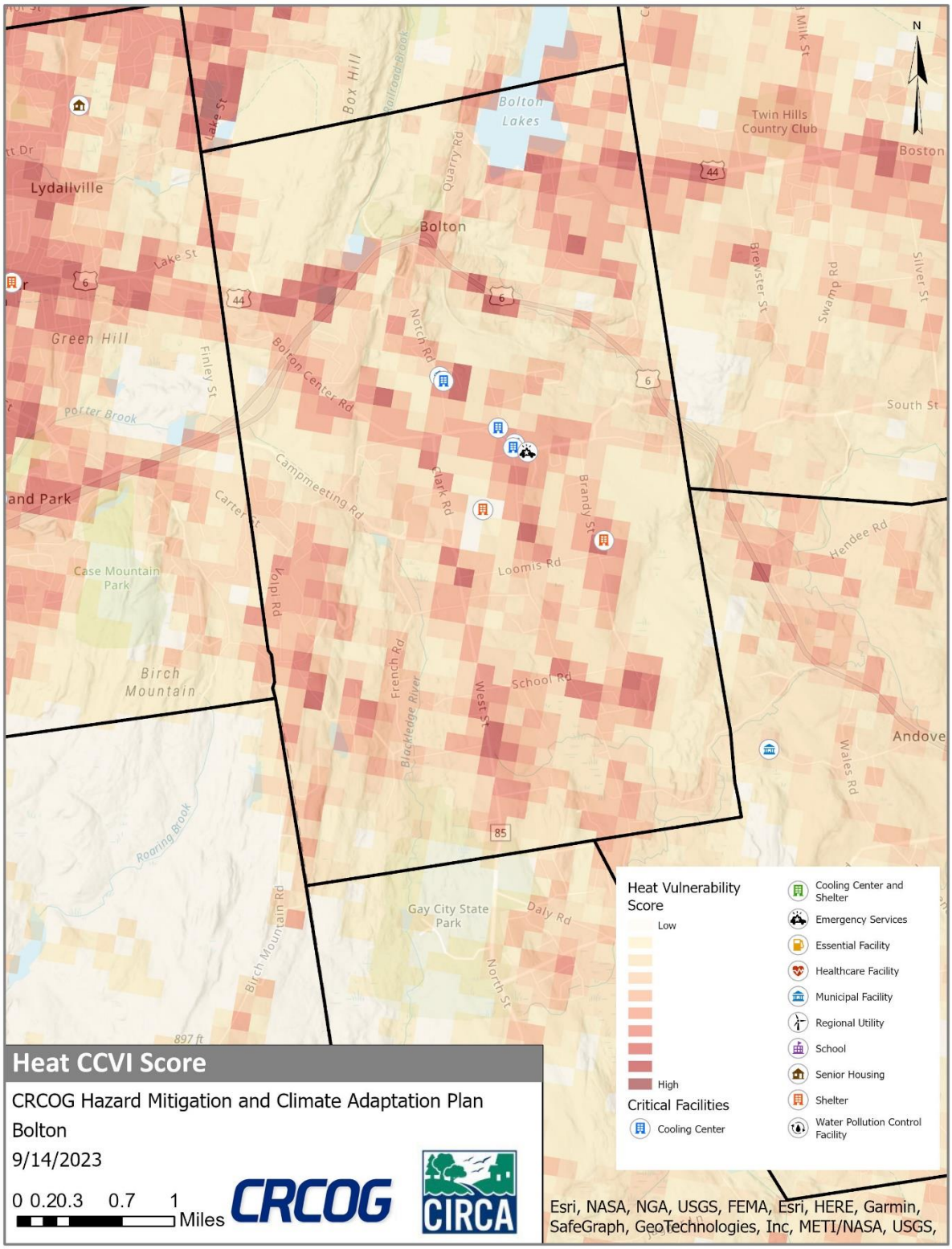


Figure 5-4: CIRCA Heat CCVI and Critical Facilities, Bolton



6 Canton

Community Overview

Canton is a rural town in Hartford County with a population of about 10,124. The Town encompasses 25 square miles and has an elevation ranging from 250 feet in Collinsville to 1100 feet in North Canton. Canton lies within the boundaries of the Farmington River Watershed. The principal watercourses in Town include the Farmington River and the Cherry, Barbour, and Jim Brooks. The major transportation routes that run through Canton include state routes 44, 202 and 179. Major industries located in Canton include plastic injection molding, small businesses and large commercial retail, restaurants, small farming, art galleries, and antique shops.

Several developments have taken place in Canton, including the completion of large residential complexes at 5 Cherry Brook Road on Rt 44 and 179 and 401 Cherry Brook Road near Daynard. Progress is being made on a large residential complex on Old Canton Road and on Lawton Road. There are discussions about further developments on Dowd Avenue near the Canton Village Center.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Canton critical facilities include the water pollution control facility (WPCF), the town garage (public works facility), the community shelter, and a new pet shelter facility, the town library, police station and the newly built fire department since 2019.

Table 2-5: Critical Facilities, Canton

Facility	Shelter	Cooling Center	Generator
Water Pollution Control Facility			X
Town Public Works Garage			X
Community Center	Primary	X	X
Pet Shelter Facility			
Public Works Facility			X
Town Library		X	X
Police Station		X	X
New Fire Department			X
Cherry Brook Primary School			X
Canton Intermediate School (CIS)			
Canton High School			Partial
2 Eversource Substations			

During extreme heat events, Canton Public Library, Canton Police Station and Canton Community Center can all be opened as public cooling or heating centers. All facilities currently have generators. The Community Center is also used as a shelter.

The town is building a new fire department right next to the police department, where there used to be a softball field. Separate generators will be used, but might be a good place for a microgrid because five critical facilities are reportedly (fire, police, community center, town hall, DPW) in a cluster.

The shelter is co-located at the community center. However, the Community Center does not have showers, requiring people being sheltered to go to Mills Pond Park to a shower, which closes in the winter. The town has previously asked for funding to turn two rooms into ADA-compliant showering facilities. This would be less than $75,000.

Cherry Brook School has full capacity generator. CIS has no generator. CHS has generator capacity for emergency lighting and refrigeration.

Capabilities

Canton's hazard mitigation capabilities include its tree, road, and debris management programs, its emergency response departments, and its Community Emergency Response Team. Hazard mitigation is addressed specifically in the community's Plan of Conservation and Development.

Canton has a tree warden within its Public Works Department. Tree maintenance budgets are similar from year to year. The Town coordinates tree trimming around power lines with Eversource, and trimming has been vigorous in the last few years; nevertheless, the Town generally believes that trimming could be more aggressive, and that removal of entire trees rather than trimming would be preferable in some cases. Canton DPW has set up contracts for two (2) hour emergency tree crew response.

Debris from storms is typically processed at Dunning Sand & Gravel, while snow is brought to Town parking lots.

There is only one Canton Volunteer Fire and EMS Department. They are located in three Fire Stations, one of which is owned by a private non-profit corporation.

The Town has been requiring developers to install fire tanks/cisterns in new developments without fire protection.

The Community Emergency Response Teams (CERTs) is active in Canton.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP") the Canton DPW facility was constructed within the flood plan.

The Town has access to a portable generator to be used as-needed during emergencies. The Town's Emergency Operations Plan will be updated to describe its use; quick-connect switches will likely be installed at several locations such as shelters, warming stations, and cooking/food service facilities to enable its use during emergencies.

Since the 2014 HMP, the Town has established a pet sheltering facility.

Culverts have been replaced on Hansen Road and Bunker Hill Road; these were in-kind replacements, so capacity has not increased.

Canton Hydro has completed the facility pursuant to the issued FERC licenses. The dam is equipped with automated crest gates that lower when the river level rises.

Heavier snow removal trucks have been acquired.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Canton has implemented numerous redundancies within its upstream dam systems to prevent and mitigate catastrophic events, enhancing the overall resilience of the town's water management infrastructure.
- Heat risks are well handled by the police department and other town entities.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The town notes that Canton has Repetitive Loss Properties.

The many upstream Farmington River dams remain a concern for the town. The MDC has repeatedly included the Town in emergency drills and planning for the Goodwin Dam, but not the others (Nepaug, Barkhamsted). The Town would like MDC to be more proactive in disseminating information about risks downstream and conducting planning and drills for the other dams. If the dam at the Barkhamsted Reservoir, located outside of Canton, failed, Canton could experience serious flooding along the Farmington River in about 20 minutes. Similarly, a failure in the Nepaug Reservoir Dam also located just outside of Canton, would quickly cause serious flooding in town.

Flooding remains a constant concern in Canton, necessitating ongoing mitigation efforts and preparedness.

The presence of trees on power lines is a notable concern, requiring consistent maintenance and vegetation management to ensure reliable electricity supply.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Canton. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was

downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 6-2: Average Annualized Losses, Canton

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$26,016.94
	NRI	$387,825.80
	FEMA PA	$6,487.38
Tornados/High Winds	NCEI	$9,740.27
	NRI	$104,114.54
Winter Storms	NCEI	$7,716.03
	NRI	$5,929.07
	FEMA PA	$6,067.34
Flood	NCEI	$7,886.11
	NRI	$17,088.21
	NFIP	$2,457.07
Drought	NRI	$2,431.18
	USDA	$0.00
Extreme Heat	NRI	$11,534.35
Wildfire	NRI	$254.59
Earthquakes	NRI	$13,060.49
Dam Failure	HMP	$18.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Canton 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.

- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- Work on a comprehensive program to address Repetitive Loss Properties in Canton, including measures to reduce flood risk, educate property owners, and encourage participation in flood insurance programs.
- The town should engage in proactive dialogue with the Metropolitan District Commission (MDC) to emphasize the importance of disseminating information and conducting emergency planning and drills for all upstream dams, including Nepaug and Barkhamsted, and the Goodwin Dam.
- The town should consider collaborating with relevant agencies to develop emergency response plans and evacuation strategies for Canton in case of a dam failure at any of these reservoirs
- Canton should continue to Implement regular tree-trimming and vegetation management programs to minimize the risk of trees on power lines and work with Eversource to ensure a reliable electricity supply, particularly during extreme weather events.

Status of Previous Mitigation Strategies and Actions

The Town of Canton reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Canton

No.	Action	Notes	Status
6	Receive and file current dam failure analysis and EAP for all upstream MDC reservoirs.	The town has all the EAPs.	Complete / Retire
11	Conduct an assessment of the Farmington River and Nepaug River to identify possible flood mitigation activities in this area.	Modify or remove this – not a lot of development has happened along the river. CIRCA Staff noted that new FEMA maps are forthcoming for the Farmington River basin, so the Town will be reviewing changes in the maps in 2023.	No longer a need / Retire
2	Conduct outreach and education campaign to residents and property owners downstream of large dams (Goodwin, Nepaug, and Barkhamsted) about risks and emergency alert systems. Work with MDC if possible.	While the dams mentioned in this action are closely monitored by MDC and have been subject to periodic EAP updates and drills, only one (Goodwin) was subject to a drill in 2023. Meanwhile, the owners of the two dams in Collinsville on the Farmington River are in Austria, and the town's EMD worries about the ability to get in touch with them quickly in the event of a catastrophic breach. They are not part of this action, but the Town remains concerned. The outreach to residents part of this action has likely not been done.	Carry forward

No.	Action	Notes	Status
10	Conduct annual exercise with MDC that specifically includes the Nepaug and Barkhamsted Reservoir dams.	There has previously been an annual training related to the Goodwin Dam, although this was not held this year. Trainings for Saville/Barkhamsted and Nepaug have not been held, but the town's EMD thinks these dams would be more relevant to the town of Canton. Revise this action to encompass more dams while ensuring that Nepaug and Barkhamsted are included.	Carry forward with revisions
12	Complete relocation of Town Garage outside of flood zone.	The current Town Garage building is less than 5 years old and is still next to the river.	No longer a need / Retire
13	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Still needed	Carry forward
15	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Still needed	Carry forward
8	Approach homeowners in Dowd's Corner, in particular on Old Canton Road, to offer assistance if they are interested in property acquisition.	CIRCA followed up with Neil Pade who said he is unaware of any initiatives on this action within the town.	No Longer Needed/Remove.
5	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.	CIRCA followed up with Neil Pade who said he is unaware of any initiatives on this action within the town.	No Longer Needed/Remove.
3	Complete a study of existing municipal communication capabilities to determine opportunities for building resilience into the system.	CIP account has been established for a future radio system consultant.	Complete / Retire
4	Acquire updated radio communication equipment for municipal departments to use for emergency response.	Same as previous action.	Complete / Retire

No.	Action	Notes	Status
7	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.	The Town has worked with NEMO to follow MS4 stormwater management compliance. We currently utilize environmental engineering vendor, Atlas ATC to perform the Town's required MS4 compliance. Below is a link to our Stormwater Management Plan Information on our website. https://www.townofcantonct.org/content/44105/44701/44841/44983/default.aspx	Complete/ Remove
14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	CIRCA followed up with Neil Pade who said he is unaware of any initiatives on this action within the town. However, CIRCA advised that this action be changed to Acquire and use new SHPO data layer	Carry Forward with Revisions
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town's EMD has attended dam awareness training over the years. Chris just went to the Silver Jackets Flood Awareness. When the Goodwin Dam training is held, Chris attends that as well. The intent of this action is being met.	Intent is complete / Retire
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town's EMD doesn't know whether the town is part of Sustainable CT. CIRCA staff checked on the SCT website and Canton is not involved in the program.	No Longer Needed/Remove.

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.

Table 2-4: Active Mitigation Strategies and Actions, Canton

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CA1	Explore options on installing a microgrid near the new fire department which is in close proximity to other critical facilities including the Police Center, Community Center, Town Hall, and DPW.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Chief Elected Official	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2026	Medium	All Hazards	No	18	4	72
CA2	Turn two un-used rooms in the Community Center into ADA-compliant showering facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	STEAP; Municipal CIP Budget	07/2025 - 06/2027	High	All Hazards	No	19	5	95
CA3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
CA4	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	a priority list for maintenance and upsizing.	increases frequency and severity of floods.											
CA5	Conduct outreach and education campaign to residents and property owners downstream of large dams (Goodwin, Nepaug, and Barkhamsted) about risks and emergency alert systems. Work with MDC if possible.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Dam Failure	No	18	5	90
CA6	Conduct annual exercise with MDC that include the Goodwin, Saville/Nepaug and Barkhamsted Reservoir dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Public Works	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	High	Dam Failure	No	18	6	108
CA7	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
CA8	Work with CT DEEP to complete a formal validation of the Repetitive	Reduce flood and erosion risks by reducing	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	High	Riverine and	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Loss Property list and update the mitigation status of each listed property.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods				
CA9	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity.	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
CA10	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
CA11	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
CA12	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	here: https://conncris.ct.gov.												
CA13	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 6-1: CIRCA Environmental Justice Rank and Critical Facilities, Canton

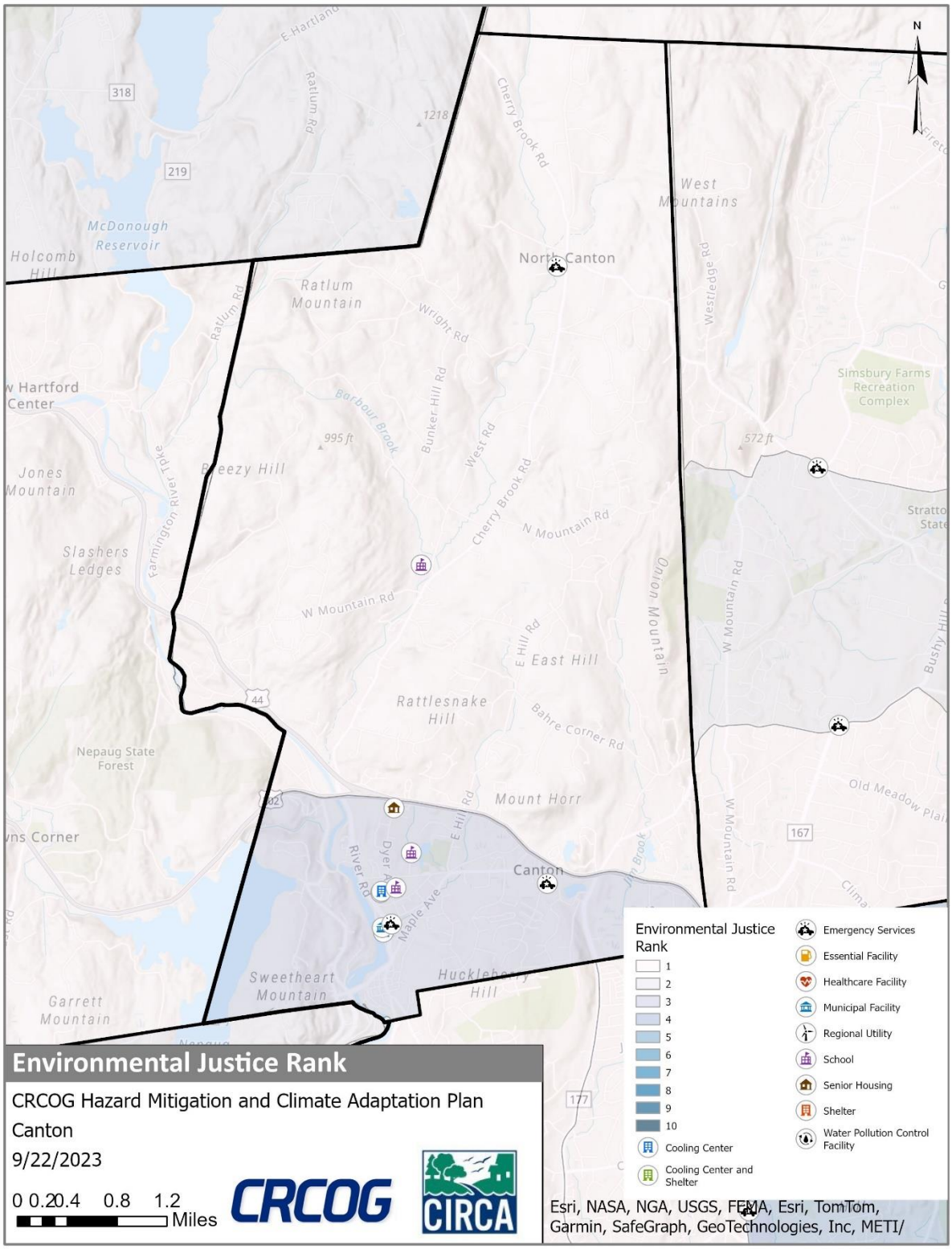


Figure 6-2: FEMA Flood Zones and Critical Facilities, Canton

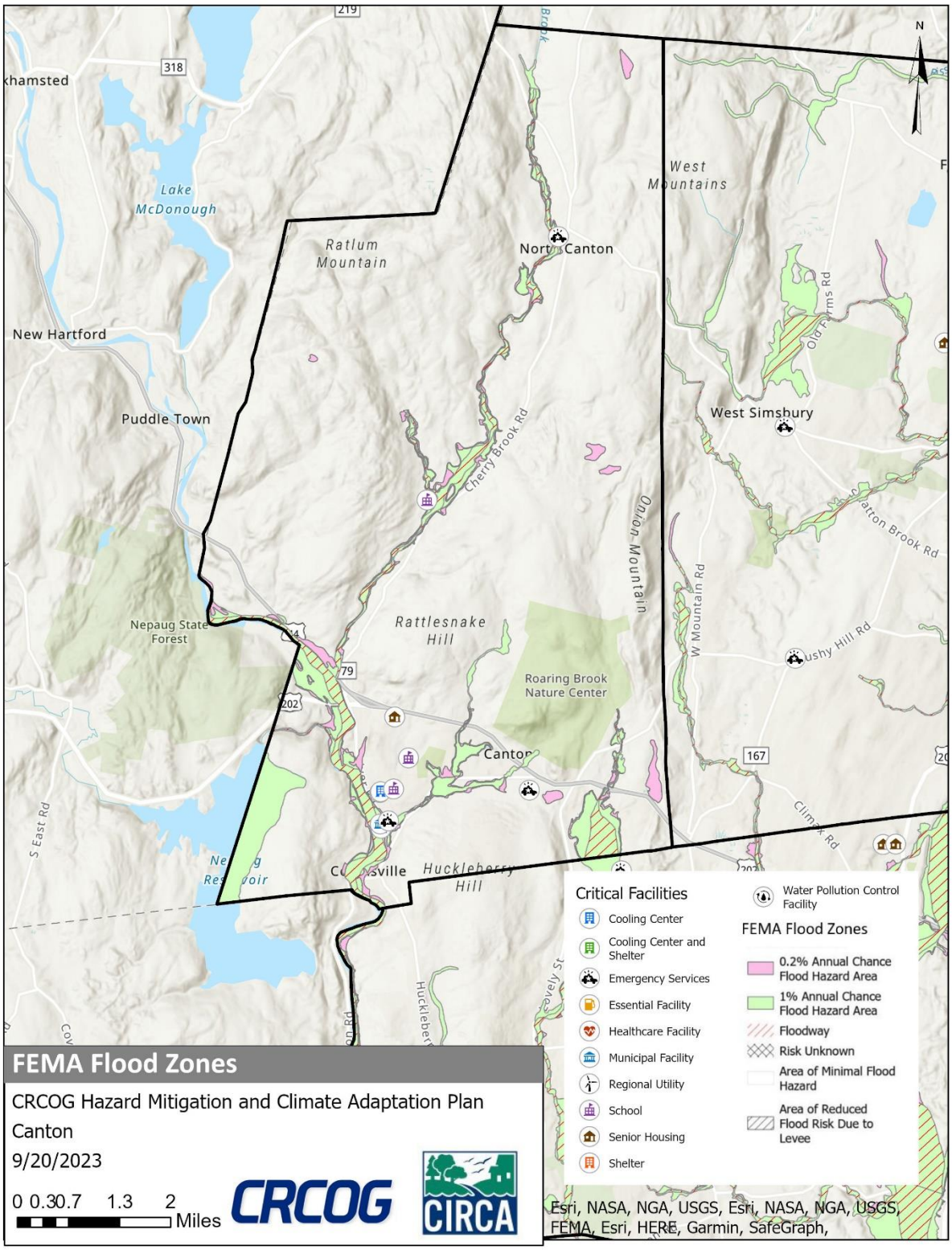


Figure 6-3: CIRCA Flood CCVI and Critical Facilities, Canton

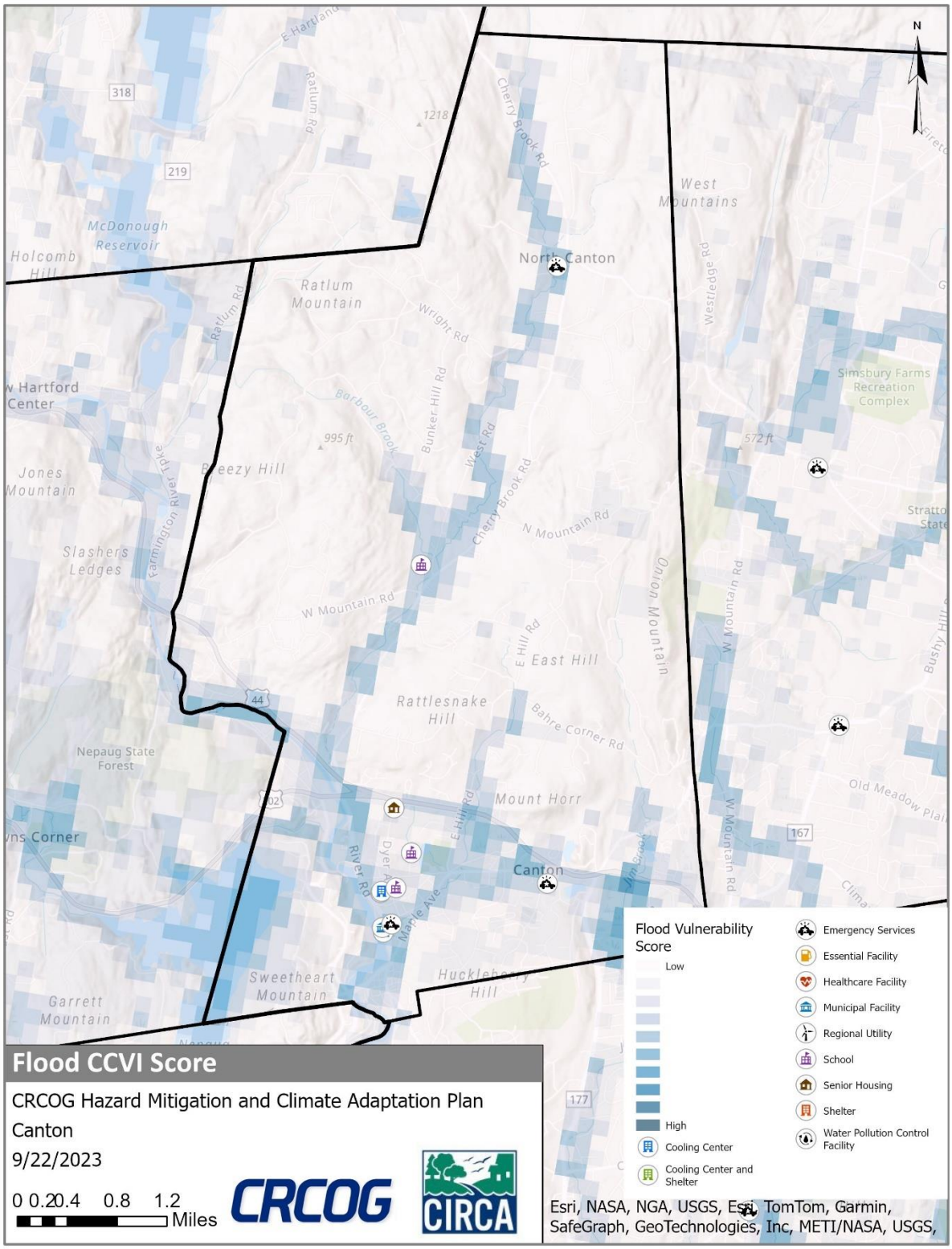


Figure 6-4: Dam Inundation Area and Critical Facilities, Canton

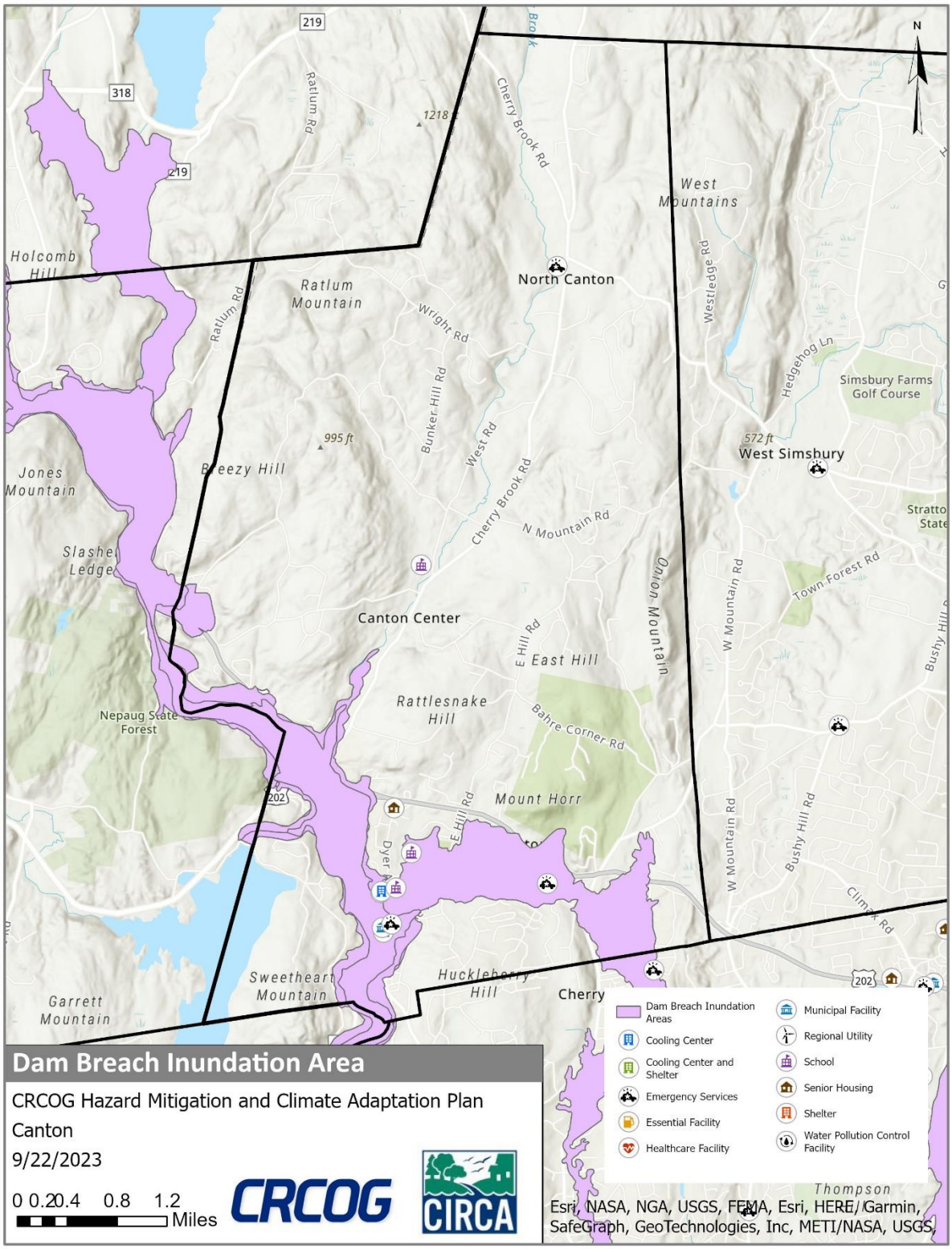
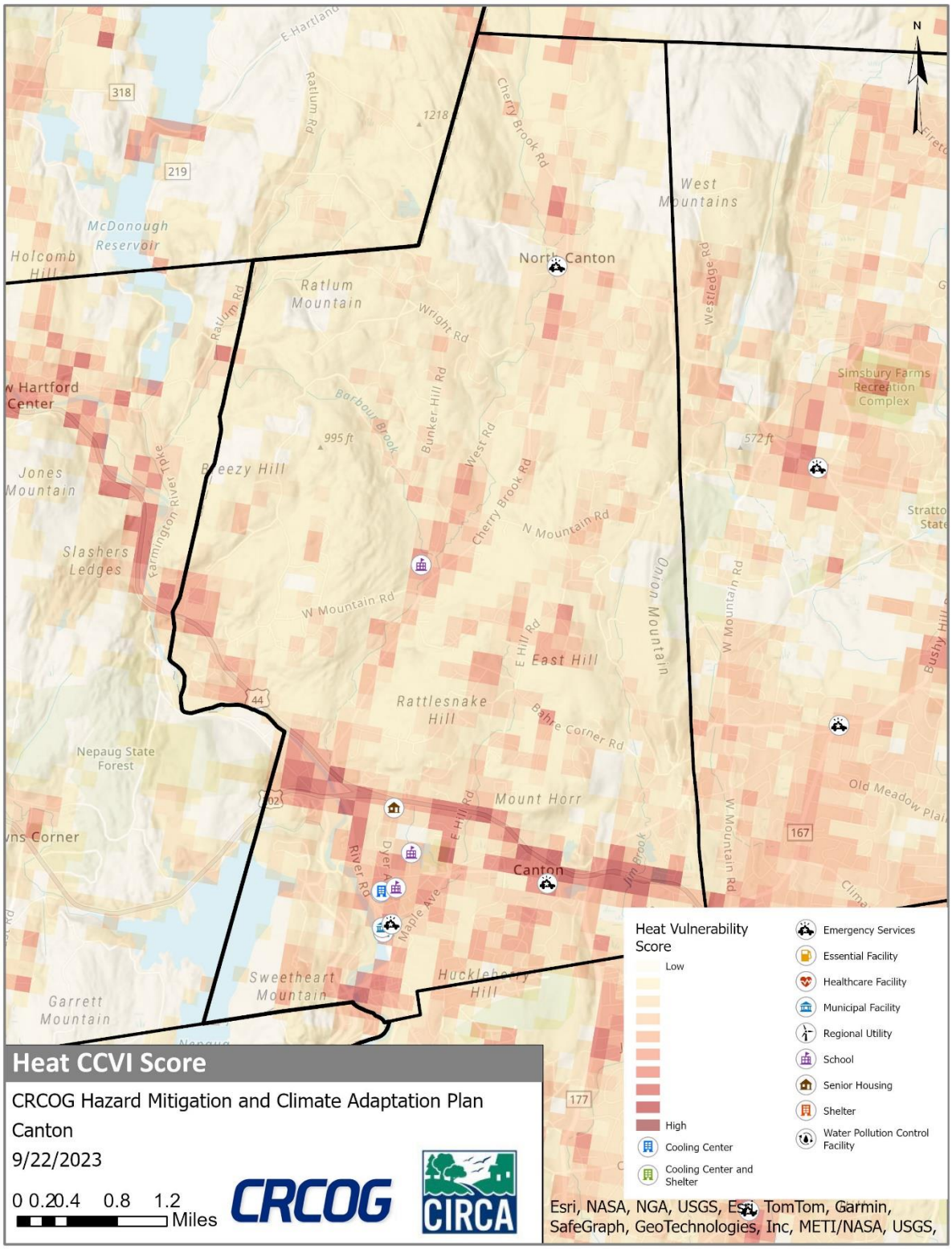


Figure 6-5: CIRCA Heat CCVI and Critical Facilities, Canton



7 Columbia

Community Overview

Columbia has an area of 21.9 square miles (13,995 acres). The 2020 Census population count was 5,272. Mainly rural with some agriculture, Columbia is about 10% developed. The Columbia Lake and Mono Pond areas are home to concentrations of the town's population. Although some of this population is seasonal, a growing portion of residents live there year-round. Columbia is made up of approximately 68% forested land; 10% is developed. Water bodies include Columbia Lake and Mono Pond. Columbia's elevation ranges from about 240 feet in the north/northeast section of town at the Willimantic River to about 770 feet at the peak of Post Hill in the southwest section.

No new development has occurred along the Hop River, which is the main vulnerable area in the town. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Columbia, critical facilities and cultural resources include a fire department, resident state trooper's office, preschools, the school, elderly facilities, a library, Department of Public Works, a National Register historic district, group homes for individuals with special needs, a summer camp for youth, a commercial area along Route 6, a strip mall along Route 66, a telephone switch station, cell towers, an electrical substation, a defense sub-contractor facility, a hazardous material site, and two high potential loss dams.

Table 2-6: Critical Facilities, Columbia

Facility	Shelter	Cooling Center	Generator
Town Hall (and Resident State Trooper Office)		X	X
Volunteer Fire Association (EOC)			X
Horace W. Porter School	Primary		X
Saxton B. Little Public Library		X	
New Department of Public Works			X
Senior Center		X	In progress
4 Preschools			
3 Elderly Facilities			
7 group homes for individuals with special needs			
Summer camp for youth on Columbia Lake			
National Register Historic District			
Commercial area along Route 6			
Strip mall along Route 66 (toward Willimantic)			
Telephone switch station (Route 66)			
Two cell towers			
1 Eversource substation			
Defense sub-contractor facility off Route 66			
Hazardous material site on Lakeview Park West			
Two high potential loss dams.			

A During extreme heat events, Columbia Town Hall, Saxton B. Little Public Library and Beckish Senior Center can all be opened as public cooling centers. The town hall currently has a generator, and the town is in process of obtaining a generator for the Senior Center. The library does not have a generator.

New DPW building is being built but it is not in high-risk area.

Capabilities

Columbia's hazard mitigation capabilities include its flood hazard district regulations, debris management and plowing services, and public warning notifications. 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.

Columbia spends approximately $500-$700 per year to maintain, monitor, and conduct planning for the two dams it owns: the Columbia Lake Dam (class C) and the Fagan Dam (class BB). A relatively recent Columbia Lake Dam renovation cost $200,000.

The Town has consistently participated in the NFIP since September 16, 1982. The Town's Flood Hazard District Regulations were most recently updated on June 1, 1989 and include elevation requirements and strict construction demands. Structures may be required to be constructed with certain materials, elevated, flood proofed, watertight or anchored. It must be shown that any activity in the 100-year flood plain will not alter flood levels.

The Town monitors water levels at its dry hydrants during droughts. When a source becomes limited or unavailable, tankers can be used during a fire to move water from another location.

Columbia contributes to regional shelter facilities and performs debris management through Public Works with the assistance of the local electrical utility when necessary. The Town has implemented a Reverse 9-1-1 system and the State building code has been updated and locally adopted.

Plowing services are provided through Public Works; that department also cleans catch-basins on an annual basis.

The Town notifies the public when severe thunderstorms are to occur and performs debris management through Public Works with the assistance of the local electrical utility when necessary. The Town's capability to mitigate thunderstorm damage is relatively limited to town-owned facilities and rights-of-way. The local electrical utility performed an intensive trimming program near electrical lines following the severe storms in 2011.

The Town uses a variety of regulatory, preparedness, and public information programs to mitigate the effect of wildfires, including the Open Burning Program, maintenance of dry hydrants and cisterns, and educational programs on fire safety. The Town has completed a study to determine where new dry hydrants or cisterns should be installed to improve overall fire protection capabilities. Cisterns are required in new developments.

Since adoption of the 2015 HMP, one culvert that was contributing to poor-drainage flooding was replaced with newer culvert. Several bridges have also been replaced in recent years, although hydraulic improvements were not necessarily implemented in all cases; nevertheless, replacement of those bridges is expected to have improved the Town's access and evacuation capabilities.

Columbia has secured permits from the USACE to install bypass culverts and perform culvert repairs and replacements on the Hop River. This project will get underway in the coming years.

Two new water cisterns, as well as a new dry hydrant at Mono Pond, have been added to Columbia since the previous HMP, improving the Town's capability for fighting wildfires.

An updated Emergency Action Plan (EAP) has been completed for the Columbia Lake Dam. The Town is hoping to lower its risk classification from Class C.

Columbia has implemented the Everbridge warning system; additionally, the school system has a hazard notification system and it can use to communicate with parents.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Columbia it will cover, is unknown.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.
- Distribute informational materials regarding emergency preparedness though social media and the Town magazine.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The most significant recent event for the town of Columbia was the flooding caused by Ida in 2021, resulting in two road washouts. Pine Street was one of the affected areas, where an engineer's assessment revealed that the existing culvert was undersized and in poor condition, consisting of two deteriorating corrugated metal culverts. The engineering report noted, "The twin 60-inch diameter CMP are in poor condition, with significant section loss and deteriorated asphaltic coating." Additionally, Thompson Hill Road also experienced flooding, and though the cause is uncertain.

The flooding from the rain storms of 2023/2024 were also a concern for the town. The culvert at Thompson Hill Road is a problem and the town saw major damage from the rain event on 1/9/24.

Parker Bridge Rd is another area of concern for the town. The road is at or below the water table and floods. The town is unsure of how to remedy the flooding here.

The bridge on Latham Hill Road regularly floods which is a concern of the town staff.

The town is worried about the access to the Island Woods Subdivision (which is already referenced in action 2 of the table). The concern for road obstruction is trees falling, not flooding.

Town staff mentioned that the drainage infrastructure is a concern as it was designed for 25-year floods and with more intense and frequent rain events, the drainage systems are not adequate.

The town mentioned they would like an analysis of the inflow to Columbia Lake.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Columbia. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 7-2: Average Annualized Losses, Columbia

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$13,548.14
	NRI	$313,185.09
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$5,072.17
	NRI	$50,747.25
Winter Storms	NCEI	$4,018.07
	NRI	$25,276.63
	FEMA PA	$3,192.44
Flood	NCEI	$4,106.63
	NRI	$11,081.87
	NFIP	$587.33
Drought	NRI	$2,663.60
	USDA	$0.00
Extreme Heat	NRI	$933.34
Wildfire	NRI	$497.58
Earthquakes	NRI	$6,886.73
Dam Failure	HMP	$337.00

Other Hazard Costs

The Connecticut DEEP estimated the damage to the Columbia Lake Dam from the June 1982 flood to be $20,000.

As necessary following severe storms, the Town hires a tree service to do major cleanups for approximately $900 per day. Smaller cleanups are handled by Town staff within current budget allocations. $3,366 was paid to a tree service for cleanup following Hurricane Irene.

The overall cost of property damage due to wildfires is believed to be minimal since vacant lands are typically affected. The Town typically spends less than $1,000 each year to fight wildfires, with most of the costs attributed to food, equipment, and provisions for the volunteer firefighters.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Columbia 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- Continue to work to upsize the culverts that were determined to be undersized.
- Conduct a study of Parker Bridge Rd to remedy the flooding in the area.
- Address the flooding on Latham Hill Road near the bridge.
- Consider alternative access/egress route to the Island Woods Subdivision.
- Conduct a town-wide study of the drainage infrastructure to determine areas of issue.
- Conduct an analysis of the inflow to Columbia Lake.

Status of Previous Mitigation Strategies and Actions

The Town of Columbia reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Columbia

No.	Action	Notes	Status
4	Install bypass culverts and perform culvert repairs and replacements on the Hop River, as described in the permits granted by the USACE.	Town staff said the bridge on Hop River Road is being replaced now. Coventry is the lead town on the replacement. The project will start in Spring 2024. There will also be a dry hydrant added at the Hop River Bridge at the bridge for Columbia and Coventry. Revise to "Complete the bridge repair project on Hop River Road."	Carry Forward with Revisions
8	Progress through planning phase for drainage system upgrade at Parker Bridge Road. Road should be elevated with cross culverts to mitigate against flooding.	Town staff said this is an issue but nothing has been done. The road leading up to the bridge floods. The funding is an obstacle here. Might break this action up into more achievable action. The town's proposed temporary solution is to put road closure gates to block the road near the bridge, but it does not sound like they have implemented this yet.	Carry Forward with Revisions
9	Replace culvert pipe and perform basin retrofit, if necessary, at Macht Road.	This is on the town's list of culverts that need to be repaired but nothing has been completed yet. When replacing culverts, the Town does a hydraulic analysis on the culverts to see whether they need to be upsized or not. This culvert is near Cherry Valley Rd area. There is also a culvert on Edgarton Rd that is of concern and might need to be replaced. Include this culvert in an action or have a separate action for it.	Carry Forward with Revisions
10	Complete drainage upgrade on Hennequin Road: upgrade/retrofit all culverts on the west side of Hennequin Road, from Recreation Park to Lake Road.	Town staff said this is in progress.	Intent is complete/ Remove
2	Identify location for secondary access to Island Woods Subdivision and prepare and file map of proposed street in the office of the town clerk in accordance with CT General Statute Section 8-29.	Town staff said this is an ongoing concern, but the town has not yet come up with a solid solution. One of the previous properties being considered for secondary access has recently been sold and will be developed into a house instead. This could be a land locked area in a storm if a tree falls; one road provides access and if it was blocked off by a fallen tree, there would be hundreds of houses without emergency access. This is high priority for the town.	Carry Forward

No.	Action	Notes	Status
7	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	Town staff said they would like to revisit this. LID is incorporated in subdivision regulations and Zoning regulations Town would like to look to continue to make regulatory adjustments so this action should be revised.	Carry Forward with Revisions
3	Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.	Town staff is constantly updating the vulnerable population list via the senior center and social services. The town now has a full-time social worker who is charged with creating lists of people in need and that list is made available to Fire/Emergency management. This is an ongoing capability for the town.	Complete/ Capability/ Retire
11	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	CIRCA will check to see if Columbia has RLP. Town staff said the package store on Route 66 East might be the RLP referenced on the past FEMA list (which only listed one RL property for Columbia), as the parking lot has flooded from Hop River.	Carry Forward
5	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.	Town staff said this is not a concern for the town. There is one business in town which is a pool service, Calypso Blue, but town staff are confident that they have their chemicals stored properly.	No Longer needed/R etire
12	Increase the annual-budget for preventative tree maintenance.	Town staff said the annual tree maintenance budget went from $10,000 -$100,000 in the last three years. Town is actively removing dead trees. Would like a new action related to tree management.	Complete/ Retire
14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Revise to “Acquire SHPO point data and overlay with flood vulnerability layers and review.” Town staff mentioned there are some members of town who are concerned about historic buildings. SHPO granted a CT Historical Preserve title for the mill site on Hop River. Another culvert is on hold because SHPO is doing an analysis related to historic resource significance.	Carry Forward with Revisions
13	Distribute informational materials regarding emergency preparedness though social media and the Town magazine.	Town staff lets residents know when an event is about to occur. Before a natural disaster, there is a warning banner on the website about what needs to be done. Have materials from Eversource that residents can pick up from the town hall. This is a capability.	Complete/ Capability/ Retire

No.	Action	Notes	Status
6	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff have not completed this but don't believe it is needed, as very few properties are in areas of flood risk.	No Longer Needed/Retire
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff started this before Covid but haven't completed any applications. However, they are still interested in getting certified from SCT.	Carry Forward

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.

Table 2-4: Active Mitigation Strategies and Actions, Columbia

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CO1	Acquire a generator for the library or explore options for connecting the library to the town hall generator.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
CO2	Identify location for secondary access to Island Woods Subdivision and prepare and file map of proposed street in the office of the town clerk in accordance with CT General Statute Section 8-29.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	STEAP; Municipal CIP Budget	07/2025 - 06/2026	Medium	All Hazards	No	17	4	68
CO3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
CO4	Complete the bridge repair project on Hop River Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		increases frequency and severity of floods.											
CO5	Execute a feasibility study to evaluate flood risk reduction near/at Parker Bridge Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
CO6	Address the flooding that regularly occurs at the bridge on Latham Hill Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2026	High	Riverine and Pluvial Floods	No	18	6	108
CO7	Examine the possibility of enlarging the culvert on Thompson Hill Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2026 - 06/2028	High	Riverine and Pluvial Floods	No	18	4	72
CO8	Replace culvert pipe and perform basin retrofit, if necessary, at Macht Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		increases frequency and severity of floods.											
CO9	Replace culvert pipe and perform basin retrofit, if necessary, at Edgarton Rd.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	4	72
CO10	Replace the two undersized corrugated metal culverts on Pine Street with a boxed culvert.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76
CO11	Complete an assessment of the Thompson Hill Rd culvert to determine if it is undersized.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	IIJA AOP; FEMA HMA	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
CO12	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		increases frequency and severity of floods.											
CO13	Review and revise LID in subdivision regulations and zoning regulations as needed.	Reduce losses from other hazards.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	All Hazards	No	19	11	209
CO14	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2024 - 06/2026	High	Riverine and Pluvial Floods/ Drought	No	19	10	190
CO15	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
CO16	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CO17	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119
CO18	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	More than one goal.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	Low	All Hazards	No	18	7	126

Figure 7-5: CIRCA Environmental Justice Rank and Critical Facilities, Columbia

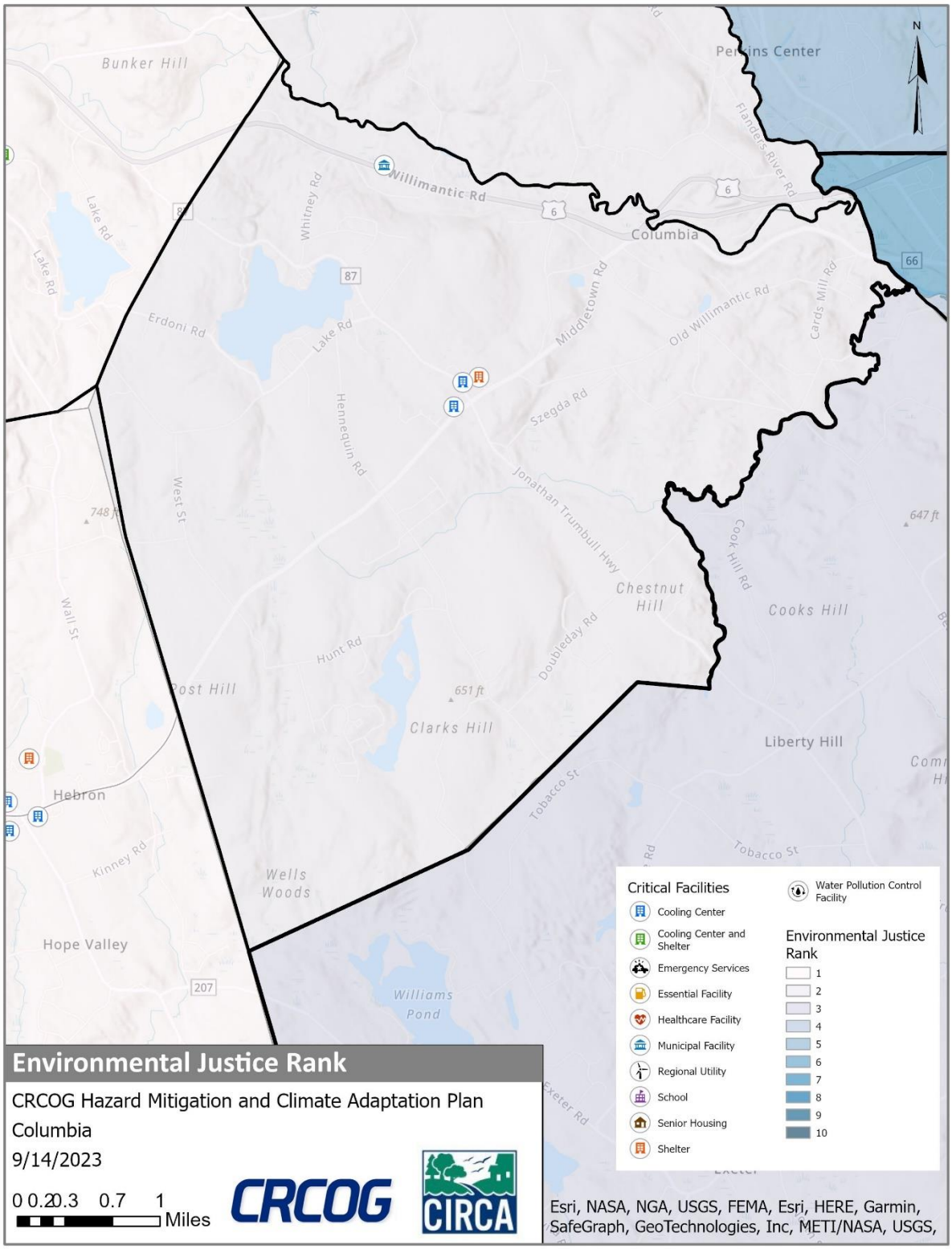


Figure 7-2: FEMA Flood Zones and Critical Facilities, Columbia

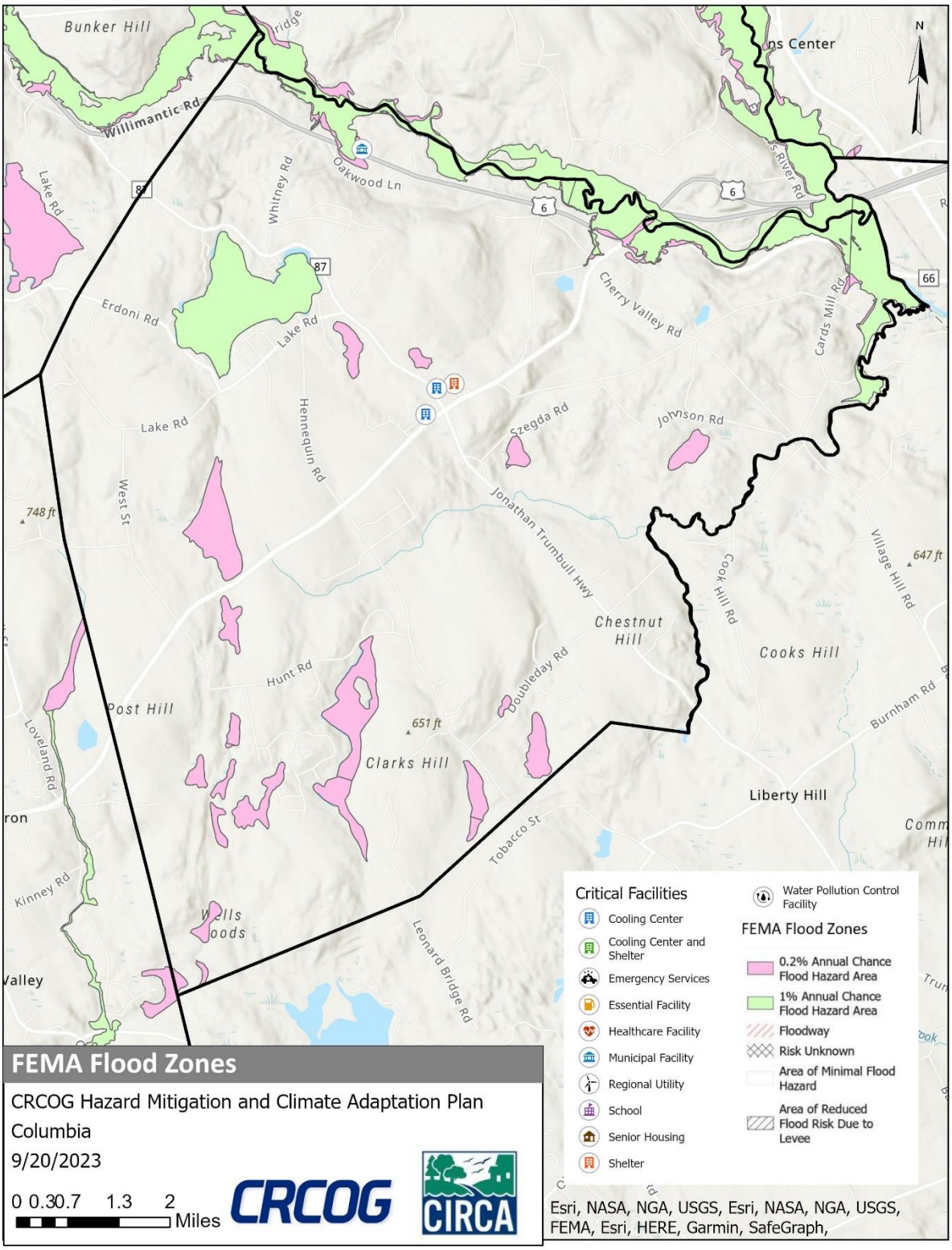


Figure 7-3: CIRCA Flood CCVI and Critical Facilities, Columbia

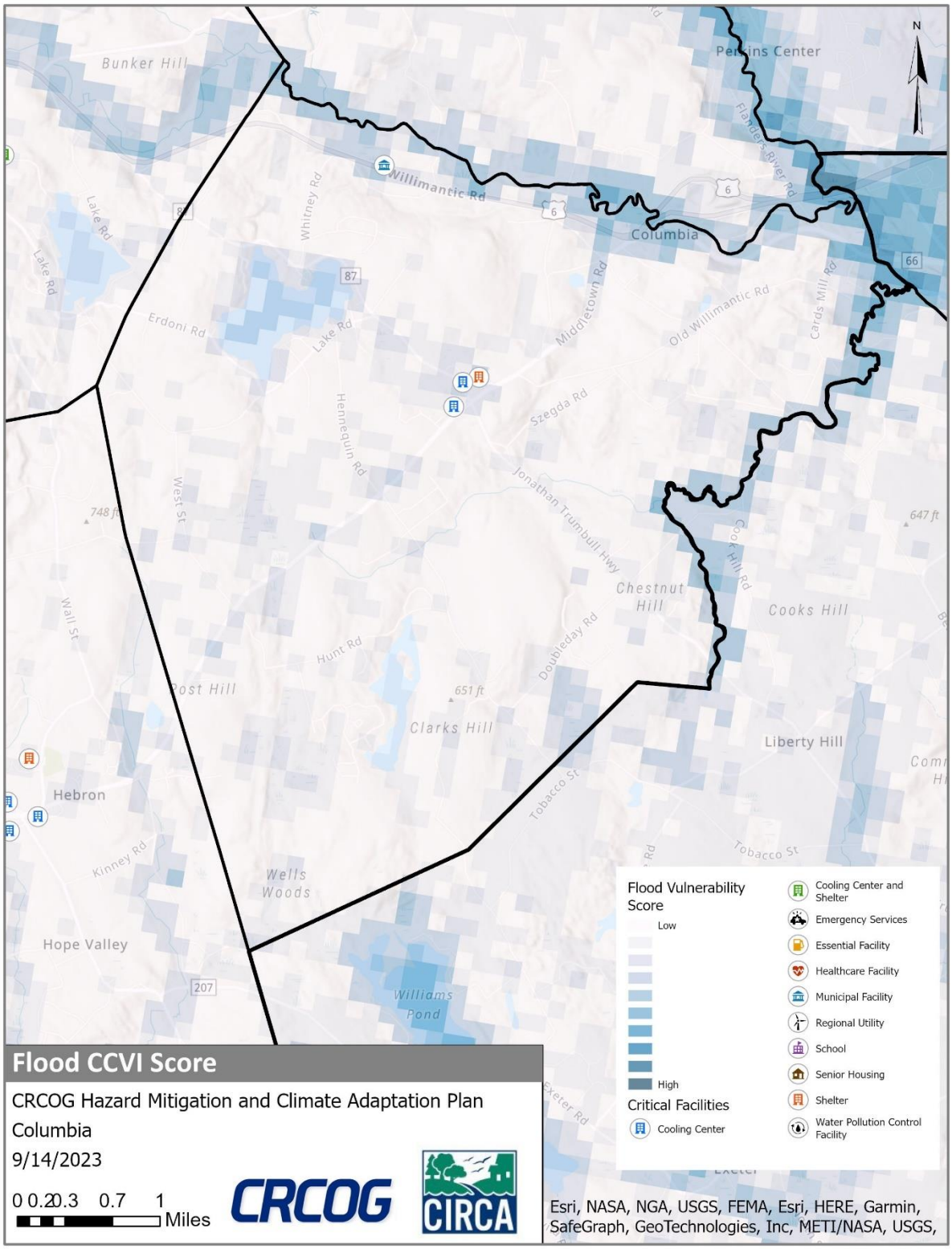
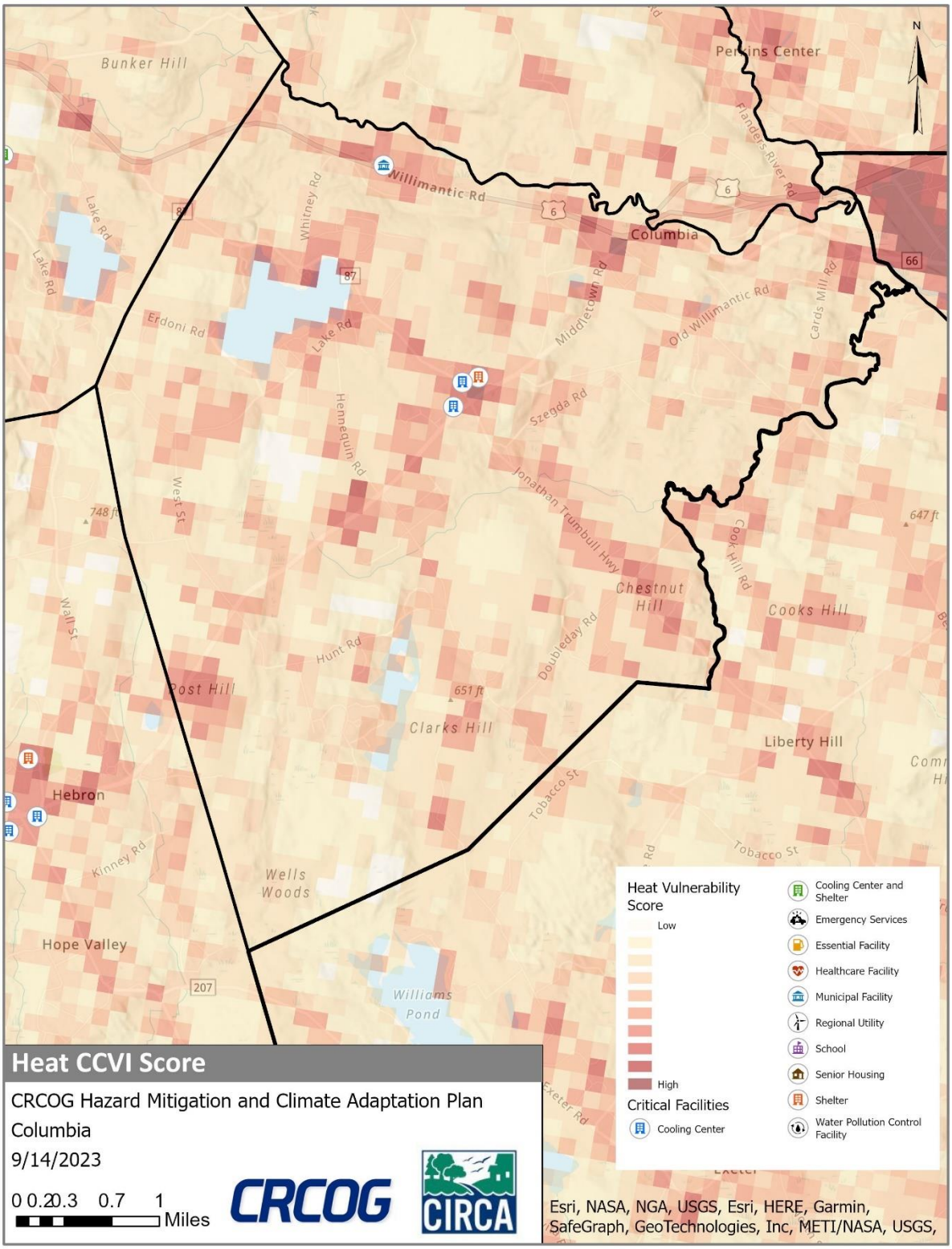


Figure 7-4: CIRCA Heat CCVI and Critical Facilities, Columbia



8 Coventry

Community Overview

Coventry has a total area of 38.1 square miles (24,388 acres). The 2020 Census population count was 12,235 persons, an 1.61%% decrease from 2010 (12,435). Mainly rural with some agriculture, Coventry is about 11% developed and approximately 65% forested. Coventry has concentrations of people in the vicinity of Coventry Lake and at the condominium complex off Merrow Road. Water bodies include Upper Bolton Lake and Coventry Lake. Coventry's elevation ranges from about 230 feet in the southeast corner of town at the Willimantic River to 934 feet at the peak of Grant Hill in the north/northwest section.

The Route 44 corridor in this town is characterized by small-scale, incremental development. Notably, the town is also home to a new anaerobic digester that has repurposed a portion of farmland. There are no high-risk areas where the town might consider development. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Coventry, critical facilities and cultural resources include four Coventry Fire Department stations, the elementary school at 3453 Main Street, the elementary school on Cross Street, the middle school, the high school on Ripley Hill Road, the police department on Route 31, the equine hospital off Flanders Road, the historic Nathan Hale Homestead, the historic Strong Porter House, one 80-unit elderly housing community on Route 31, two shopping plazas off Route 44 and off Route 31, the telephone switch station off South Street, the sewage treatment plant off Route 31, two pump stations and a drinking water well, two high potential loss dams, Mansfield Community Center and the town library.

Table 8-1: Critical Facilities, Coventry

Facility	Shelter	Cooling Center	Generator
Police Department			**X**
Coventry Town Hall			**X**
Coventry Fire Department Route 31 station (North)			X
Coventry Fire Department Merrow Road station			X
Coventry Fire Department Judd Road station			X
Coventry Fire Department Route 31 station (South)			X
Coventry High School (78 Ripley Hill Road)	Primary		X
Coventry Grammar School (3453 Main Street)			
George Hersey Robertson School (227 Cross Street)			
Capt. Nathan Hale Middle School (1776 Main Street)			
Coventry Senior Center		X	X
Equine Hospital			
Historic Nathan Hale Homestead			
Historic Strong Porter House			
Elderly Housing Community			(1)
Two shopping plazas			
Telephone Switch Station			
Sewage Treatment Plant			X

Two pumping stations			X
Water supply wells			X
Two high potential loss dams			
Mansfield Community Center	Secondary		
Booth & Dimock Memorial Library		X	X
1 Eversource substation			

1. For water pressure only

During extreme heat events, Coventry Senior Center and Booth & Dimock Memorial Library can both be opened as public cooling centers. The senior center currently has a generator but the Library is still in need of one

If there is a small event, the town uses Mansfield Community Center as a shelter but the town is looking at establishing a regional shelter.

Capabilities

Coventry's Plan of Conservation and Development includes policies on open space preservation designed to preserve natural resources and functions. The Town has received a Silver certification within the SustainableCT program.

Coventry has implemented a Reverse 9-1-1 system to contact residents in cases of emergency conditions. The Town also uses its website, email-blasts, and social media outlets to communicate hazard information to residents.

The Town of Coventry has limited policies, programs, and resources dedicated to dam failure since most of these efforts are performed at the State level. The Town owns Lake Waumgumbaug Dam, which was reconstructed in 2017 and has a DEEP classification of Class A. The Town of Coventry expends a small amount of resources each year to maintain and monitor the Lake Waumgumbaug Dam. Maintenance and repair work was performed on the Roman Pond Dam since 2010, and 2020 we replaced the spillway gate. The dam is no longer considered a significant hazard by the Town's standards.

The Town of Coventry has consistently participated in the National Flood Insurance Program (NFIP) since June 4, 1980. Coventry's current zoning regulations include limitations in the flood zone. The flood regulations were last revised on June 15, 2012. Proposed structures must meet elevation requirements and strict construction demands. Structures may be required to be constructed with certain materials, elevated, flood proofed, watertight or anchored. It must be shown that any activity in the 100-year flood plain will not significantly alter the flood levels. These regulations are posted on the Town website.

Town staff inspect the three "scour bridges" following flood events larger than a 10-year flood event. The Town has also implemented a series of drainage improvements at the western end of Avery Shore to reduce flood damages in the area. The Town has a formalized inspection and upgrade program for

faulty culverts and catch basins, with inspections of areas conducted annually and faulty areas added to the capital improvement list.

The Town maintains shelter facilities and performs debris management through Public Works with the assistance of the local electrical utility when necessary. The State building code has been updated and locally adopted, and the Town's sheltering resources and emergency communications have been expanded. The Town notifies the public when severe thunderstorms are to occur. The Town's capability to mitigate thunderstorm damage is relatively limited to town-owned facilities and rights-of-way. The local electrical utility performed intensive trimming near electrical lines following the severe storms in 2016 and ruggedized a main circuit around Wangumbaug Lake and other areas of town.

Plowing and sanding services are provided through the Town Public Works Department.

The Town uses a variety of regulatory, preparedness, and public information programs to mitigate the effect of wildfires, including the Open Burning Program, maintenance of dry hydrants and cisterns, and educational programs on fire safety. The Town has also installed additional dry hydrants and cisterns to improve overall fire protection capabilities and implemented a public education program. Coventry annually inspects dry hydrants.

A recent FEMA floodplain remapping effort has expanded the mapped floodplains around Coventry Lake, improving the Town's understanding of hazards in this area. A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Coventry it will cover, is unknown.

Coventry has replaced a number of bridges since adoption of the 2015 HMP, an effort that has included elevating and floodproofing bridge approaches.

The Town has recently completed work on improvements to the DeCew Dam property, including improvements to trails and amenities, erosion and sediment control, and replacement of the spillway gate. This project is expected to improve the state of that dam.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- The town is receiving a federal grant coming from the Consolidated Appropriations Act of 2023 for $1.2 million dollars for a water tower which will be built in conjunction with Connecticut Water Company who will own it. This will allow use of sprinklers in the Village area.
- The town received a grant to repair the Bunker Hill Rd Culvert.
- The town received funding for nine EV charging stations and two have been installed, with others under construction.
- Coventry is rated 5 or 6 on the BCEGS rating, which demonstrates that the Town has a high capacity for building code administration. Coventry also has an ISO rating for fire of 3 or 4. These lower homeowners insurance rates.
- The 2019 edition of this HMP was directly incorporated into Coventry's most recent POCD.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

In Coventry, the lack of winter freezing at Coventry Lake due to extreme heat is a growing concern. In 2021, this led to the first appearance of blue-green algae in the lake, prompting the town to enhance its water monitoring and education efforts with an investment of $30-50 thousand. The decline in water clarity, from seven to three feet, has also raised alarms. This condition improved in 2023. The town received a grant for water turbines to improve water circulation at Patriots Park and is exploring regional collaborations with neighboring towns, including the Upper and Lower Bolton Lakes and Mansfield, to address similar water quality issues. These concerns, which have economic implications, are becoming more prominent in Coventry's priorities.

Detailed FEMA flood mapping is insufficient in Coventry, especially along the Millbrook Stream.

Town staff believe that the prevalence of land invasive species, such as bittersweet and Russian olive, has increased due to warmer temperatures, resulting in additional costs for the town.

Town staff noted that the entire community is aging.

Town staff explained that Coventry's unique sewer system is nearing capacity, and there may be some additional climate-related challenges in the future. These limitations are affecting affordable housing projects, and the system experienced its first overtopping event during a recent intense rain event, potentially linked to climate change.

Agriculture in Coventry is at risk, with the town having lost two dairy farms. The town expressed concerns about the viability of a large dairy farm owned by an aging individual.

Water supply concerns in Coventry are diverse, including emerging PFAS issues for private wells and the Connecticut Water Company. The town has five contaminated private wells due to winter icing, and Connecticut Water Company may extend a water main to these properties. The town has received funding through the CT Drinking Water Assistance Program to begin addressing these challenges.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Coventry. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based

on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 8-2: Average Annualized Losses, Coventry

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$31,441.85
	NRI	$629,251.94
	FEMA PA	$13,367.14
Tornados/High Winds	NCEI	$11,771.25
	NRI	$107,457.64
Winter Storms	NCEI	$9,324.94
	NRI	$51,483.49
	FEMA PA	$16,420.70
Flood	NCEI	$9,530.47
	NRI	$30,382.05
	NFIP	$1,007.91
Drought	NRI	$9,366.36
	USDA	$4,762.95
Extreme Heat	NRI	$2,162.28
Wildfire	NRI	$672.78
Earthquakes	NRI	$18,502.97
Dam Failure	HMP	$764.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Coventry 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.

- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional.

Noted Hazard Mitigation Needs

To address water quality concerns in Coventry Lake, the town should continue to proceed with installing water turbines and other means to improve water circulation and explore regional collaborations with neighboring towns, including the Upper and Lower Bolton Lakes and Mansfield. The town might also explore the option of incorporating or expanding their municipal budget to address water quality concerns in Coventry Lake.

The town should consider working with FEMA to enhance flood mapping in the area.

The town should continue to Implement targeted measures to control terrestrial invasive species.

The town should consider developing programs and services to support an aging community in Coventry, especially related to extreme heat. Consider a generator for the Library as a cooling shelter.

The town should continue looking into expanding the sewer system's capacity through additional infiltration basins, nitrogen control, and potential connection to Windham to alleviate limitations and support affordable housing projects.

The town should look into strategies to sustain and support the town's dairy farms, such as incentives for younger farmers.

The town should continue to address PFAS concerns by upgrading private well systems and working with Connecticut Water Company, leveraging funding from the CT Drinking Water Assistance Program.

Status of Previous Mitigation Strategies and Actions

The Town of Coventry reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 8-3: Status of Previous Mitigation Strategies and Actions, Coventry

No.	Action	Notes	Status
1	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	The town joined Sustainable CT in 2020	Completed/ retire

2	Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.	Happens on an ongoing basis. Capability.	Intent is Complete d/ retire
3	Develop informal arrangements with private contractors for emergency tree/debris removal and evaluate these arrangements on an annual basis.	Have had some conversations. Have this under control. When the town is expecting a heavy storm with tree damage, they have a relationship with tree care vendors and get them on the schedule to be out here before the storm hits.	Intent is Complete d/ retire
4	Adopt a regular maintenance schedule for keeping drainageways and drainage structures clear, especially following flood events.	Before or after every rain town staff check drainageways and make sure everything is clear. This regular maintenance is a capability.	Completed/ retire
5	Monitor and maintain drainage and flood control systems through the completion of annual inspections.	Town staff asked how much of this monitoring/maintenance happens when completing the MS4 paperwork every year, as the town is on track with its MS4 requirements. Will check on but likely a capability.	Intent is Complete d/ retire
6	Update CivicReady system participant list and perform tests on an annual basis.	The town has an CivicReady system (separate from CTAlert), which is used multiple times a year. They do not perform tests, but because they use it regularly they are sure it is working; the town employees use it themselves. At regular intervals, the town reminds residents that they have this system and to sign up.	Intent is Complete d/ retire
11	Replace culvert at Jones Crossing over Clark Brook, which drains to the Willimantic River.	Town staff said this is complete.	Complete/R etire
12	Complete improvements to the DeCew Dam park property, considering dam safety.	Spillway gate replaced: more work needed	Carry Forward
13	Increase funding to identify and address bridge scour problems.	Town staff said they have made progress and completed the intent of this action, which was to identify and address.	Complete/R etire
3	Develop a process, to be built into DPW operations, to identify, evaluate, and address bridges with scour problems.	Town staff said they have made progress. Have done a bunch of bridge replacements and have grants for 5 bridge replacement in the near futures. When a bridge is replaced, they meet new standards and address scour. See action above. CIRCA will get a list of bridges from town	Complete/R etire

No.	Action	Notes	Status
20	Remove 100 to 150 hazardous trees, as identified in the hazardous tree survey completed prior to the previous HMP, over the next five years.	Town says they have removed over 500 trees this year, including about 169 in one week. New action should be broader and suggest methods of hardening the grid. Work with Eversource to modernize the electrical grid. As an example, they explained that they had 22 power outages (Silver St, South St) in a 6 month period. Eversource put in power poles, tree wire and new crossbeams and the power has not gone out since. This is a local example of success in reducing outages, and it shows the methods can be used elsewhere.	Carry Forward with Revisions to reflect methods of hardening and protecting utility lines
21	Increase funding for Right of Way tree removal.	Town staff said they have increased the funding for tree removal, but more is needed.	Carry forward with revisions
25	Acquire a forestry truck with a water tank to assist with fighting fires in areas remote from water sources.	Town staff said they have modified a truck to serve as a forestry truck	Complete/Retire
26	Acquire all-terrain firefighting trucks and open accessways to fight fires in forested areas.	Town staff have modified a different truck to be an all-terrain truck	Complete/Retire
22	Develop an Open Space Plan to guide acquisition and preservation; ensure hazard mitigation is considered in plan development.	Town staff said this is done and incorporated in the POCD.	Complete/Retire
17	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	Town staff said this has not been done but would like to keep. Remove reference to NHCOG. CIRCA Staff noted that the new DEEP stormwater manual is being released in 2023.	Carry Forward with Revisions
24	Upgrade all town plows to have magnesium chloride tanks.	Town staff said this is no longer needed, as the chemical has caused problems and it is not relevant to hazard reduction.	No Longer Needed/Retire
31	Complete the Regional Sheltering Plan.	Town staff said this is underway but not complete. A regional shelter would be with Mansfield and Ashford	Carry forward with revisions or complete/retire?
9	Assess the needs, and develop a cost-estimate, for retrofitting the new High School gym to ensure it is up to seismic and wind code and can be used as an emergency shelter.	Town staff said this was complete. They reinforced the walls, and put steel bracing in to reinforce the facility for the wind code. The town utilized the California earthquake code	Complete/retire
19	Develop a plan for implementing lightning protection for the town-wide communication system.	Town staff said this is not complete but not needed.	No Longer Needed/Retire?
6	Complete upgrade of town-wide communications system.	Town staff said that public works and police joined the state radio network. This is the same network as state police with statewide coverage. Coventry is only the second town in the state to do this. The sole cost to the Town purchased the radio units.	Complete/Retire

No.	Action	Notes	Status
7	Develop a micro-grid for municipal facilities around, and including, the Town Hall. Ideally the microgrid will service the high school (shelter), middle school, fire department, town hall, fueling station, and elderly housing complex.	Town staff said this is underway with the same buildings listed here. CT DEEP withdrew funding. Project canceled due to lack of funding.	Complete/Retire
14	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.	Town staff said nothing has been done here. Town would like to keep this in. CIRCA suggested revise to watch the virtual DEEP training	Carry Forward with Revisions
15	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said EMD has participated in ongoing trainings. This is a capability.	Capability/Retire
16	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.	Town staff are not in MS4 since it ends at the Bolton town line.	No Longer Needed/Retire
28	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	Town staff said they have lot of historic structures in flood zones. Historic houses are in unmapped FEMA zones, but the houses have never been flooded.	No Longer Needed/Retire
30	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	See action 28. Revise to Use SHPO maps to understand the number of historic buildings in flood zones and if present, educate them on methods of retrofitting or protecting their properties.	Carry Forward with Revisions
29	Make progress with the hazard mitigation goals associated with SustainableCT certified actions.	Town staff said the town is Silver Certified.	Complete/Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Coventry

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CV1	Acquire a generator for the town library	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	7/2026 - 6/2027	High	All Hazards	No	19	5	95
CV2	Construct a water tower or cistern to serve Coventry Village to improve firefighting capacity in that area.	Reduce losses from other hazards.	Structural Project	Fire Department	>$1M	STEAP; Municipal CIP Budget	07/2026 - 06/2028	High	Wildfires	No	19	4	76
CV3	Work with Eversource to determine methods to modernize/harden the electrical grid and protect utility lines.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	STEAP; Municipal Operating Budget	07/2025 - 06/2026	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	17	3	51
CV4	Complete the Regional Sheltering Plan.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	DCRF; FEMA HMA	07/2026 - 06/2028	High	All Hazards	Benefits an EJ tract	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CV5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2025	High	Extreme Heat	No	19	3	57
CV6	Complete improvements to the DeCew Dam park property, considering dam safety.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$100,000 - $500,000	Municipal CIP Budget	07/2025 - 06/2027	Medium	Dam Failure	No	18	6	108
CV7	Determine whether it is more preferable or cost effective to replace the culvert on Pucker Street that is contributing to flooding of hay and cornfields or to acquire the at-risk land.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	FEMA HMA; IIJA AOP	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	No	18	6	108
CV8	Work with FEMA to map the Mill Brook floodplain in Coventry Village.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	6	108
CV9	Acquire the Streude parcel, which is flood-prone.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Natural Resources Protection	Planning	$100,000 - $500,000	DEEP Open Space Grants; FEMA	07/2026 - 06/2028	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		increases frequency and severity of floods.				HMA; STEAP							
CV10	Complete road improvements around the lake area where flash flooding is an issue.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	LOTCIP; STEAP; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
CV11	Construct the drainage improvements to the intersection of South Street, Swamp Road, and Swamp Road Extension.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	LOTCIP; STEAP; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	4	72
CV12	Acquire additional Vortech units for under the metal grates under the town's stormwater system.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	STEAP; Municipal CIP Budget	07/2024 - 06/2025	High	Riverine and Pluvial Floods	No	19	4	76
CV13	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
CV14	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
CV15	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
CV16	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2027	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
CV17	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
CV18	Expand public water systems to areas served by private wells when needed	Reduce losses from other hazards.	Water & Wastewater	Fire Department	>$1M	DWSRF; FEMA	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	to address drought impacts and provide fire protection		Utility Projects			HMA; STEAP							
CV19	Develop more water supply sources and interconnections as needed	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Public Works	>$1M	DWSRF; FEMA HMA; STEAP	07/2024 - 06/2025	High	Drought/ Wildfire	No	19	2	38
CV20	Review the DEEP Stormwater Manual and determine whether LID can be incorporated locally to increase rural resiliency.	Reduce losses from other hazards.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	All Hazards	No	19	7	133
CV21	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 8-1: CIRCA Environmental Justice Rank and Critical Facilities, Coventry

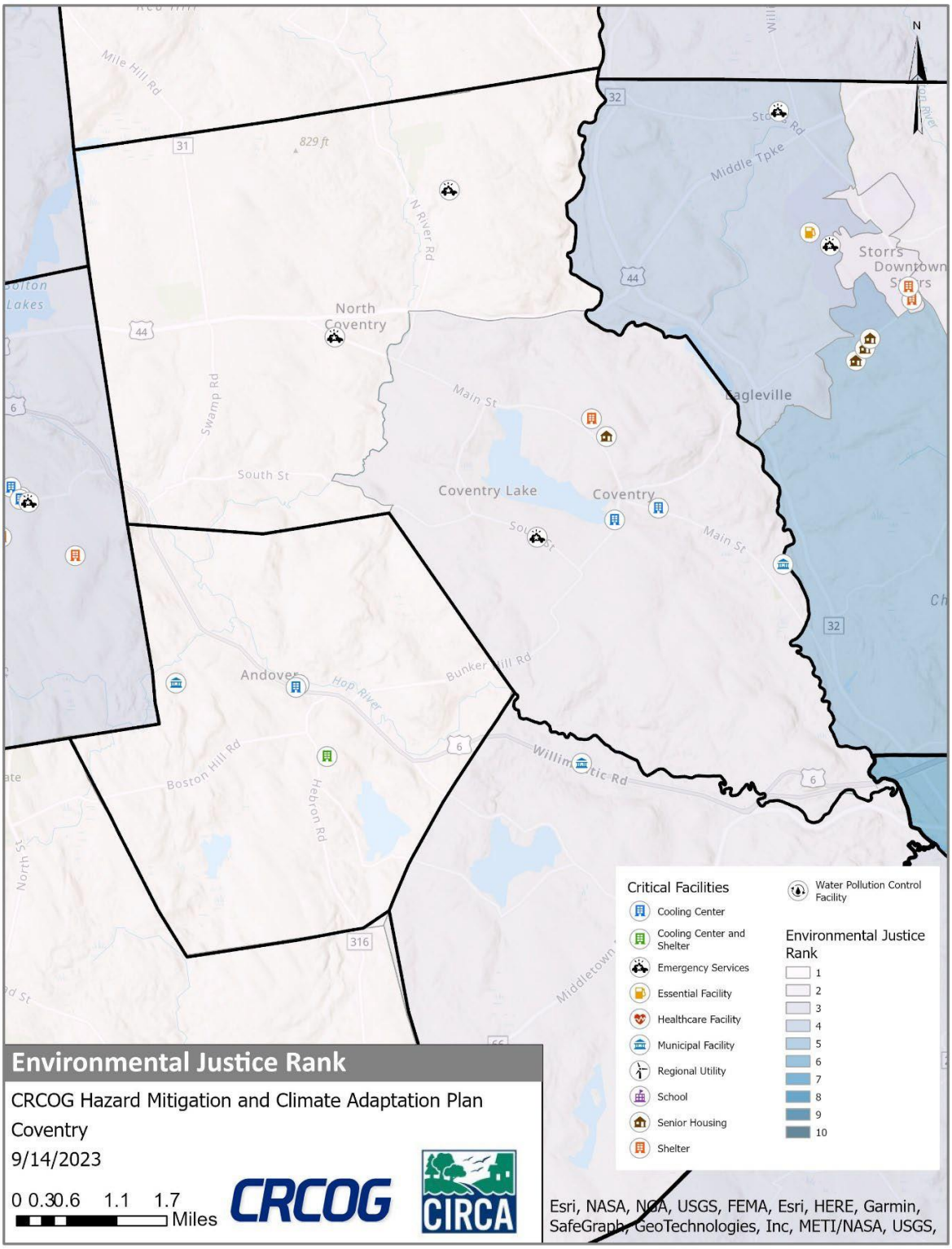


Figure 8-2: FEMA Flood Zones and Critical Facilities, Coventry

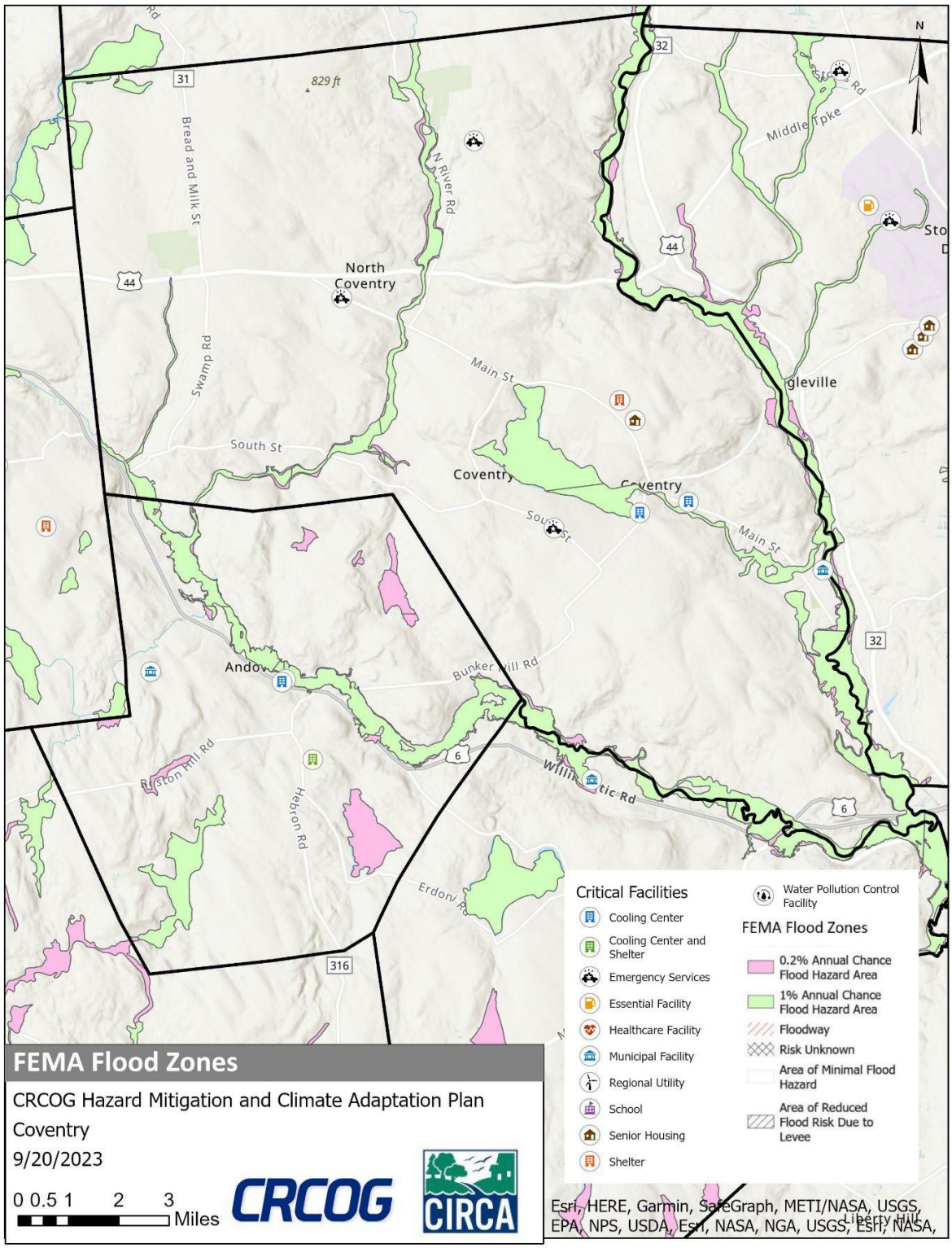


Figure 8-3: CIRCA Flood CCVI and Critical Facilities, Coventry

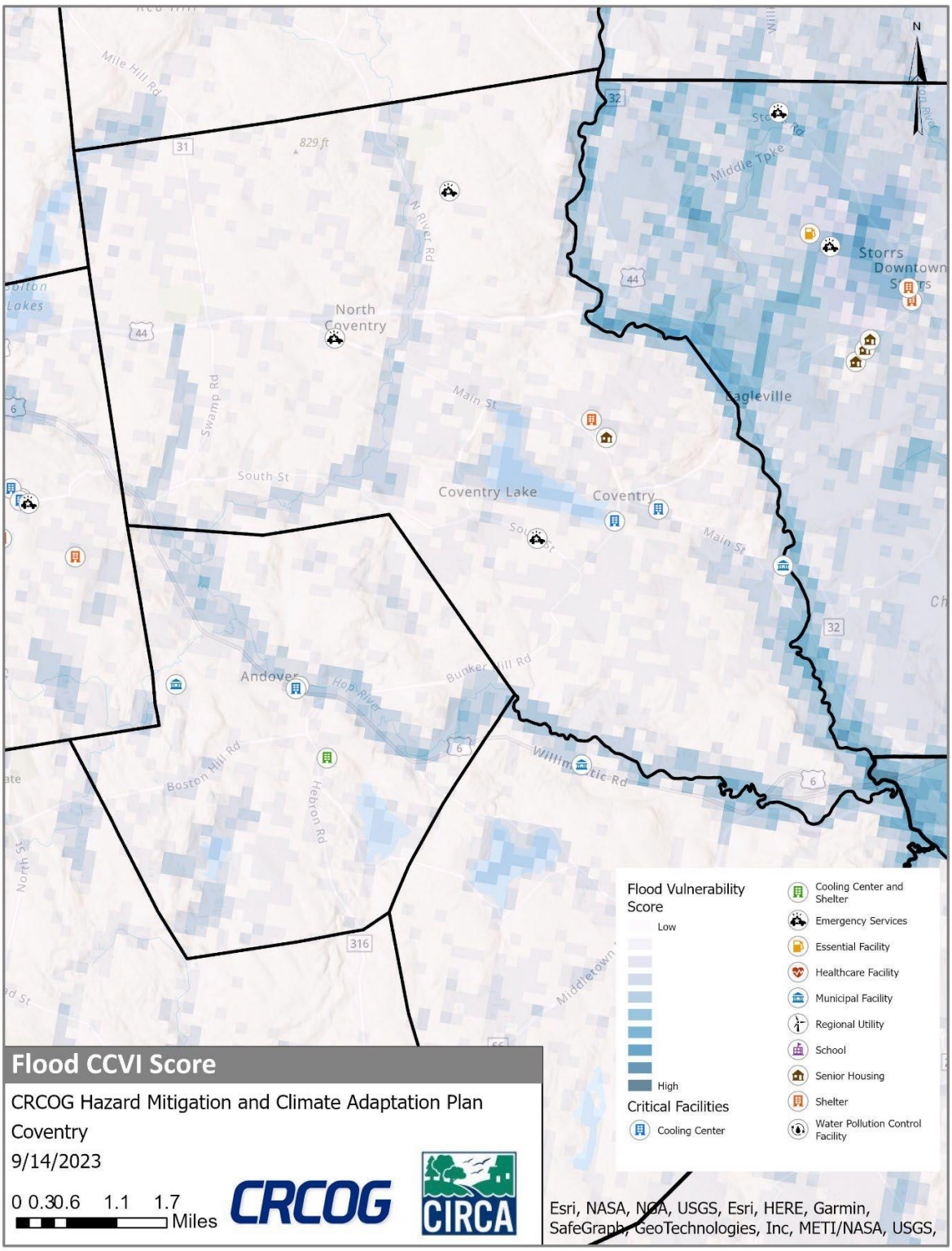


Figure 8-4: Dam Inundation Area and Critical Facilities, Coventry

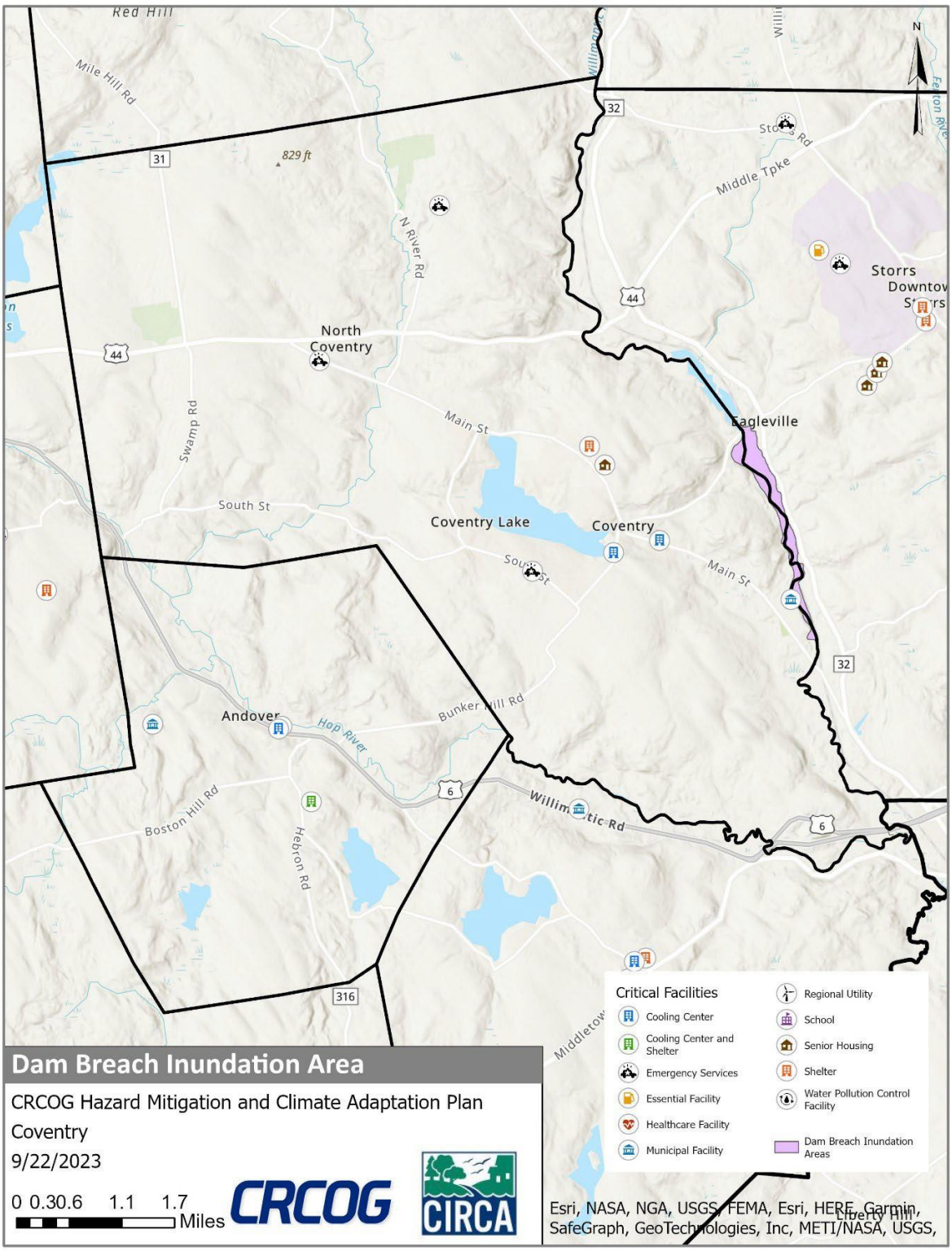
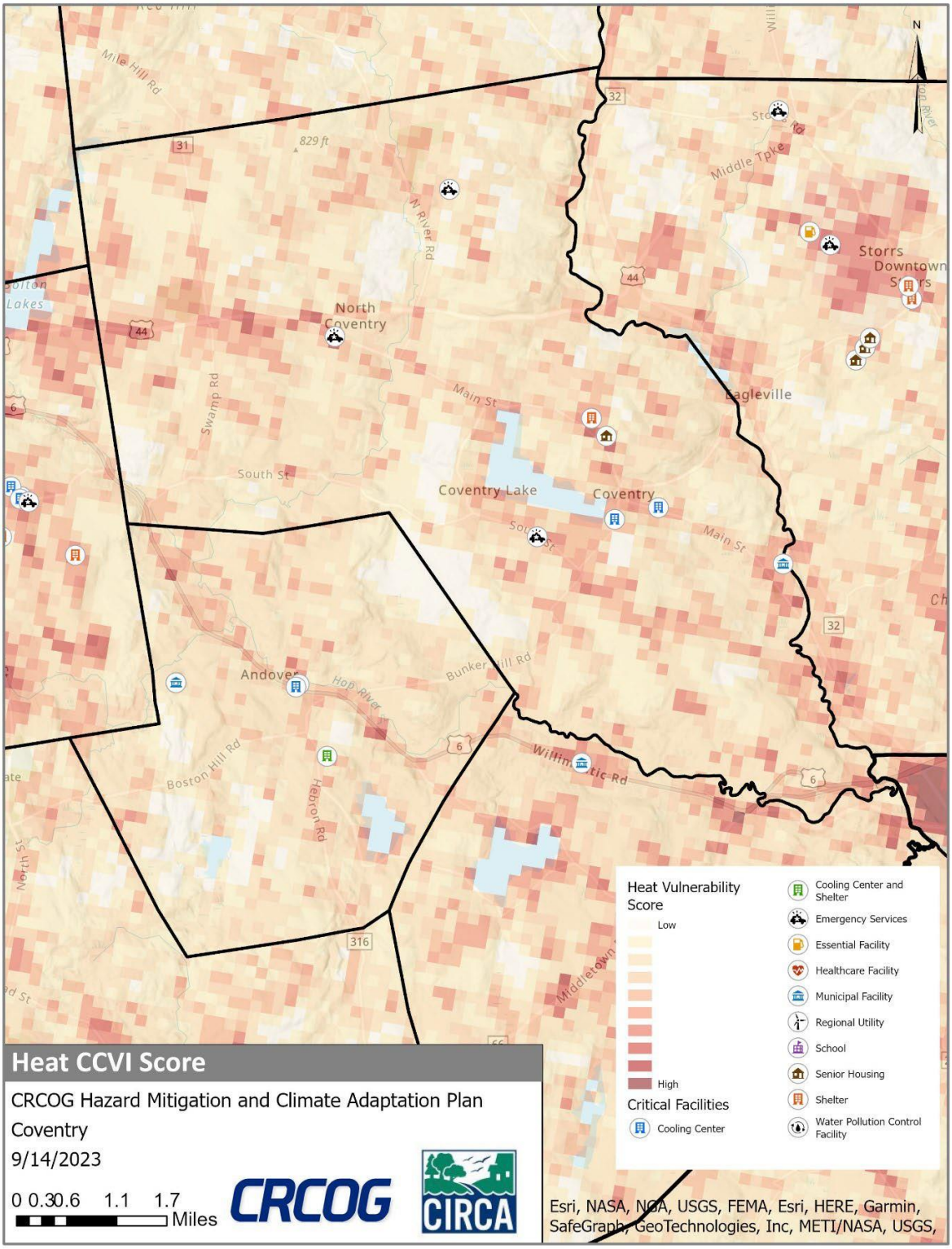


Figure 8-5: CIRCA Heat CCVI and Critical Facilities, Coventry



9 East Granby

Community Overview

East Granby is a rural community in the Capitol Region that covers encompasses about 17.5 sq. miles and has a population of approximately 5,214. Most of the land area in Town falls in the Farmington River Watershed, though the northeastern portion drains to the Stony Brook watershed. The Farmington River forms the southern municipal boundary. The Salmon and Muddy Brooks are major tributaries to the Farmington that flow through East Granby. Other watercourses running through town include Holcomb, Sanborn and Shelden's Brooks. Farming has traditionally been the mainstay of the Town however today's principle industries include manufacturing and quarrying. Approximately 85% of the Town is developed. The major transportation routes through East Granby are State routes 20, 187 and 189. The Connecticut Air National Guard has a base in East Granby. Bradley International Airport, while primarily located in Windsor Locks to the east, has runway space in East Granby.

East Granby has not seen much development in recent years. The town reported that that have applications coming in for multi-family development, but nothing has been developed yet. The Village center is where most of this development is proposed.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In East Granby critical facilities include the Town Hall (serves as the Emergency Operations Center), an Ambulance facility, the Public Safety building, the South End Fire station the East Granby Recreation Building, the Parks and Recreation Office, the Public Library, the Department of Public Works facility, three sewer pumping stations, the Community Center / Senior Center (serves as the primary shelter), four schools, the Congregational Church, and two private senior housing facilities.

The Community Center shelter does not have showers; showers at Nufern-Coherant on Airport Park Road may be used as needed. The Town is interested in making the High School the primary shelter but needs to install a generator first. The Congregational Church could serve as a secondary shelter, but also needs a generator installed.

Approximately 30% of the Town is on the municipal water system.

Table 2-7: Critical Facilities, East Granby

Facility	Shelter	Cooling Center	Generator
Town Hall (EOC)			X
Ambulance			X
Public Safety			X
South End Fire station			X
East Granby Recreation Building			
Park and Rec Office			
Library		X	
DPW			X
3 Sewer Pumping Stations			X
Community Center/Senior Center	Primary	X	X

Facility	Shelter	Cooling Center	Generator
Four Schools			
Congregational Church		X	
Two private Senior Housing Facilities			Limited

During extreme heat events, East Granby Library Community Center and Congregational Church can all be opened as public cooling centers. The Library and Congregational Church do not have generators, but the Community Center does.

The town staff reported no changes in critical facilities since the last plan update.

Capabilities

East Granby has not permitted any new structures or had any demolitions in the floodplain since 2008. Hazard mitigation is addressed specifically in the community's Plan of Conservation and Development.

East Granby has a grant through the State Local Bridge Grant Program to address scouring issues at Floodville Bridge.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Educate land use officials on low impact development techniques. Consider contacting UConn Extension for assistance.
- Acquire equipment necessary to maintain and remove large trees.
- 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.
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The town monitors two stream crossings during rain events, specifically in the Tunxis/Spoonville area, where there is a culvert under the road that previously flooded many years ago but has not been problematic recently. Additionally, the town keeps an eye on the Floydville Rd and Wolcott Rd vicinity near Hartford Ave, where occasional small stream flooding has been observed, though recent flooding has not occurred.

The town has reported that Route 20 is a wind corridor, which has caused damages in the past, including a tornado a few summers ago that resulted in downed trees. Although no town facilities were lost, there was debris.

The town will conduct a sewer system study in collaboration with MDC. Currently, there are no concerns about the sewer system, but the study is a requirement. Town staff acknowledge the possibility that the study may reveal concerns.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact East Granby. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 9-2: Average Annualized Losses, East Granby

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$13,399.09
	NRI	$297,260.22
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$5,016.37
	NRI	$72,921.99
Winter Storms	NCEI	$3,973.86
	NRI	$3,648.32
	FEMA PA	$3,600.82
Flood	NCEI	$4,061.45
	NRI	$7,641.54
	NFIP	$520.00
Drought	NRI	$109,523.62
	USDA	$73,607.80
Extreme Heat	NRI	$6,121.52
Wildfire	NRI	$948.92
Earthquakes	NRI	$16,123.32
Dam Failure	HMP	$9.00

Losses Summary

A review of the above loss estimates demonstrates that East Granby 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, multiple hazard mitigation needs of East Granby were noted, including:

- Install a generator at the High School to make progress on creating a primary shelter there.
- To address concerns in the Tunxis/Spoonville and Floydville Rd areas, the town will continue monitoring stream crossings during rain events to ensure timely response if flooding issues reoccur.
- To mitigate risks in the Route 20 wind corridor, the town will implement proactive tree maintenance and storm readiness measures to minimize potential damage during severe weather events.
- While there are no current concerns, the town will conduct the required sewer system study in collaboration with MDC to proactively identify and address any potential issues that may emerge in the future.

Status of Previous Mitigation Strategies and Actions

The Town of East Granby reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, East Granby

No.	Action	Notes	Status
10	Construct an access road across the Farmington River at Tunxis/Spoonville to provide an additional access/egress route.	Town staff reported that there is a dirt road maintained by DPW that can provide secondary access to this neighborhood. The town staff report that constructing a road across the river would be cost prohibitive. Town staff report that they believe the DPW road adequately addresses this concern.	Intent is complete/ Retire
11	Construct a secondary access route to Cowles Park.	Town staff reported that there are currently 2-3 access routes from Cowles Park. The Fire Department has also purchased a UTV that helps with access in this area, so the town feels that this concern has been addressed and this action can be removed.	Intent is complete/ Retire

No.	Action	Notes	Status
3	Conduct a stormwater management study to determine local best management practices to reduce runoff.	Town staff reported that they do have a storm water management plan but are unsure if this plan was based on a study. CIRCA will follow up	Follow up to check with town engineer to see if current stormwater management plan is based on a study
7	Install a dry hydrant or cistern at Hatchett Hill.	Town staff reported that they have not heard any concerns related to this action. The town has a tanker strike team that could get water to the area if needed. CIRCA will follow up with the Fire Department in town to see if they would like this carried forward as an action, if they would like to retire it because the tanker is sufficient to address this need, or if they would like to add any additional fire-related actions.	Carry Forward – follow up with Fire department for additional revisions
2	Install a generator at the High School to make progress on creating a primary shelter there.	Town staff reported that converting the high school into a shelter would be very costly, with an estimated cost of over $200,000. The town would need to install hook-ups and may need more than one generator to power the whole facility. However, the town is still interested in this as a potential shelter because of the building capacity and showering facilities. This action should be carried forward.	Carry Forward
9	Install a generator at the Congregational Church to make progress on creating a backup shelter there.	Town staff reported that they have regular discussions with the church about obtaining a generator, and this is still an interest. The church is a private entity so the town's authority is limited in this matter.	Carry Forward
12	Educate land use officials on low impact development techniques. Consider contacting UConn Extension for assistance.	Town staff reported that they have low impact development regulations.	Capability/ Complete/ Remove
13	Develop a formal process of tree evaluation and overhead wires. Consider collaborating with Eversource.	Town staff reported that Eversource is clearing the areas on their own without the need for the town to be involved.	No longer needed/Retire
15	Develop an open space plan, with special attention paid to land along rivers and streams not only because of flooding concerns, but also for recreation and wildlife management interests.	Town staff reported that this has not been complete and is still of interest.	Carry Forward

No.	Action	Notes	Status
16	Acquire equipment necessary to maintain and remove large trees.	Town staff reported the DPW has some equipment for tree maintenance and removal, and the town also has relationships with private contractors in the area that assist with the removal of large trees.	Capability/ Remove
5	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.	Town staff reported that they are compliant with MS4.	Capability/ Remove
8	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Town staff reported that MDC might have a couple pump stations that might be in hazard zones, but are not aware of any other MDC facilities in East Granby. CIRCA will follow up with MDC directly.	CIRCA will Follow up with MDC
4	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.	Town staff reported that they are capable of outreach as needed to any businesses that may have chemicals that could be released. This may be relevant for trash collecting company	Capability/ Remove
6	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff reported that they attend trainings and conferences regularly, including the CAFM conference and dam failure exercises.	Capability/ Remove
14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff reported they do not need additional surveys. CIRCA suggested to change this action to "Acquire and use the SHPO layer". Town staff agree with this revision.	Carry Forward with Revisions
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff reported that they are not active in the SCT program. Town staff will discuss internally whether this is still of interest and will let CIRCA know whether to carry forward or remove this action.	Follow up
10	Construct an access road across the Farmington River at Tunxis/Spoonville to provide an additional access/egress route.	Town staff reported that there is a dirt road maintained by DPW that can provide secondary access to this neighborhood. The town staff report that constructing a road across the river would be cost prohibitive. Town staff report that they believe the DPW road adequately addresses this concern.	Intent is complete/ Retire

No.	Action	Notes	Status
11	Construct a secondary access route to Cowles Park.	Town staff reported that there are currently 2-3 access routes from Cowles Park. The Fire Department has also purchased a UTV that helps with access in this area, so the town feels that this concern has been addressed and this action can be removed.	Intent is complete/ Retire
3	Conduct a stormwater management study to determine local best management practices to reduce runoff.	Town staff reported that they do have a storm water management plan but are unsure if this plan was based on a study. CIRCA will follow up	Follow up to check with town engineer to see if current stormwater management plan is based on a study
7	Install a dry hydrant or cistern at Hatchett Hill.	Town staff reported that they have not heard any concerns related to this action. The town has a tanker strike team that could get water to the area if needed. CIRCA will follow up with the Fire Department in town to see if they would like this carried forward as an action, if they would like to retire it because the tanker is sufficient to address this need, or if they would like to add any additional fire-related actions.	Carry Forward – follow up with Fire department for additional revisions
2	Install a generator at the High School to make progress on creating a primary shelter there.	Town staff reported that converting the high school into a shelter would be very costly, with an estimated cost of over $200,000. The town would need to install hook-ups and may need more than one generator to power the whole facility. However, the town is still interested in this as a potential shelter because of the building capacity and showering facilities. This action should be carried forward.	Carry Forward
9	Install a generator at the Congregational Church to make progress on creating a backup shelter there.	Town staff reported that they have regular discussions with the church about obtaining a generator, and this is still an interest. The church is a private entity so the town's authority is limited in this matter.	Carry Forward
12	Educate land use officials on low impact development techniques. Consider contacting UConn Extension for assistance.	Town staff reported that they have low impact development regulations.	Capability/ Complete/ Remove
13	Develop a formal process of tree evaluation and overhead wires. Consider collaborating with Eversource.	Town staff reported that Eversource is clearing the areas on their own without the need for the town to be involved.	No longer needed/Retire

No.	Action	Notes	Status
15	Develop an open space plan, with special attention paid to land along rivers and streams not only because of flooding concerns, but also for recreation and wildlife management interests.	Town staff reported that this has not been complete and is still of interest.	Carry Forward
16	Acquire equipment necessary to maintain and remove large trees.	Town staff reported the DPW has some equipment for tree maintenance and removal, and the town also has relationships with private contractors in the area that assist with the removal of large trees.	Capability/ Remove
5	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.	Town staff reported that they are compliant with MS4.	Capability/ Remove
8	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Town staff reported that MDC might have a couple pump stations that might be in hazard zones, but are not aware of any other MDC facilities in East Granby. CIRCA will follow up with MDC directly.	Retire
4	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.	Town staff reported that they are capable of outreach as needed to any businesses that may have chemicals that could be released. This may be relevant for trash collecting company	Capability/ Remove
6	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff reported that they attend trainings and conferences regularly, including the CAFM conference and dam failure exercises.	Capability/ Remove
14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff reported they do not need additional surveys. CIRCA suggested to change this action to “Acquire and use the SHPO layer”. Town staff agree with this revision.	Carry Forward with Revisions
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff reported that they are not active in the SCT program. Town staff will discuss internally whether this is still of interest and will let CIRCA know whether to carry forward or remove this action.	Follow up

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.

Table 2-4: Active Mitigation Strategies and Actions, East Granby

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EG1	Acquire generators for critical facilities	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
EG2	Install a generator at the High School to make progress on creating a primary shelter there.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
EG3	Install a generator at the Congregational Church to make progress on creating a backup shelter there.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
EG4	Install a dry hydrant or cistern at Hatchett Hill.	Reduce losses from other hazards..	Structural Project	Fire Department	$0-$10,000	Municipal CIP Budget	07/2024 - 06/2025	High	Wildfires	No	19	7	133
EG5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EG6	Conduct a stormwater management study to determine local best management practices to reduce runoff.	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Public Works	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	8	144
EG7	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
EG8	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/ Drought	No	19	10	190
EG9	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
EG10	Develop an open space plan, with special attention paid to land along rivers and streams not only because of flooding concerns, but also for recreation and	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning	$10,000 - $50,000	Municipal Operating Budget	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	wildlife management interests.												
EG11	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	No	18	9	162
EG12	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 9-6: CIRCA Environmental Justice Rank and Critical Facilities, East Granby

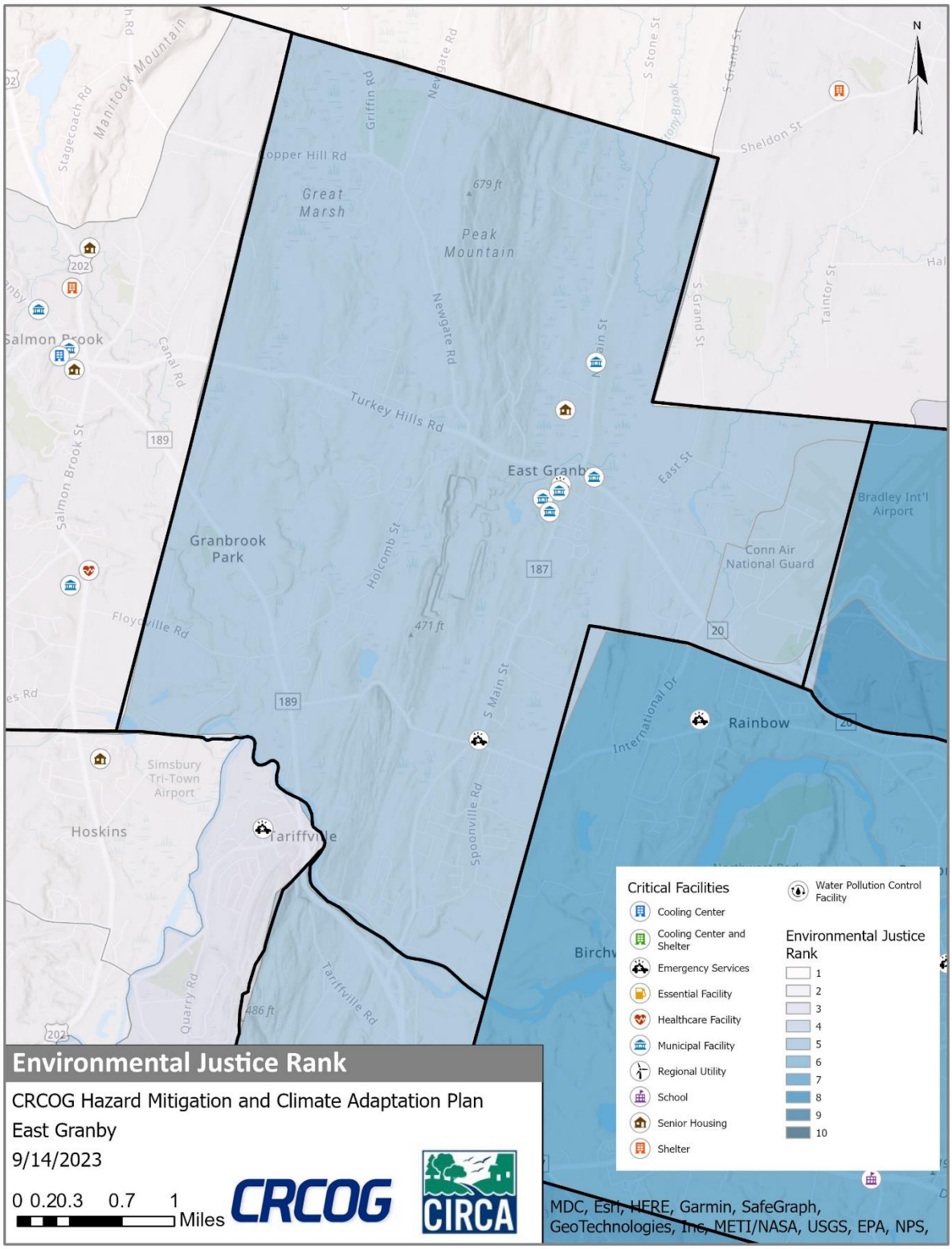


Figure 9-2: FEMA Flood Zones and Critical Facilities, East Granby

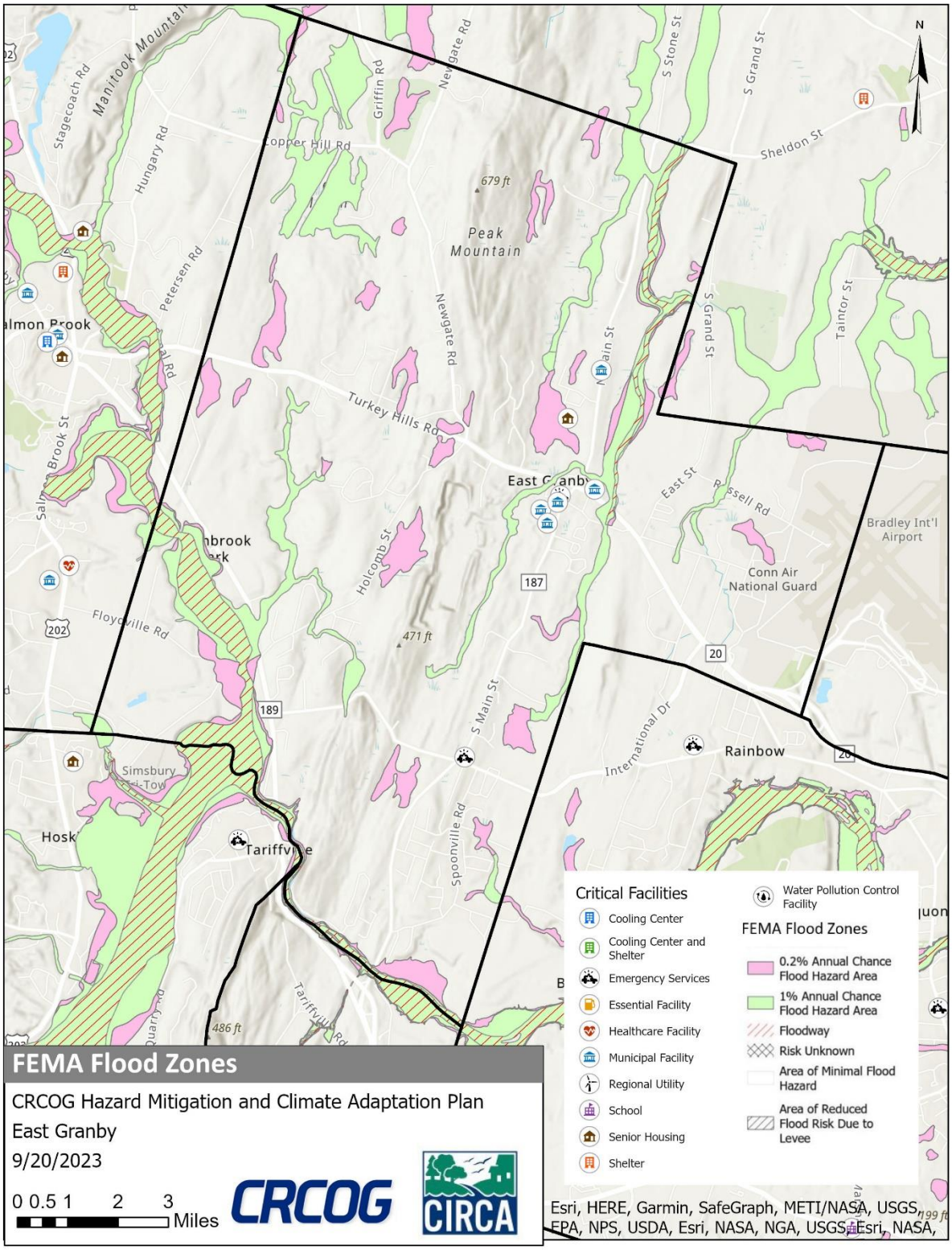


Figure 9-3: CIRCA Flood CCVI and Critical Facilities, East Granby

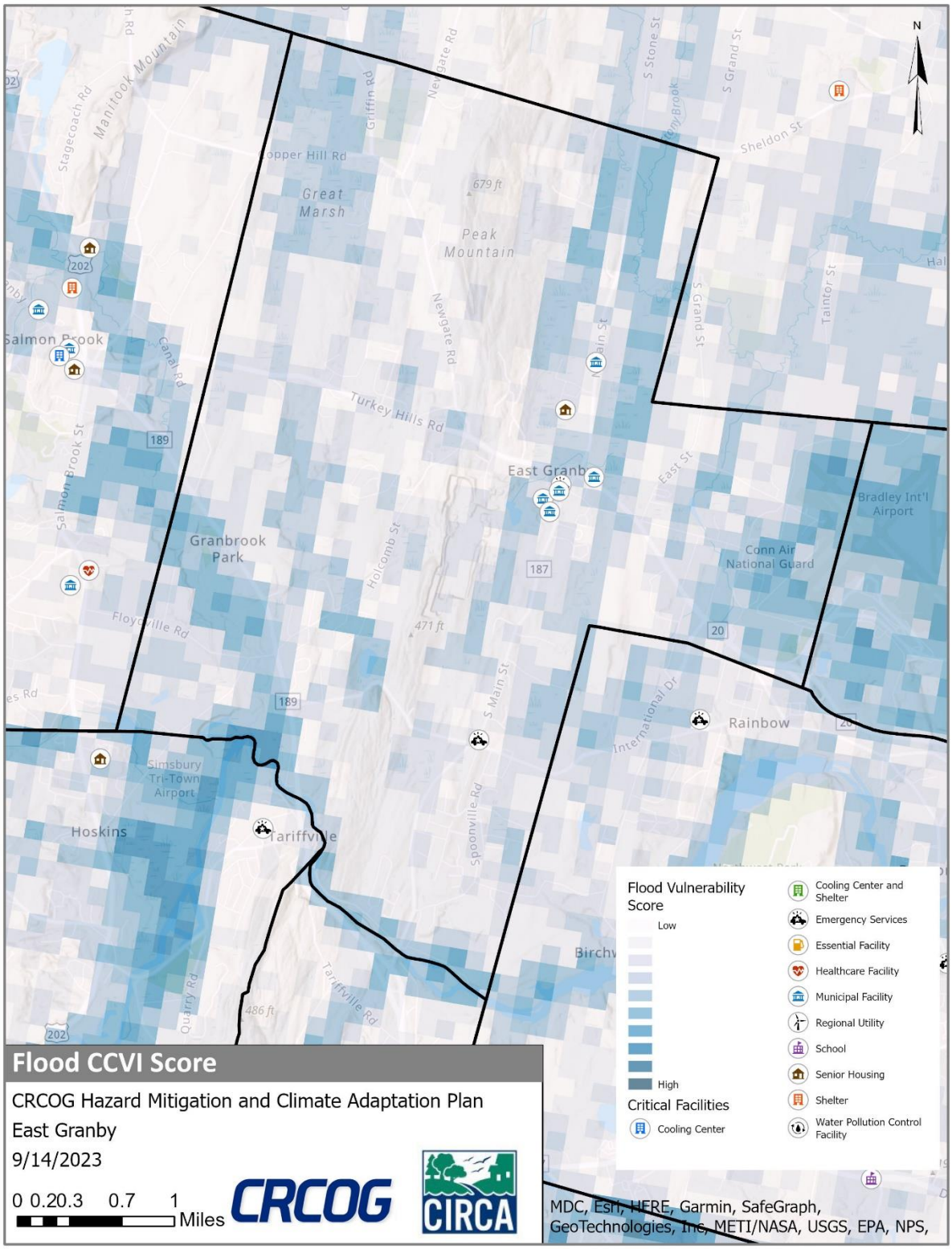


Figure 9-4: Dam Inundation Area and Critical Facilities, East Granby

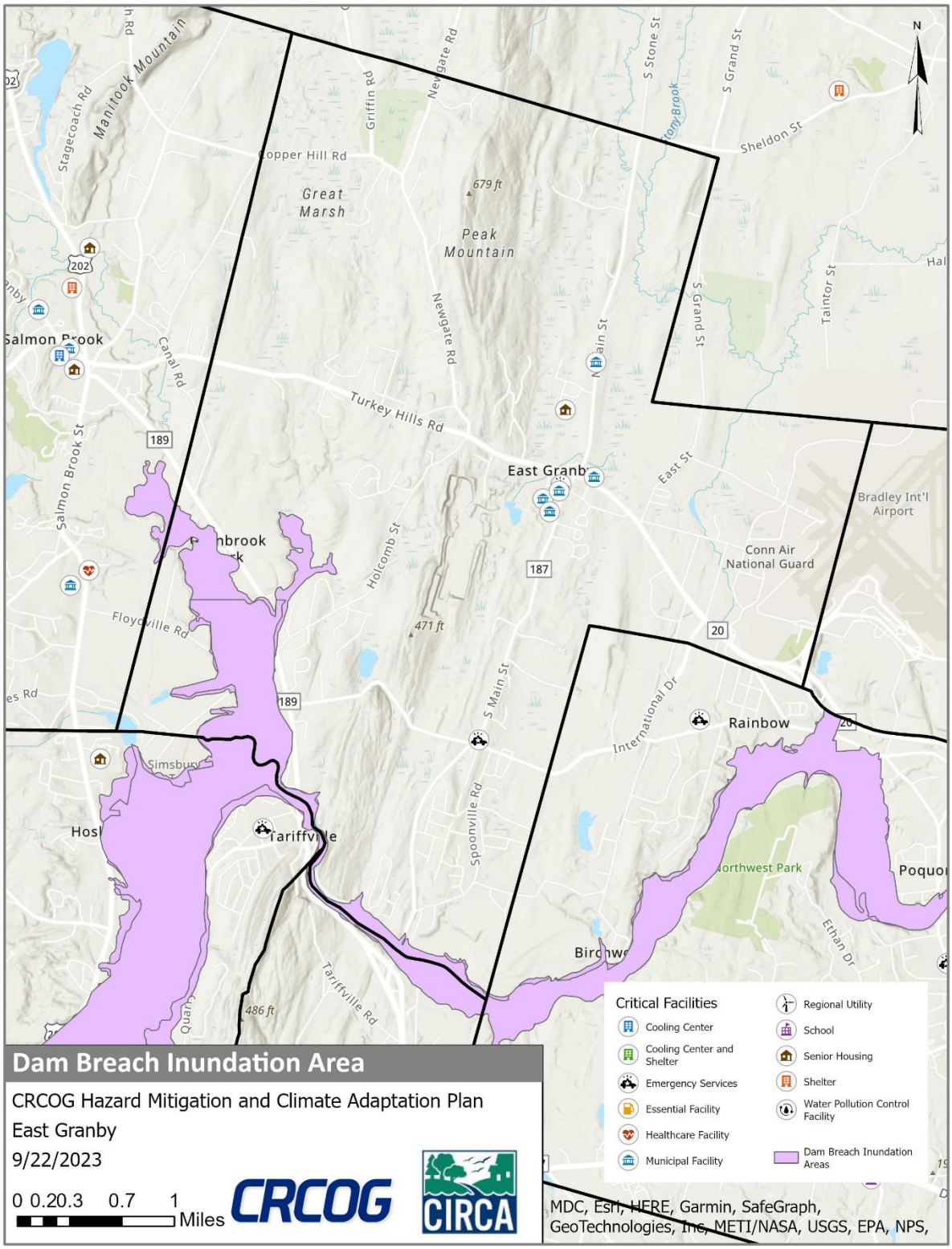
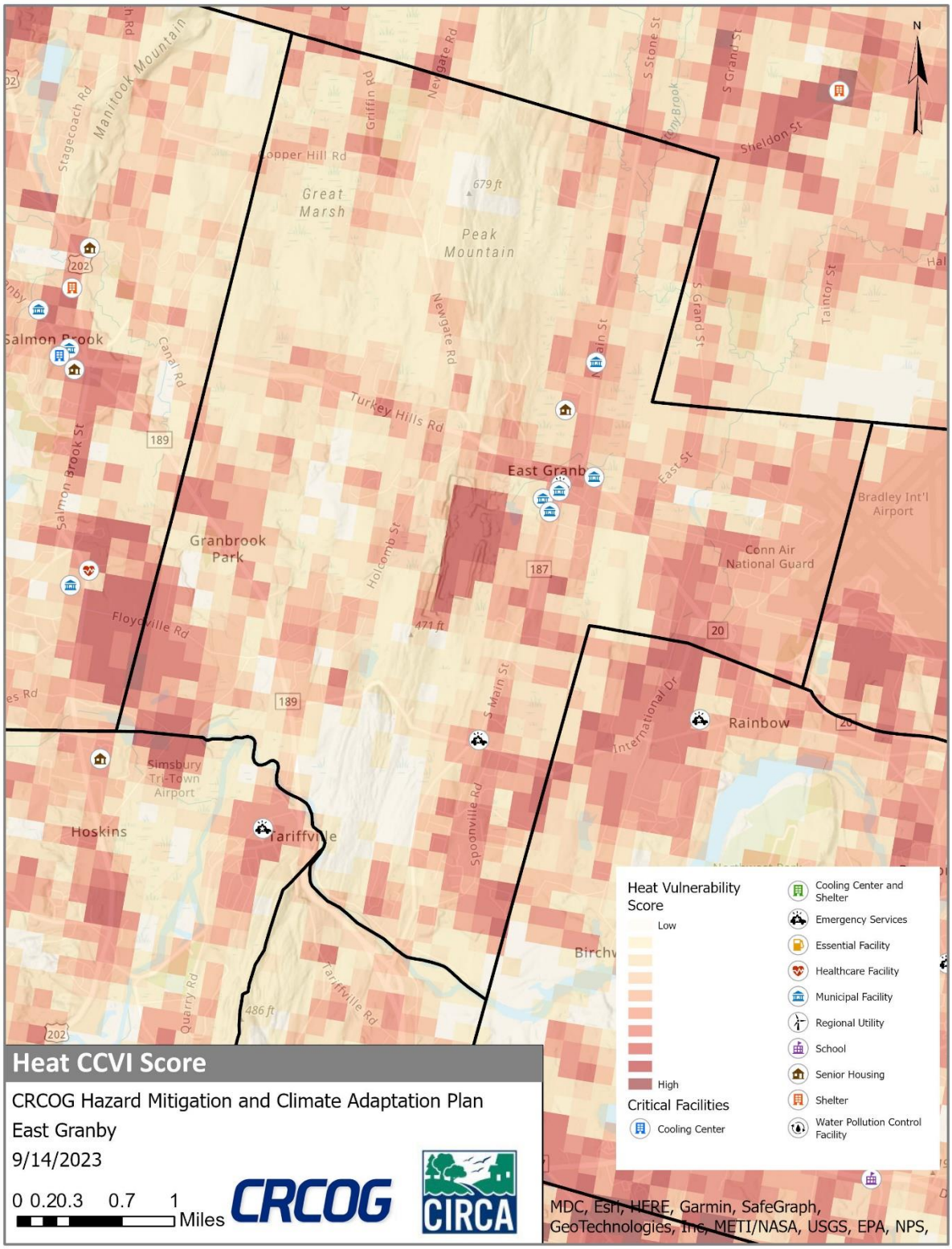


Figure 9-5: CIRCA Heat CCVI and Critical Facilities, East Granby



10 East Hartford

Community Overview

East Hartford is a suburban community of approximately 51,045 located east of the City of Hartford and west of the Town of Manchester. The Town covers slightly more than 18 square miles. East Hartford's land area drains primarily to the Connecticut and Hockanum Rivers. There are five (5) other primary waterways in Town: Burnham, Goodwin, Willow, Pewterpot, and Porter Brooks. Many regionally significant transportation routes traverse in East Hartford including Interstate 84 and 384, and Routes 2, 5, 15, and 44.

Principal industries include aerospace manufacturing and contractors, warehouse and distribution centers, as well as light industrial and retail businesses. Connecticut Natural Gas, among others, maintain critical infrastructure in Town. East Hartford is home to Pratt & Whitney Stadium at Rentschler Field (home of the University of Connecticut Huskies Football), Goodwin University, Coca Cola, and Cabela's retail store at Rentschler Field. Two large (1,000,000 SF) warehouses were recently constructed on Rentschler Field for Lowe's and Wayfair.

There is potential development in flood-prone areas within the Town, particularly at Silver Lane Plaza, which is expected to undergo redevelopment and partially coincides with a small section of the Willow Brook flood zones. However, while some redevelopment will occur in areas of flood risk, strict adherence to state and local flood regulations and the state building code will reduce overall risk.

Critical Facilities

In East Hartford critical facilities include the Emergency Coordination Center (ECC) at the Public Safety Complex on School Street, East Hartford High School (primary shelter), five fire houses, Raymond Library, the Community Cultural Center, the new Senior Center, and East Hartford Middle School.

Table 2-8: Critical Facilities, East Hartford

Facility	Shelter	Cooling Center	Generator
Emergency Coordination Center			X
High School	Primary		X
Five fire houses			X
Two Library		X	
Community Cultural Center			
New Senior Center			X
Middle School			
Public Safety Complex		X- Lobby	X
CNG Facility			
Town Hall			
Riverside Health			

During extreme heat events, Raymond Library and the lobby of the East Hartford Public Safety Complex are opened as public cooling centers. Only the Public Safety Complex has a generator; however, Raymond Library is equipped with a generator hook up, so in the event of an emergency, a unit could be connected to provide cooling. The Town reported that their building stock is low and dated and that the Town does not have any standing shelters/cooling center. The Town would like to do a study to find locations for additional, standing cooling centers and shelters.

Capabilities

Hazard mitigation is addressed specifically in East Hartford's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards.

Following historic flooding of the Connecticut River Valley in 1936 and 1938, the Army Corps of Engineers (USACE) designed and constructed a levee system in East Hartford to protect the Town from future catastrophic flooding. The Town has operated and maintained the levee system since its initial construction and recently has undertaken a multi-year $21 million system improvement program. These improvements have allowed the Town to obtain accreditation by FEMA and maintain active status on the USACE list of flood control systems. In 2022, the Town entered into an agreement with USACE which will provide a comprehensive study of the flood control system and proposed improvements under the Water Resources Development Act (WRDA). The final report, due in 2025, can be used to obtain Federal funding for the improvements, which will require congressional appropriation under WRDA.

East Hartford participates in the National Flood Insurance Program and carefully evaluates proposed development in hazard prone areas. Floodplain permits are reviewed and approved subject to the requirements of the adopted floodplain regulations.

The Brewer Street Reconstruction Project, currently under construction, will replace the Brewer Street bridge over Pewterpot Brook, providing a minimum of 1 foot clearance to the 100-year flood elevation of the brook (influenced by the water surface elevation in the Connecticut River). The Road Improvement Program will continue to focus on drainage and bridge improvements before roads are repaved. Currently, no specific capital improvements (such as bridge, culvert, or stormwater upgrades) are planned; this excludes the ongoing, multi-year capital improvement program for the flood control system.

The Town coordinates tree-trimming near power lines and power outage prevention and response with the local energy provider (Eversource). Coordination has been effective; Town personnel have noted that fewer outages are occurring than in the past. Removal of damaged trees and hangers after Storm Isaias in 2020 have limited outages throughout East Hartford, even when surrounding communities experienced outages.

Under the Direction of the Mayor, an effort is underway to expand the Town's GIS capacity and use. This can support Emergency Management needs of this community by providing a more robust GIS that can provide real-time tracking of debris, damaged structures, and infrastructure disruptions.

With limited exceptions (e.g. the eastern portion of Burnham Street & Sherwood Drive), firefighting water is available through the municipal water system throughout the Town.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

East Hartford reports that heavy rainfall in a short period can overwhelm their stormwater systems, particularly near the Hockanum River and mainly east of Scotland Road, which rises rapidly and caused flooding on Burnside Avenue (Route 44), Arbutus Street, Cummings Street, and in Labor Field.

The Porter Brook neighborhood and the Milbrook area near the Senior Center in the southwest corner face backwater flooding from the Connecticut River due to their low-lying locations. While the houses in this area are elevated, the roads are at a lower elevation, posing an isolation risk. This flood risk differs from the localized issues in other parts of Town related to culverts and similar factors. In 2020, a backflow prevention device was installed at the Porter Brook outfall of the Hollister Drive storm drainage system. This device should prevent flooding along Porter Brook and the Connecticut River from back flowing into the neighborhood. While brook/river levels are high, roads are still susceptible to flooding from rainfall events.

The Town possesses limited capacity for certain types of emergency responses, both in terms of training and equipment.

The Connecticut River has a flood protection system, however, residential neighborhoods north of the system, on the western side of Route 5, were constructed within the flood zone prior to the implementation of regulations and the Town has flooding concerns related to this area.

Heat-related issues in Downtown, along Burnside Avenue, Park Avenue, and the areas adjacent to the railroad tracks are of concern to the Town. These locations feature extensive pavement and limited tree coverage, with residents potentially lacking access to personal cooling measures.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact East Hartford. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each Town

in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50-year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 10-2: Average Annualized Losses, East Hartford

Hazard	Source	Average Annualize Losses (AAL)
Hurricanes/Tropical storms	NCEI	$131,176.90
	NRI	$1,718,757.63
	FEMA PA	$74,827.51
Tornados/High Winds	NCEI	$49,110.23
	NRI	$418,523.71
Winter Storms	NCEI	$38,904.08
	NRI	$28,678.87
	FEMA PA	$36,992.87
Flood	NCEI	$39,761.59
	NRI	$108,560.76
	NFIP	$10,976.29
Drought	NRI	$10,730.35
	USDA	$2,071.60
Extreme Heat	NRI	$58,099.11
Wildfire	NRI	$1,526.84
Earthquakes	NRI	$163,569.31
Dam Failure	HMP	$92.00

Other Hazard Costs

Town personnel estimate that a typical severe winter storm costs the Town about $30,000 in response and recovery.

Losses Summary

A review of the above loss estimates demonstrates that the Town of East Hartford 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- East Hartford should continue to look for funding to address the undersized stormwater system.
- East Hartford should persist in its efforts to achieve an equitable distribution of cooling resources, including cooling centers and expanded open spaces, with a specific focus on locations along bus lines to ensure that residents of all socioeconomic backgrounds have access to respite.
- East Hartford should consider increasing their emergency management budget to reflect the need for the Town's emergency response capabilities, focusing on both training and equipment. Prioritize the inclusion of portable cooling resources and equipment as crucial components in the list of requirements. Additionally, consider allocating resources for training and acquiring equipment for swift water rescue, particularly in scenarios where using a jetboat may not be practical.

Status of Previous Mitigation Strategies and Actions

The Town of East Hartford reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, East Hartford

No.	Action	Notes	Status
13	Complete a drainage study of Burnham Brook.	Town staff reported that this has not been completed. CIRCA Staff noted that the Town had completed a study of Willow Brook about five years ago, so these types of studies may have been discussed. Brian provided additional background. CIRCA Staff noted that the DEEP Climate Resilience Fund is a good example of current funding sources for studies like this. Additional discussion occurred. One neighborhood along the brook near University Drive has experienced flooding. The Town will be repaving some of the roads in this area plans to address drainage and flooding prior to repaving.	Carry forward.
20	Replace the McAuliffe Park culvert, repair the Porter/Main Street culvert, repair the Arbutus Street outfall.	Town staff reported that these are all drainage related, and were grouped together because all three areas experienced flood losses. McAuliffe Park culvert (Goodwin Brook) has not changed. Porter/Main Street culvert were cleaned and repaired years ago, but perhaps this needs to be redone because there is heavy siltation here. Arbutus Street has three outfalls, and this has not been done. Carry forward.	Carry forward
12	Initiate a vulnerability and adaptation study of critical facilities located within the flood zone protected by the Flood Control System; the purpose of this study would be to determine the need for and feasibility of floodproofing or relocating critical facilities that would be affected by flooding if the Flood Control System failed.	Town staff reported that this action came from the previous Director of Public Works. The PW building is located within the flood zone of the Hockanum River. The transfer station can get cut off due to flooding. The community cultural center and the Town hall would also be vulnerable if the flood protection system was breached. Carry forward with revisions to be more specific. Doug notes that there was previously some consideration of relocating the PW building, but this did not occur. The Town is currently considering using bond funding to upgrade the PW buildings. Doug suggests that upsizing the culvert and raising the road near the PW and transfer station would be useful for reducing the flood isolation risk. Pull this out as a separate action.	Carry forward with revisions.

No.	Action	Notes	Status
8	Review maps of flood risk associated with failure of the Flood Control System and determine needs for additional education or action.	Town staff reported that a review of the maps has been done, but the turnover in Town directors and decision-makers makes this an ongoing need.	Carry forward and note the reason why this needs to be ongoing or continued
15	Develop a list of specific upcoming actions as part of the multi-year Flood Control System modification and reconstruction project to and include in the next HMP update.	Town staff reported that there has been turnover in the team managing the Flood Control System. Doug is not aware of any specific action needs here. CIRCA Staff noted that needs associated with the Flood Control System may be included as a matter of course in the Capital Improvement Plan, so this action's intent is addressed through the CIP.	Intent of action has been accomplished / Retire
17	Monitor impacts on the Flood Control System and other flood control infrastructure of any CSO separation work in the Region.	Town staff reported that the Town does not have many combined sewers. This may have been a regional concern. This can be retired.	This is no longer a need / Retire
16	Develop a list individual drainage improvement projects from the CIP to include in the next HMP update.	Town staff said that the Town would like a design for Burnham Brook as stated in Action 13 above. Many of the other issues are small and localized and be can dealt with by the Town so the Town feels this action is no longer needed. There is also a low area on Daniels Street, but this could just be a pipe that needs to be located and repaired, so this does not need a separate action.	Intent has been met / Retire
1	Pursue accreditation of the Senior Center as an emergency shelter.	Town staff reported that this was considered, and the Town decided against it, as the facility was not built to the standard needed for accreditation.	Revise to incorporate the later discussion about sheltering/ cooling center needs in general
3	Complete a needs-assessment study to determine what would be needed in a new EOC facility, and to preliminarily identify existing facilities that could house that use.	Town staff reported that this should remain in case funding becomes available for a new EOC.	Carry forward
4	In conjunction with the East Hartford Board of Education Facilities Department acquire an emergency generator for the Middle School as a step towards making it a sustainable emergency shelter.	Town staff reported that that this was not yet explored and they would like to keep this.	Carry forward

No.	Action	Notes	Status
5	In conjunction with the East Hartford Board of Education Facilities Department acquire a true backup generator or improve the capabilities of the current cogeneration system at the East Hartford High School to improve its capabilities as a regional shelter.	Town staff reported that this was completed.	Complete / Retire
11	Have the Town's Community Emergency Response Team run public education and training forums on personal emergency planning at least once annually.	Town staff reported that the Town explored this, but the CERT is unable to meet this obligation at this time. Town staff is comfortable removing this.	No longer a need / Retire
7	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.	Town staff report that this is a capability: the Town maps all of the catchment areas, and any new developments have disconnected impervious areas. This is a capability.	Capability / Retire
10	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Town staff said this has not been done. This action will likely be removed from most CRCOG Town annexes in favor of CIRCA developing this list.	Remove?
14	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	This action needs to remain per FEMA requirements. Town staff said they are not aware of working with any RL property owners.	Carry forward
18	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	This action needs to remain per FEMA requirements.	Carry forward
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they are comfortable removing this action, although they do note that they need to identify who the floodplain manager is. The Town staff do some education related to their flood management plan actions.	Capability / Retire
6	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.	Town staff said they would like to keep this action.	Revise to include watching the online self-paced DEEP training

No.	Action	Notes	Status
19	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff reported that the Town has not done any historic resource surveys in the last five years, but in the 1980s there were extensive surveys done. Eileen notes that historic resources are still a concern for the Town.	Carry forward, with revisions to include the new SHPO layer.
2	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	Town staff notes that discussion around this possibility has been helpful for the Town and would like to keep this action.	Carry forward

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.

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
EH1	Complete a needs-assessment study to determine what would be needed in a new ECC facility, and to preliminarily identify existing facilities that could house that use.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	FEMA HMA	07/2025 - 06/2026	Medium	All Hazards	Yes - Distressed Municipality	18	4	72
EH2	In conjunction with the East Hartford Board of Education Facilities Department acquire an emergency generator for the Middle School as a step towards making it a sustainable emergency shelter.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2024 - 06/2025	High	All Hazards	Yes - Distressed Municipality	19	5	95
EH3	Conduct a study for the types of accommodations needed for shelters and cooling centers, and determine where they could be located.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	FEMA HMA	07/2024 - 06/2025	High	All Hazards	Yes - Distressed Municipality	19	5	95
EH4	Pursue generators for critical facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Mayor's Office/Town Council	$100,000 - $500,000	FEMA HMA	07/2025 - 06/2026	High	All Hazards	Yes - Distressed Municipality	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
EH5	Increase the Town's capacity for emergency response, both in terms of training and equipment including portable cooling resources.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Health and Human Services/Mayor's Office'	$100,000 - $500,000	FEMA HMA	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	5	95
EH6	Initiate a vulnerability and adaptation study of the PW buildings, the Town hall, the transfer station and the Community Cultural Center which located within/near the flood zone partially protected by the flood control system; the purpose of this study would be to determine the need for and feasibility of floodproofing or relocating critical facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Works / Emergency Management	$100,000 - $500,000	DCRF; FEMA HMA	7/2026 - 6/2027	High	Tidal Connecticut River Flooding	Yes - Distressed Municipality	19	7	133
EH7	Identify that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management / Development Department	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	3	57
EH8	Obtain equipment to facilitate SWIFT water rescues.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Fire Department	$100,000 - $500,000	DEMHS and other Preparedness Grants		Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
EH9	Obtain equipment that can be used in different locations to facilitate cooling center operations.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Public Health and Social Services	$100,000 - $500,000	DEMHS and other Preparedness Grants	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	4	76
EH10	Complete a drainage study of Burnham Brook.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; Municipal CIP Budget	07/2025 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	6	120
EH11	Replace the McAuliffe Park culvert, repair the Porter/Main Street culvert, repair the Arbutus Street outfall.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	IIJA AOP; FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
EH12	Consider upsizing the culvert and raising the road near the PW and transfer station to reduce the flood risk.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114
EH13	Review maps of flood risk associated with failure of the Flood Control System and determine needs for additional education or action so new Town directors and decision-makers are informed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Development / Planning	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Tidal Connecticut River Flooding	Yes - Distressed Municipality	19	8	152
EH14	Conduct a Town wide assessment of stream	Reduce flood and erosion risks by	Structural Project	Public Works	10,000 - $50,000	DCRF; Municipal	07/2025 - 06/2027	Medium	Riverine and Pluvial	Yes - Distre	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.				CIP Budget			Floods/Tidal Connecticut River Flooding	ssed Municipality			
EH15	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	Yes - Distressed Municipality	19	5	95
EH16	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Development / Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	7	140
EH17	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Development / Planning	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	5	100

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
EH18	Identify a Floodplain Manager	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Emergency Management /Development/Planning/Public Works	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods/Tidal Connecticut River Flooding	Yes - Distressed Municipality	18	7	126
EH19	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management /Development/Planning/Public Works	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods/Tidal Connecticut River Flooding	Yes - Distressed Municipality	18	7	126
EH20	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	More than one goal.	More than one type	Development / Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	Yes - Distressed Municipality	19	9	171
EH21	Update Town website to include hazard mitigation and emergency preparedness tips for Town residents, including sections corresponding to each	More than one goal.	Education and Awareness	Town wide/Mayor's Office	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Yes - Distressed Municipality	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	hazard considered in this Plan Update.												
EH22	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	Reduce losses from other hazards.	Natural Resources Protection	Development /Planning/Public Works	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Low	All Hazards	Yes - Distressed Municipality	19	7	133

Figure 10-7: CIRCA Environmental Justice Rank and Critical Facilities, East Hartford

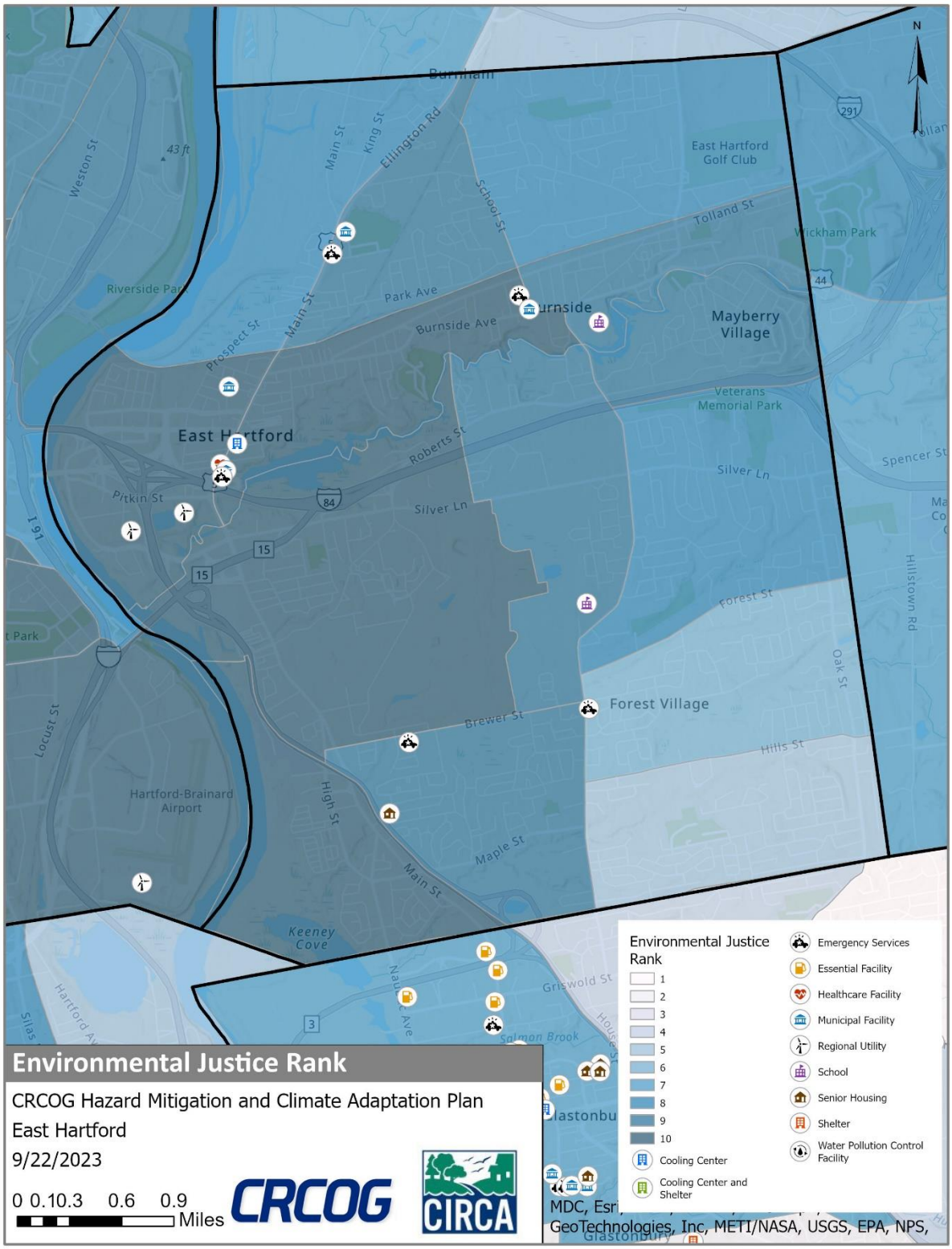
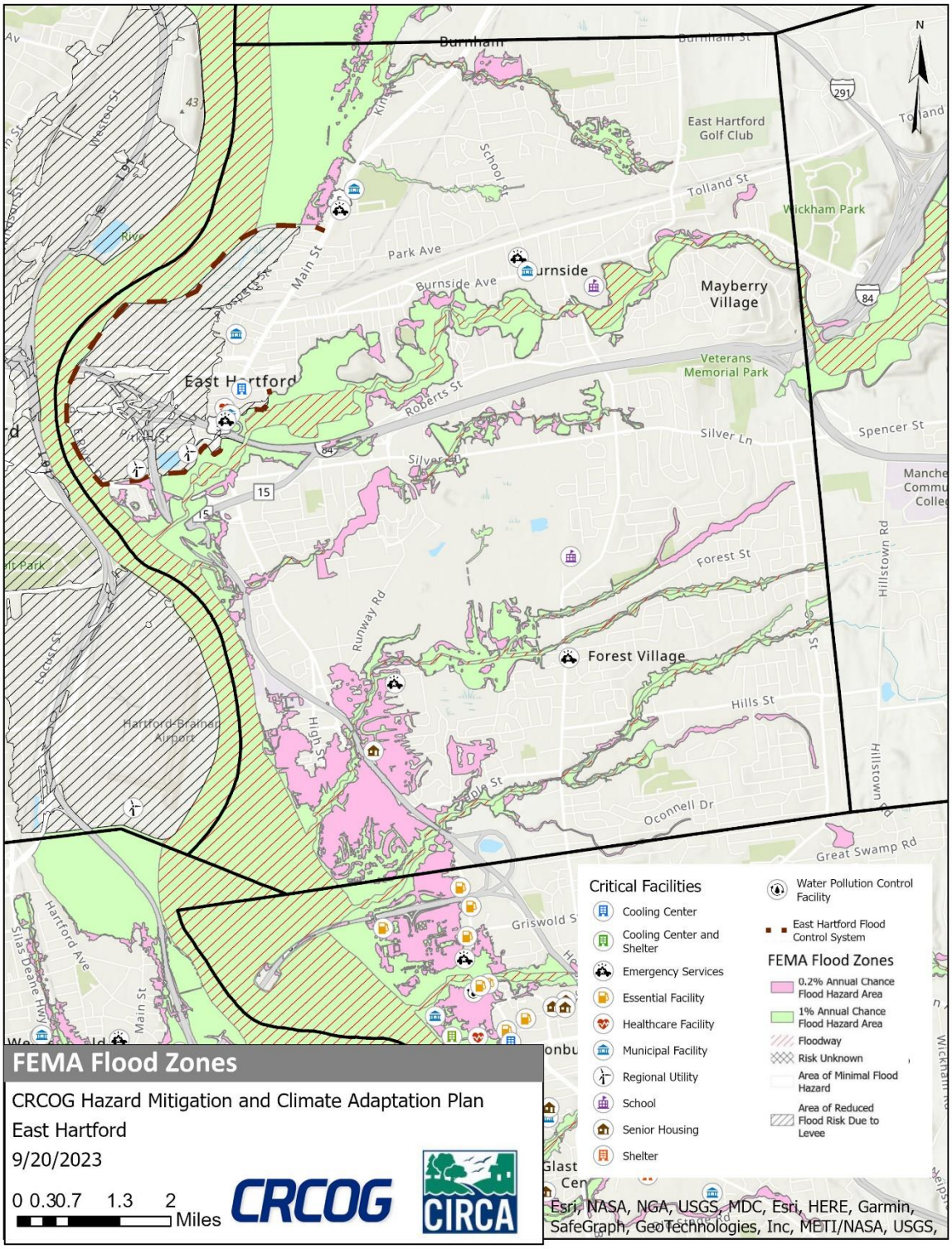


Figure 10-2: FEMA Flood Zones and Critical Facilities, East Hartford



*Town staff report that the "Area of Reduced Flood Risk due to Levee" should extend further than the FEMA Shapefile shows to inlude the Community Cultural Center.

Figure 10-3: CIRCA Flood CCVI and Critical Facilities, East Hartford

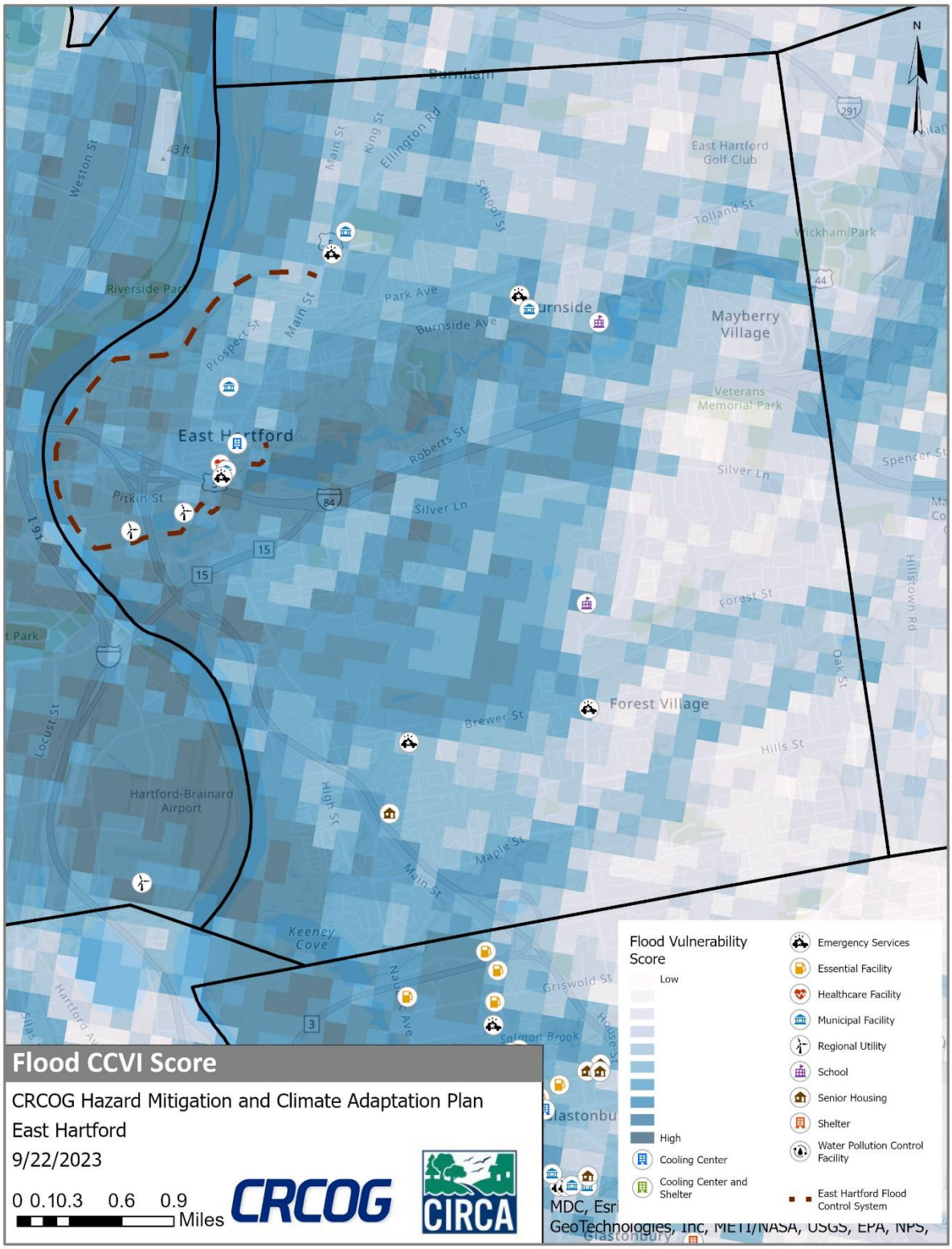


Figure 10-4: Dam Inundation Area and Critical Facilities, East Hartford

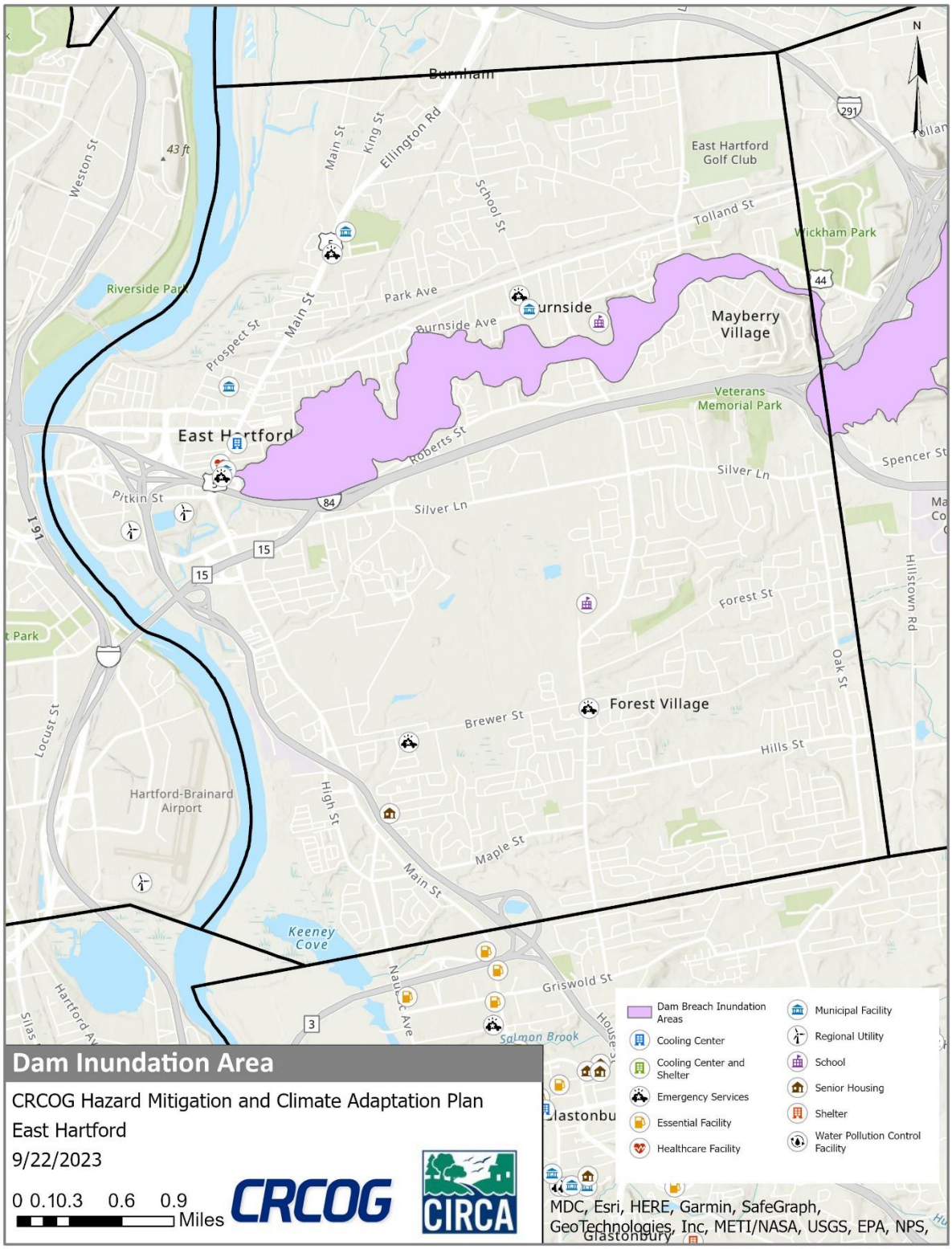
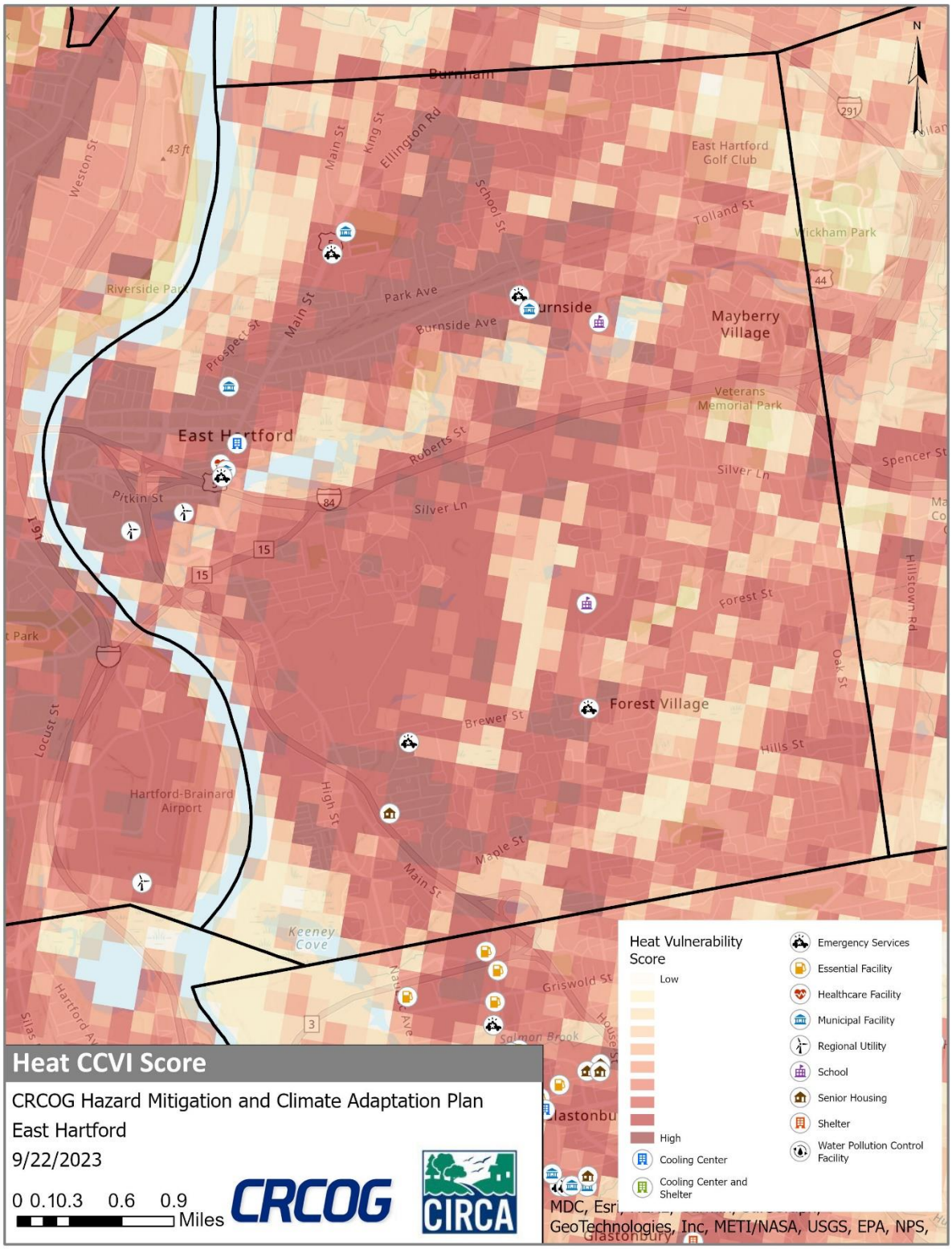


Figure 10-5: CIRCA Heat CCVI and Critical Facilities, East Hartford



11 East Windsor

Community Overview

East Windsor has about 11,190 residents. The Town's land area is 26.3 square miles, giving it a population density of approximately 412 persons per square mile. Approximately 60% of residents are concentrated in Warehouse Point in the northwest section of Town and 40% are located in the Broad Brook area in the eastern-central section of town. Town officials report that the resident population is increasing, mostly with people employed in either Hartford or Springfield.

On the east side of the Connecticut River, the town lies at an elevation of about 160 feet. The eastern portion of town is within the Scantic River Watershed, while the western portion lies in the Connecticut Main Stem basin. Major waterways in East Windsor include the Connecticut and Scantic Rivers, along with tributaries including Broad, Chestnut, Ketch, Namerick and Spring Glen Brooks.

Interstate 91 crosses the northwest corner of East Windsor. State Route 5 is a major north-south thoroughfare, while State Routes 140 and 191 provide east-west access. Principal industries include: agriculture, support system facilities, and manufacture of small tools, paper boxes, electronics, aluminum by-products, farm implements and fertilizers. The largest employers in Town are Southern Auto Auction, Walmart, Kettlebrook Care and the companies at the Industrial Park.

About 33% of the Town is developed, with most of the remaining area used for farming. In the last five years, recent developments include the pending opening of Watermill Landing, a 122 unit assisted living 55+ apartment building, and the construction of a new warehouse which is outside the flood zone on Rt 5. East Windsor has ceased considering any plans for casino-related development. Development/redevelopment is not increasing risk to natural hazards in East Windsor.

Critical Facilities

In East Windsor critical facilities include the High School, Middle School, Elementary School, Town Hall, three Fire Stations, Police Department, East Windsor Ambulance Association, Hunt Water Treatment Plant, 10 sewer pumping stations, Department of Public Works (DPW) Garage, the Senior Center, Kettle Brook care Center, Touchpoints at Chestnut, St. Johns Church, and Water Pollution Control Authority (WPCA). These are summarized in the table below.

Table 2-9: Critical Facilities, East Windsor

Facility	Shelter	Cooling Center	Generator
Town Hall		X	X
Town Hall Annex		X	X
Warehouse Point Fire Dept. Station 138			X
Warehouse Point Fire Dept. Station 238			X
Broad Brook Fire Department			X
East Windsor Police Department - Emergency Operations Center - Emergency Management - Human Services - Ambulance			X
East Windsor High School	X		
East Windsor Middle School	X		
East Windsor Elementary School			
DPW Garage			X
Water Pollution Control Authority Facility			X
10 Sewer Pumping Stations			X
Hunt Water Treatment Plant			
2 DPS/DPW Communication Towers			X
Kettle Brook Care Center, LLC			
Albert J. Solnit Psychiatric Center North Campus			
Touchpoints at Chestnut			
Senior Center (Broad Brook Fire Dept. Floor 2)	Warming		X
St John's Church	Warming		
1 Eversource Area Work Center			

During extreme heat events, East Windsor Town Hall and East Windsor Town Hall Annex can both be opened as public cooling centers. Both facilities have generators and can be opened on Sundays / evenings if needed.

Shelters are a major concern of the town. The High School is the main shelter, but it does not have a generator. The high school is comprised of multiple buildings connected, with some electrical issues. The town has not yet been able to get a generator for the high school, because this will require an electrical study and likely an electrical upgrade.

The Middle School is quite a distance away from the High School, and both facilities can be used as shelters. This is intentional so that if there is a power outage on one side of town, the other may still be used as a shelter.

In addition to the critical facilities listed above, East Windsor has a number of historic sites and areas that contribute to community character and the local economy and may be particularly vulnerable to the effects of natural disaster. These include:

- Windsorville historic district
- Old Box Company (a locally-designated historic site)

- Broadbrook Opera House
- East Windsor Academy
- Melrose School

Capabilities

East Windsor's hazard mitigation capabilities include its emergency response capabilities, regulation of flood risk areas, debris clearing, and snow management. Hazard mitigation is incorporated into the community's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

Since 2008, no new structures have been approved in the special flood hazard zone and a residential structure in the floodplain on North Water Street was recently removed through a demolition order.

Trees near powerlines are managed by the local energy provider (Eversource). The Town clears roads of debris but and has the equipment to remove large trees, not involved with power lines.

East Windsor uses snow fencing to manage snow drifting. The Town feels they do an excellent job of snow management.

Four of the Town's ten sewer pumping stations were upgraded during 2016 and 2017; work included upgrading the station emergency generators. Upgrades were completed at the following stations:

- Mill Pond Pump Station (Originally installed in 1977)
- Route 5 (South Main Street) Pump Station (Originally installed in 1981)
- Industrial Park Pump Station (Originally installed in 1976)
- Scout Hall Pump Station (Built in 2000, no generator until this upgrade)

East Windsor is working toward making the High School the Town's primary shelter, with the Middle School transitioning to a secondary shelter. A 100KW portable generator has been purchased, but neither the Middle nor the High School have had hookups installed at this point.

Since the 2019 HMP, not new actions have been incorporated as capabilities. Capabilities to address natural hazards and the losses that they have caused, have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is a concern for East Windsor. The following areas have been identified as particularly prone to flooding:

- South Water Street and Bridge Street: homes here have flooded in the past; storm drains back up
- Culvert crossing on Spring Street, a second culvert crossing on Holcomb Terrace, undersized culverts on Route 510 and Main Street/Warehouse Points.
- Private driveways that cross the stream are a concern within the town

Shelter capacity is a concern for the Town.

The town is concerned with a washout in a farm field near the Winkler and Wells intersection, which has reportedly resulted in the formation of a cavern on private property.

The town has concerns related to potential tidal influence and occasional surcharging of stormwater systems from the Connecticut River. This issue is likely exacerbated by snowmelt from the north when the river is at high levels, causing water to back up in the stormwater systems. The town is uncertain about what further actions can be taken to address this issue, as such surcharging primarily happens under extreme conditions.

Inclement weather, specifically heavy rain, has emerged as a concern for the local tobacco farm. Over the past year, a substantial rain event occurred immediately after crop harvesting, leaving the fields exposed and vulnerable. This resulted in significant mud runoff from the fields, leading to dissatisfaction among nearby residents.

The recurring issue of springtime flooding at the WPCF is a notable concern, primarily attributed to the combined effects of snowmelt and rainfall. While the plant's inner workings have not been affected, there have been instances of stormwater surcharging around the plant buildings. It is of note that the WPCF and East Windsor operate independently.

The town notes that there are several driveways between Warehouse Point that have undersized culverts that obstruct the flow that are of concern.

East Windsor noted concerns about a house situated near the Scantic River, which is at risk of flooding, even though it hasn't experienced flooding thus far.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact East Windsor. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 11-2: Average Annualized Losses, East Windsor

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$28,756.38
	NRI	$596,267.54
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$10,765.86
	NRI	$129,198.70
Winter Storms	NCEI	$8,528.49
	NRI	$7,440.68
	FEMA PA	$4,121.66
Flood	NCEI	$8,716.47
	NRI	$27,953.88
	NFIP	$5,630.03
Drought	NRI	$467,505.62
	USDA	$122,877.93
Extreme Heat	NRI	$13,693.65
Wildfire	NRI	$570.04
Earthquakes	NRI	$46,244.15
Dam Failure	HMP	$20.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of East Windsor 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

East Windsor should continue to pursue an electrical upgrade and a new generator for the high school to increase the town's sheltering capacity.

The Town may wish to pursue upsizing of the culverts that under preforming.

The town should continue to work with homeowners and consider buyouts of property on the west side of South Water Street to avoid repetitive flooding in the area.

The town of East Windsor and the WPCF should continue to communicate and work together to address flooding that occurs at the facility if needed.

To mitigate the impact of heavy rain on the local tobacco farm, improved drainage and field management strategies should be considered by the town.

Status of Previous Mitigation Strategies and Actions

The Town of East Windsor reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, East Windsor

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	East Windsor has entered the program but has not yet pursued any certifications. The town is assessing things in-house first. Ruthanne suggested checking back on this question.	Completed /retire
2	Assign maintenance of special needs population list to specific department to ensure annual updates.	Roger Hart - This has been done but "could use a little work." Consider removing this action but keep a note saying that this list should be kept updated.	Intent is Complete/ retire
3	Hire an electrical engineer to wire the High School for a permanent generator.	Roger Hart - This has not yet happened. This need is an important step in making the High School a shelter as noted later.	Carry Forward
4	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.	The state program related to this is complete and materials are available on the DEEP website. This can likely be removed, but Ruthanne will check to see what previously happened on this.	Completed /remove
5	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.	Len Norton - East Windsor is an MS4 town and is compliant with annual reporting. There are still items in the program that the town has not had the funds or ability to complete, but the town does report every year what has been completed and what still needs to be done. CIRCA Staff notes that if there are specific infrastructure projects that remain to be done, we should make them their own actions.	Intent is complete/ retire.
6	Increase use of social media to communicate with the community on planning for emergencies.	This is a capability and can be removed. Roger Hart said the town is doing this.	Complete/ retire
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	It's unclear who the floodplain manager is for East Windsor; Ruthanne hasn't been told this is part of her responsibility but there are floodplain regulations in the zoning regulations. Consider keeping this action or revising.	Carry Forward with Revisions
8	Improve ability of emergency responders to prepare and respond to wind events through training drills.	Roger Hart says East Windsor participates in the state's annual hurricane drill. This can likely be Completed as a capability.	Completed /retire

No.	Action	Notes	Status
9	Conduct an outreach program to recruit volunteers to staff emergency shelters.	Roger Hart - There was previously a good roster of volunteers but this group no longer exists due to people moving and/or retiring.	Carry Forward
10	Replace the emergency generator at the WPCA	Town staff is unsure whether or not this has been done – check back.	Carry Forward
11	Develop an Open Space Plan to guide acquisition, preservation, and efforts to incentivize redevelopment and infill over development of new land. Consider hazard mitigation is in plan development.	Ruthanne - A separate Open Space Plan has not been developed. Open space is addressed in the POCD and the town has an Open Space Fund. This action can likely be removed because the town is handling open space through the POCD and Fund.	Intent is complete/ retire
12	Implement the recommendations of the study of the dam on Main Street near Depot Street intersection.	Len Norton - The dam has been updated through a major reconstruction. Specifically, the town modified the dam and broadened the spillway about 4 years ago, increasing spillway capacity.. This is a mitigation success story.	Complete/ retire
13	Implement recommendations of NRCS, including installation of a detention basin in Rockville Road/East Road area to reduce road closures and washouts.	Len Norton - This is still needed. There's a culvert under the road and during severe rain events (4 inches in an hour, etc.), the area upstream has a tendency to erode and bring debris downstream, which clogs the culvert, which causes water to run down Rockville Road and East Road. The town has been looking into the possibility of doing a project here, but this would require easements or property acquisition. Design is still needed. This action should be reframed to advance the concept design to position this project better for funding.	Carry Forward with revision
14	Increase the public works staff and equipment availability.	Len Norton - During the past year the town has obtained a new loader and a new backhoe. Compared to five years ago, the town has more staff and more equipment. This action can be removed, as it has largely been completed.	Complete/ retire
15	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Replace this action with one that says to use the new SHPO layer to understand where vulnerabilities are. The town has 4-5 registered historic structures but no historic district.	Carry forward with Revisions

No.	Action	Notes	Status
16	Install a hookup at the Middle School to allow a portable emergency generator to be connected.	Roger Hart - This has not been completed. CIRCA Staff explained that FEMA funds fixed-in-place generators but not portable generators, and suggested a modification. This action can be changed to focus on getting a generator for the Middle School, not necessarily a portable generator.	Carry Forward with Revisions
17	Conduct a study to identify appropriate flood control measures and monitoring regimes for the WPCA and surrounding area, including Blue Ditch.	Len Norton - There was a Blue Ditch study, which means the intent of this action has been completed. There are issues both upstream and downstream by the wastewater treatment facility. It's very flat in the downstream areas, with nearby ballfields also flooding. Upstream there are two road crossings which need to be improved (these are closer to route 140). The town knows what needs to be done here, but doesn't have the funds to do it. CIRCA Staff suggests replacing this action because the study has already been done, and instead articulating a few specific actions. Len specified the following: Culvert crossing on Spring Street, a second culvert crossing Holcomb Terrace, undersized culverts on Route 510 and Main Street / Warehouse Points, and a single action that mentions private driveways that cross the stream (in case future funding sources can be used for driveway crossings).	Intent is completed /retire
18	Work with property owners, contractors and the DEEP to regularly remove beaver dams causing flooding on East Road and elsewhere.	Len Norton - The town replaced the East Road culvert with a double culvert to deter beavers, which seems to be working so far.	Completed /retire
19	Buyout property on the west side of South Water Street to avoid repetitive flooding in the area.	Len Norton - The town staff thinks that the property on the west side of South Water Street that floods is owned by the town. There may be one other house on the west side closer to Bridge Street, but town staff aren't sure. The town has not yet pursued any funds to purchase any properties. Keep this action.	Carry Forward

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.

Table 2-4: Active Mitigation Strategies and Actions, East Windsor

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EW1	Hire an electrical engineer to complete an electrical upgrade and wire the High School for a permanent generator.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2025 - 06/2026	High	All Hazards	Benefits an EJ tract	19	5	95
EW2	Conduct an outreach program to recruit volunteers to staff emergency shelters.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Medium	All Hazards	Benefits an EJ tract	18	7	126
EW3	Replace the emergency generator at the WPCA	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
EW4	Acquire a generator for the Middle School.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
EW5	Ensure that transportation and transit options are available to bring	Address risks associated with extreme heat events, especially as they	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	people to cooling centers.	interact with other hazards.											
EW6	Advance the concept design of a detention basin in Rockville Road/East Road area to reduce road closures and washouts to position this project better for funding.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	6	108
EW7	Buyout property on the west side of South Water Street to avoid repetitive flooding in the area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning and Development	>$1M	DEEP Open Space Grants; FEMA HMA; STEAP	07/2025 - 06/2029	High	Riverine and Pluvial Floods	Yes - EJ Tract	20	4	80
EW8	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
EW9	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Property Protection	Planning and Development	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and	Benefits an EJ tract	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	hazard risks found here: https://conncris.ct.gov.	increases frequency and severity of floods.							Pluvial Floods				
EW10	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	Serves an EJ tract	20	4	80
EW11	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat/Tidal Connecticut River Flooding	Benefits an EJ tract	19	5	95
EW12	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	Benefits an EJ tract	19	6	114
EW13	Update town website to include hazard mitigation and emergency preparedness tips for town residents,	More than one goal.	Education and Awareness	Planning and Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	including sections corresponding to each hazard considered in this Plan Update.												
EW14	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning and Development	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods /Drought	Benefits an EJ tract	20	10	200

Figure 11-8: CIRCA Environmental Justice Rank and Critical Facilities, East Windsor

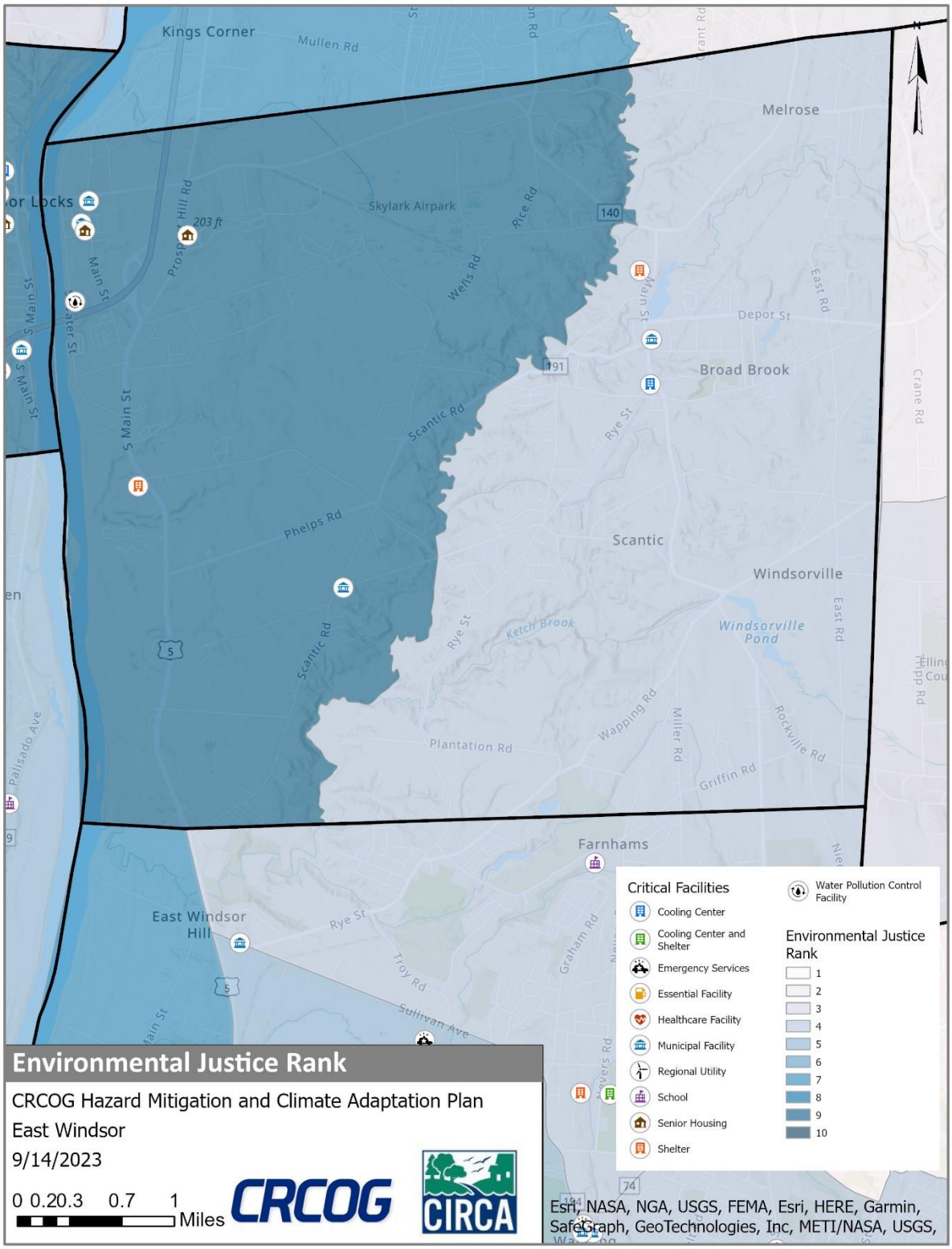


Figure 11-2: FEMA Flood Zones and Critical Facilities, East Windsor

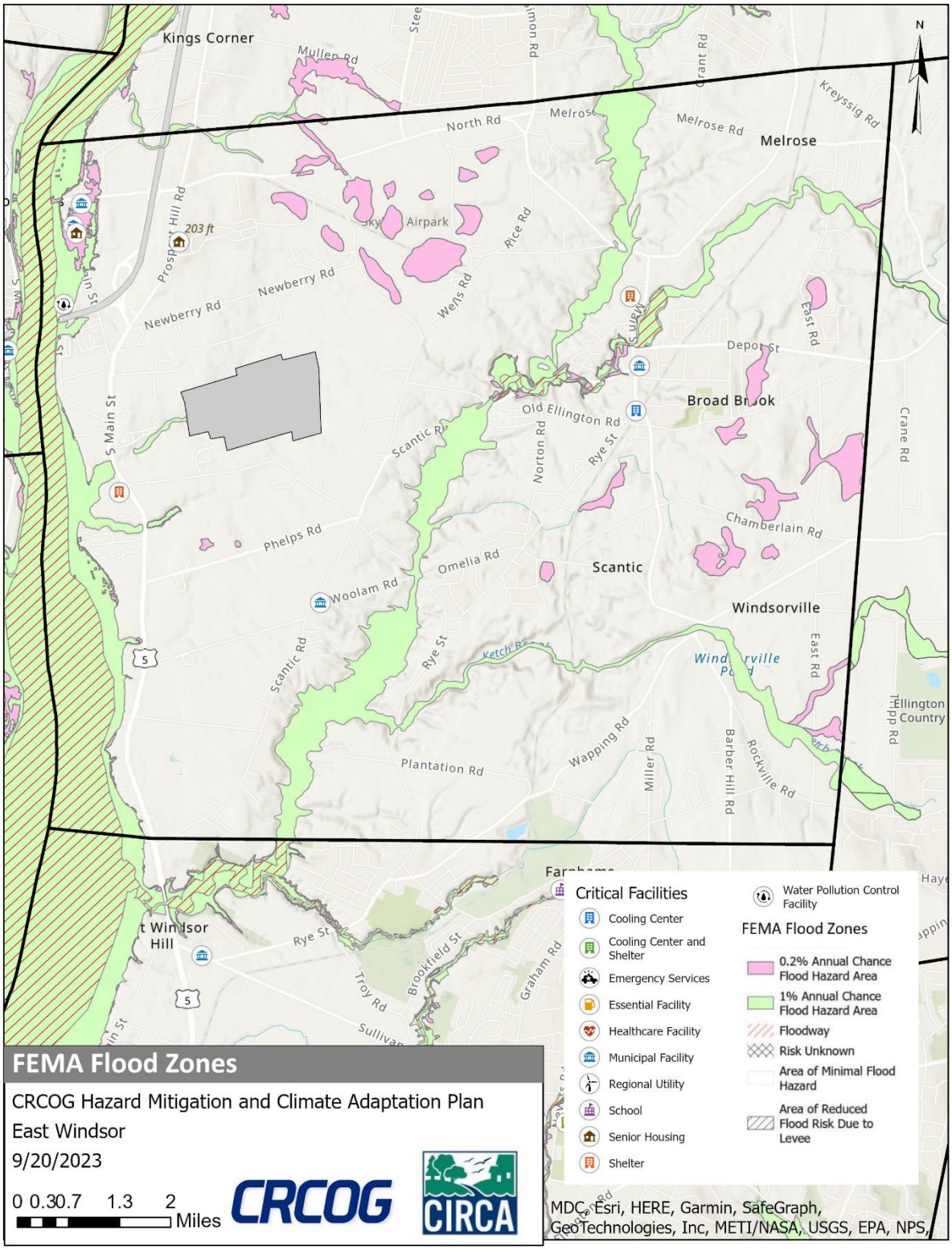


Figure 11-3: CIRCA Flood CCVI and Critical Facilities, East Windsor

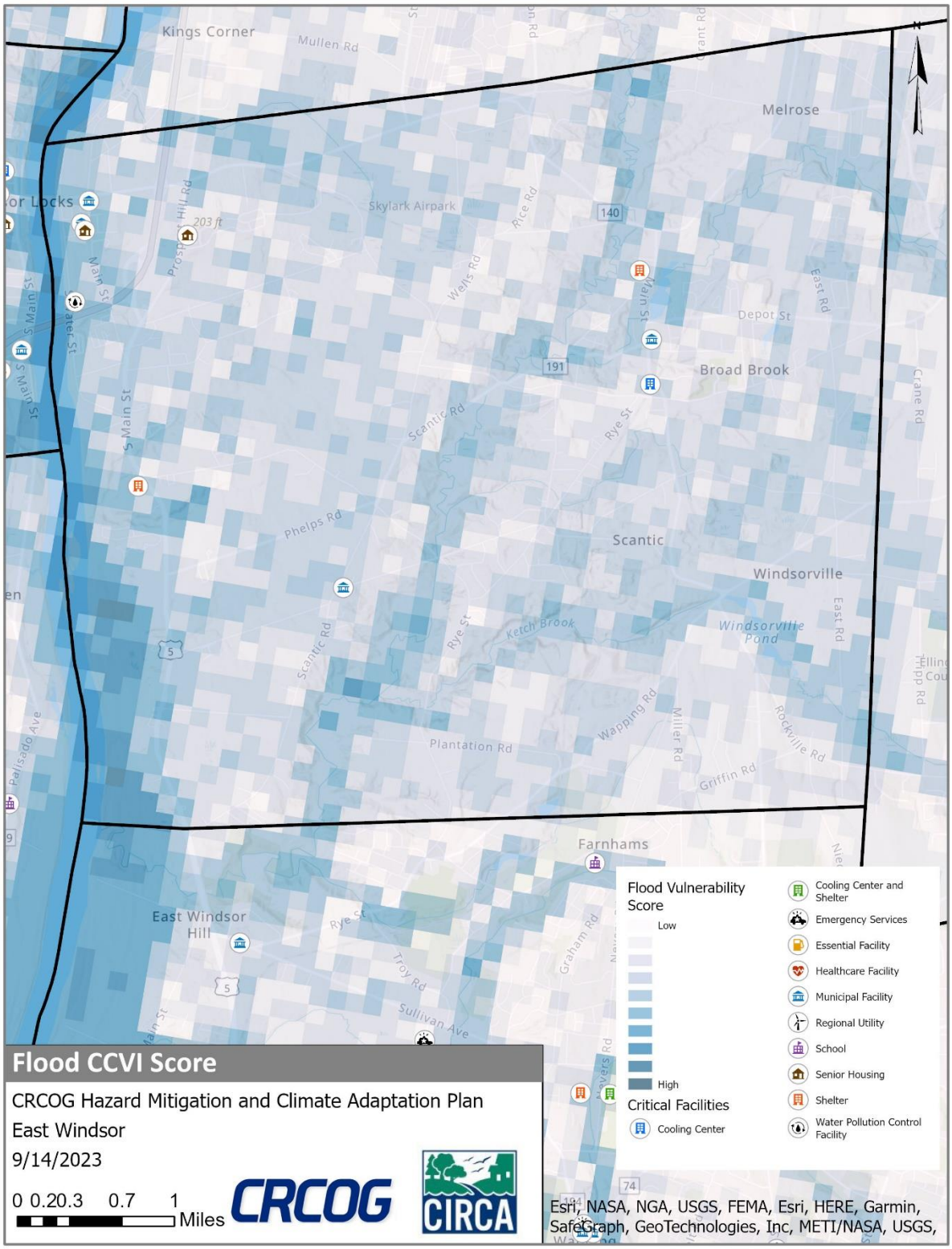
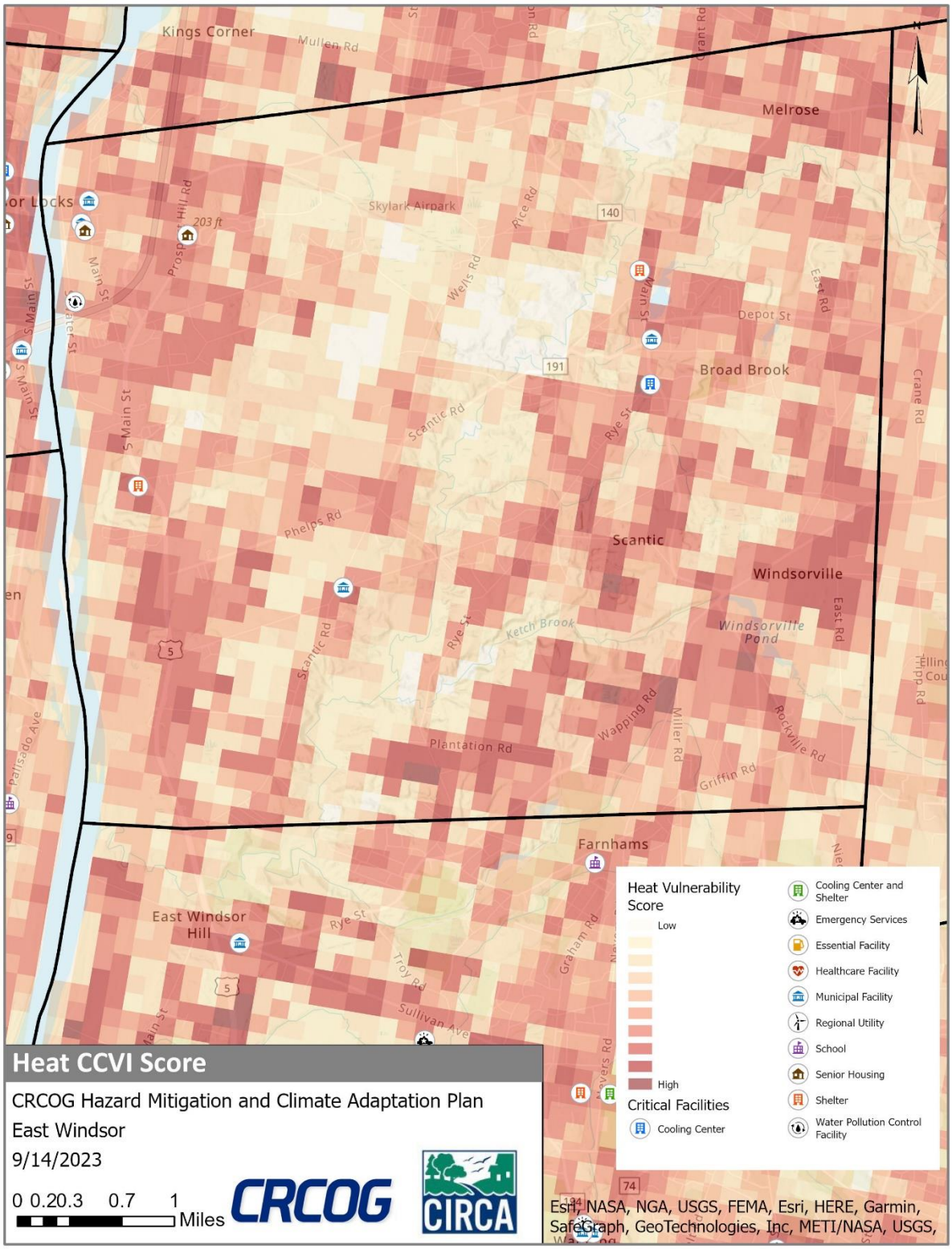


Figure 11-4: CIRCA Heat CCVI and Critical Facilities, East Windsor



12 Ellington

Community Overview

Ellington is a growing community that covers 34 square miles with a population of approximately 16,426. Ellington lies between 100 and 800 feet above sea level and is part of three watersheds, the Scantic to the west, the Hockanum in the middle, and the Willimantic to the east. Principal watercourses that run through Ellington include Broad, Charters, Creamery, Kimball's, Marsh, Martins and Muddy Brooks. With over 5,000 acres under cultivation, Ellington remains one of the largest agricultural production towns in Connecticut. Major thoroughfares in Ellington include north-south state route 83 and east-west state route 140. The eastern highlands ridgeline runs through the central part of town. This area contains extensive areas of upland forest including more than 1,200 acres of the Shenipsit State Forest.

Critical Facilities

In Ellington critical facilities include the High School, Middle School, Windermere School, Crystal Lake Elementary School, Center School, Town Hall, Public Works Department (DPW), Fire Station 43, Resident State Trooper Office, Library, a sewer pump station, senior center, Ambulance building/EOC, and Old Crystal Lake Schoolhouse.

Most critical municipal facilities are located within a two-mile radius in the Town's center. Critical facilities are summarized in the Table below.

Table 2-10: Critical Facilities, Ellington

Facility	Shelter	Cooling Center	Generator
Town Hall			X
Public Works Department			X
Board of Education Facilities			X
Fire Station 43			X
Resident State Trooper Office			X
High School	X		X
Middle School	Backup		X
Windermere School			X
Crystal Lake Elementary School	Backup	X	X
Hall Memorial Library		X	X
Seven (7) Sewer Pumping Station			X
Senior Center		X	X
Ambulance Building/EOC			X
Old Crystal Lake Schoolhouse			

During extreme heat events, Crystal Lake Elementary School, Hall Memorial Library and Ellington Senior Center can all be opened as public cooling centers. All facilities have generators and Crystal Lake Elementary School is also used as a shelter.

The town has added a back-up shelter at Crystal Lake School so the neighborhood can access this facility even if they lose access to the center of town.

All seven sewer pump stations have generators, but two, Ketchbrook & Ellington High School, are in need of replacement. The DPW sewer pump station has a manual switch. It would be helpful to convert this to an automatic switch. This generator also powers the DPW complex and may require upgrades.

The Ambulance building also serves as the EOC and has a generator that should be assessed for possibly needing upgrades.

The old Crystal Lake Schoolhouse needs a generator to help keep temperatures from freezing inside the building.

Capabilities

Hazard mitigation is incorporated, to some degree, into Ellington's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

No new construction or demolition has occurred since 2008 in floodplains or other vulnerable areas. No changes have been made to zoning, floodplain or inland wetlands regulations since 2008 which would increase or decrease Ellington's vulnerability to natural hazards.

DPW staff are staged at the Crystal Lake Fire Department prior to forecast storm events to assist with response and recovery when that area becomes isolated from the rest of Town. Mutual aid agreements are in place with Vernon and Tolland to assist in that area.

A small portion of Ellington is served by public water, and a dry-hydrant program ensures firefighting water is available for other areas of Town. The Town Fire Marshal works with the CT Water Company to have hydrants installed when new water lines are added.

Tree maintenance is primarily addressed by the local utility company Eversource. The Town budgets $40,000 annually for tree-removal, on a case-by-case basis, on Town-owned property only. Costs are often shared with Eversource on "pop-up" and scheduled tree removals.

The Route 74 Bridge over the Hockanum River has undergone major improvements since adoption of the 2014 HMP. The bridge was built in 1983. A small culvert was being replaced at the time of development of the current Hazard Mitigation Plan.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Ellington it will cover, is unknown.

The Town is currently working to implement Low-Impact-Development regulations as part of its efforts to meet new MS4 requirements.

Since the 2019 HMP, no new actions have been incorporated as capabilities. Capabilities to address natural hazards and the losses that they have caused have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is the primary climate-related concern in Ellington, with some areas warranting close evaluation. Notably, stream crossings at Abbott and Middle Road seem undersized, leading to road flooding during heavy rain events. Additionally, the section of Jobs Hill Road between Tomoka Ave and Muddy Brook Rd is susceptible to flooding, mainly due to a lack of adequate drainage infrastructure in this area. In addition, town staff report that all the dirt roads are vulnerable to flash flooding and washouts. Ludwig Road and Ellington Avenue have had washouts over the past five years.

Access to Crystal Lake remains a concern for the town, despite the progress reported over the past five years.

The town noted drainage concerns from a local farmer near Windsorville and Abbott. A stormwater drain empties into one of his fields causing some erosion.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Ellington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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

Table 12-2: Average Annualized Losses, Ellington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$42,212.00
	NRI	$1,016,030.27
	FEMA PA	$9,826.36
Tornados/High Winds	NCEI	$15,803.40
	NRI	$161,678.98
Winter Storms	NCEI	$12,519.12
	NRI	$79,777.53

Hazard	Source	Average Annualized Losses (AAL)
	FEMA PA	$14,430.87
Flood	NCEI	$12,795.06
	NRI	$23,121.23
	NFIP	$617.36
Drought	NRI	$368,312.65
	USDA	$36,229.84
Extreme Heat	NRI	$3,286.43
Wildfire	NRI	$1,218.10
Earthquakes	NRI	$22,736.40
Dam Failure	HMP	$959.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Ellington 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should consider doing a town-wide assessment of their stream crossings and evaluate/prioritize the areas that flood.
- The Town may wish to pursue replacement/upsizing of many of their culverts or drainage systems that are under preforming.
- The town should continue to access different access/egress routes for Crystal Lake.

- Continue to evaluate the Windsorville and Abbott stormwater drainage issue.

Status of Previous Mitigation Strategies and Actions

The Town of Ellington reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Ellington

No.	Action	Notes	Status
1	Assess possible alternate routes to Crystal Lake, or other solutions to the risk of isolation in that area (such as stationing personnel there) in order to determine the cost-effectiveness of different options.	The State of CT is reconstructing the intersection of Burbank and CT-140. The project includes paving and realignment of Newell Hill Rd. The Town is working with engineers to improve the remainder of Newell Hill Rd. This is the first step toward additional access to the Crystal Lake region. To complete access the remaining unimproved section of Schoolhouse Rd needs to be improved. This is not within the 5-year outlook but is recognized as a need in the future. Town staff said a section of Schoolhouse Road has been paved. The bridge on Rt 140 has been replaced, and the state utilized a detour for that project that was successful for the 8 months the bridge was closed. Furthermore, to address access challenges, the Town added a back-up shelter at Crystal Lake School so that that neighborhood can access this facility even if they lose access to the center of town. This facility could also be a cooling center if needed, and it is served by a generator. Based on the improved transportation infrastructure and the backup shelter, the intent of this action has been met (the Town assessed alternatives) and it can be retired.	Complete / Retire
2	Work with State DOT to advance road improvement and maintenance projects to ensure access to and egress from the Crystal Lake community remains open during and after storms (Routes 140 and 30).	See above action for some of the work that has been done. CIRCA Staff suggests revising this action to include more specific actions. Town staff suggest that the Newell Hill revamp would be a good one to list specifically. Revise and carry forward.	Carry forward with revisions

No.	Action	Notes	Status
3	Conduct a wildfire vulnerability and needs assessment to guide construction of additional dry hydrants and/or cisterns and fire roads through forested areas.	Town staff said that the town evaluated and replaced one of the dry hydrants in the Crystal Lake area. Although many forested areas are located in Ellington, the town staff believe that their wildfire response capabilities are sufficient, with a mutual aid agreement and the town's own capabilities. No further actions are needed at this time.	Complete/ Retire
4	Explore feasibility and cost/benefit balance of developing a microgrid for the Town Hall / Board of Education / Center School complex and/or the Resident-State-Trooper / Recreation Department / Fire Station 43 / Public Works complex.	Town staff is not aware of any progress with this. The town staff asked if generators "are" microgrids? CIRCA Staff clarified that typically mircrogrids had solar or fuel cell sources, but really generators can count. Town staff mentioned a solar project is in the works near the resident trooper/rec department. Center School also has solar panels. The town doesn't believe any further action is needed at the moment.	No longer a need / Retire
5	Perform an outreach effort to private fuel dispensaries encouraging them to install back-up generator power to ensure continued access to fuel for residential and business transportation, heating/cooling, and power needs.	Town staff said the town has done outreach related to this in the past.	Complete / Retire
6	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.	Town staff aren't aware of any specific outreach related to accidental release, other than communicating with the local Agway. The town has expanded its use of the Everbridge communication system (upgraded to Pro), so the town has more ability to give alerts to local businesses. The intent of this action has been completed.	Intent is Complete / Retire
7	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.	Town staff said they are compliant with MS4. The town has an annual plan and works with a consultant to ensure it remains compliant.	Complete / Retire

No.	Action	Notes	Status
8	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff thinks this action can be replaced, as few historic resources are in flood zones. We can revise to mention the new SHPO layer.	Carry forward with revisions.
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff have said that they have not attended these specific courses but have attended other wetland and related trainings. The town also recently reviewed the draft maps for the new FEMA mapping of the Crystal Lake region, undertaken with the Thames Basin updates. This can be retired.	Intention has been met / Retire
10	Seek Certification within the Sustainable CT program and make progress with the hazard mitigation goals associated with Sustainable CT certified actions.	Town staff said the town has established an Ellington Sustainability team which will meet on a monthly basis to work on applying for Bronze certification next spring. Town staff noted that one of the actions they plan to accomplish related to the Sustainable CT actions is having CIRCA complete a “heat assessment” for the town. This will be part of the HMCAP. The certification will likely be complete before this plan is published, so this can be retired.	Complete / Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Ellington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EL1	Acquire generators for the Old Crystal Lake Schoolhouse	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
EL2	Assess the generator at the Ambulance Building/EOC to determine if it needs to be upgraded, and if so, acquire a generator for this facility.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	4	76
EL3	Upgrade the generators at Catch Brook and High School Sewer Pump Stations. Convert the manual switch to an automatic switch at one of the sewer pump stations that powers the DPW complex.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	6	114
EL4	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		interact with other hazards.											
EL5	Work with State DOT to advance road improvement and maintenance projects to ensure access to and egress from the Crystal Lake community remains open during and after storms (Routes 140 and 30), specifically Newell Hill Rd.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Preparedness & Emergency Response	Public Works / Emergency Management	>$1M	CT DOT; LOTCIP	07/2026 - 06/2028	High	All Hazards	No	18	2	36
EL6	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
EL7	Conduct individual flood mitigation projects for buildings in Freshwater Brook Watershed as funding becomes available.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
EL8	Ensure that options are available to help property owners make their water supply wells resilient to	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	droughts, floods, and loss of capacity												
EL9	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
EL10	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
EL11	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
EL12	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 12-9: CIRCA Environmental Justice Rank and Critical Facilities, Ellington

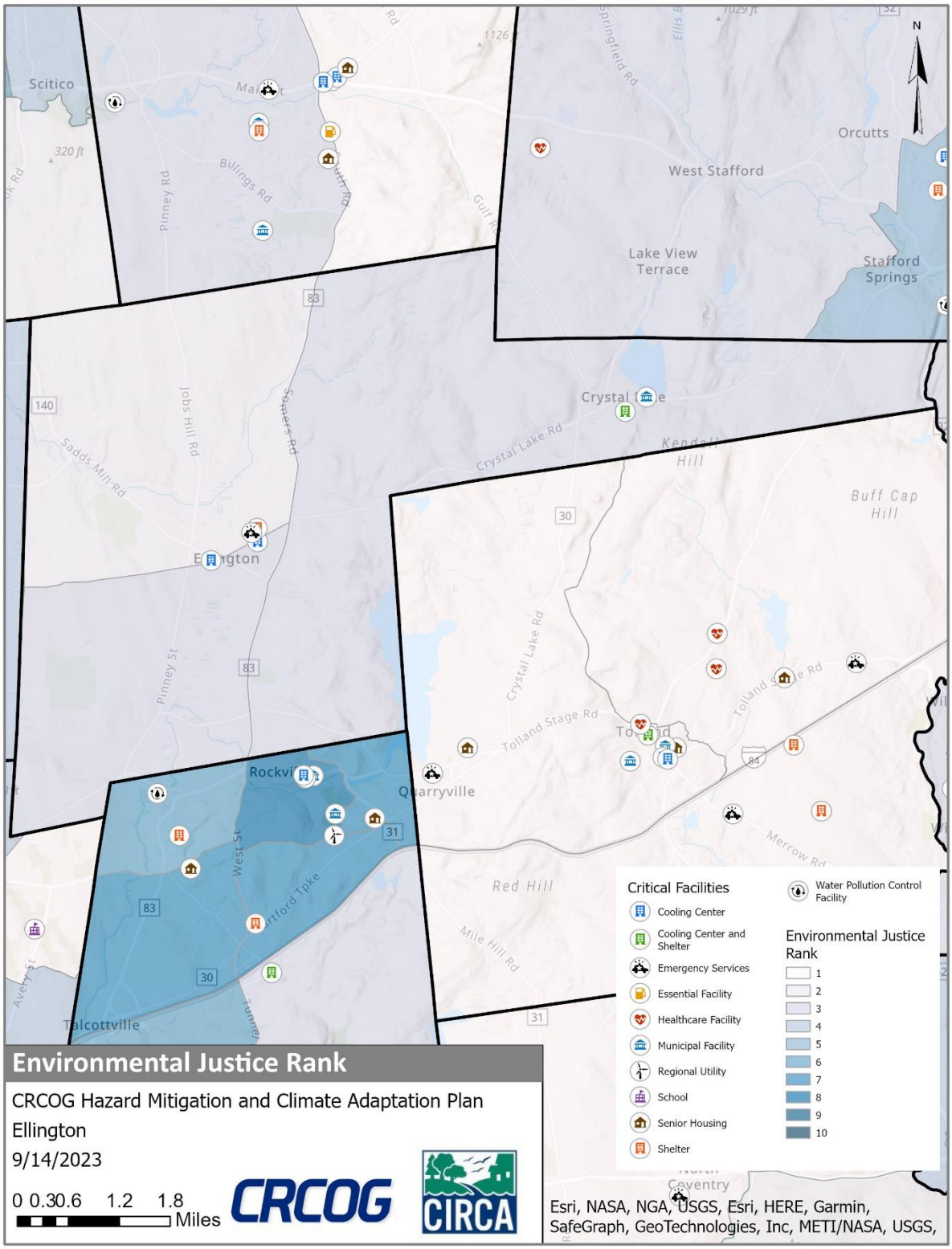


Figure 12-2: FEMA Flood Zones and Critical Facilities, Ellington

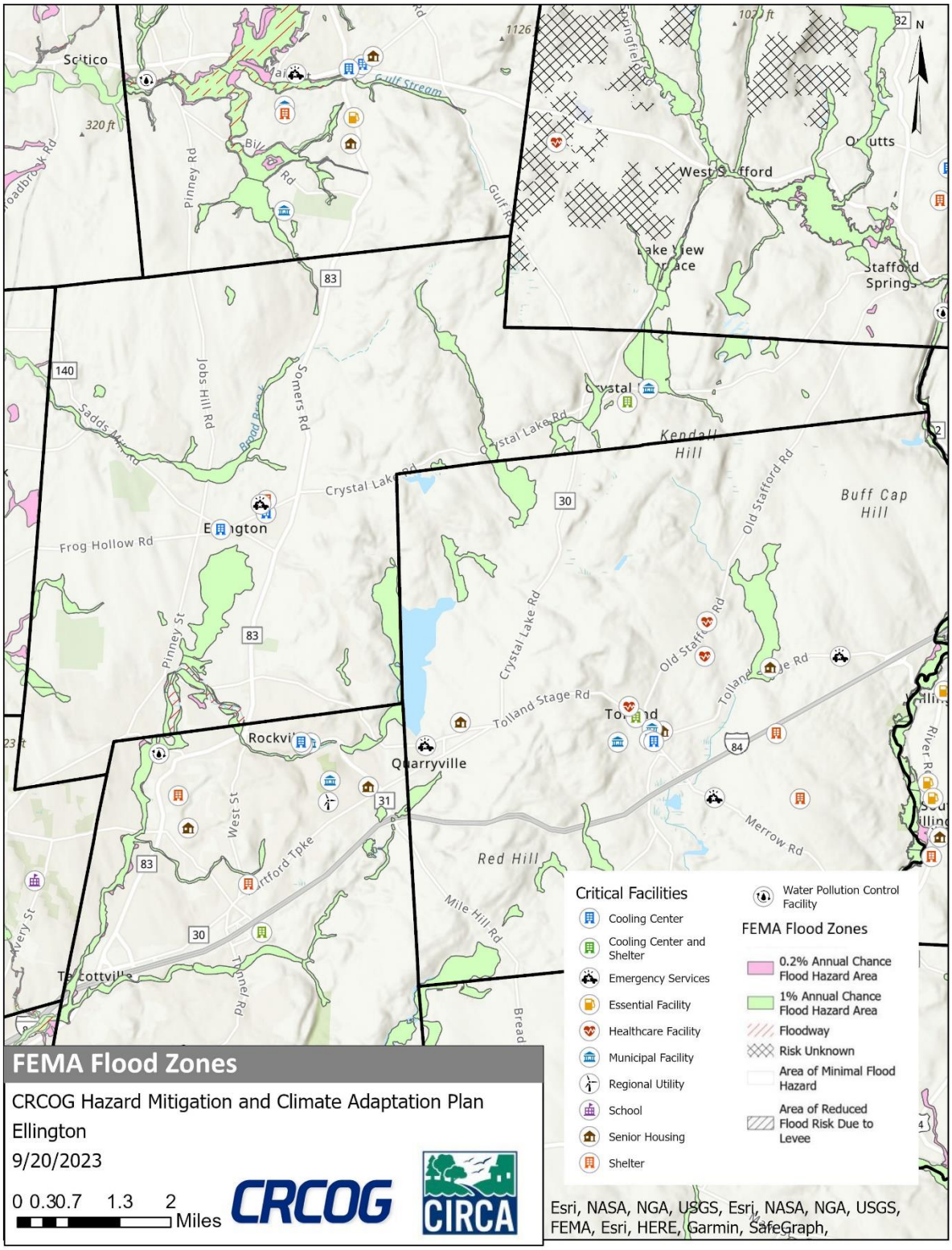


Figure 12-3: CIRCA Flood CCVI and Critical Facilities, Ellington

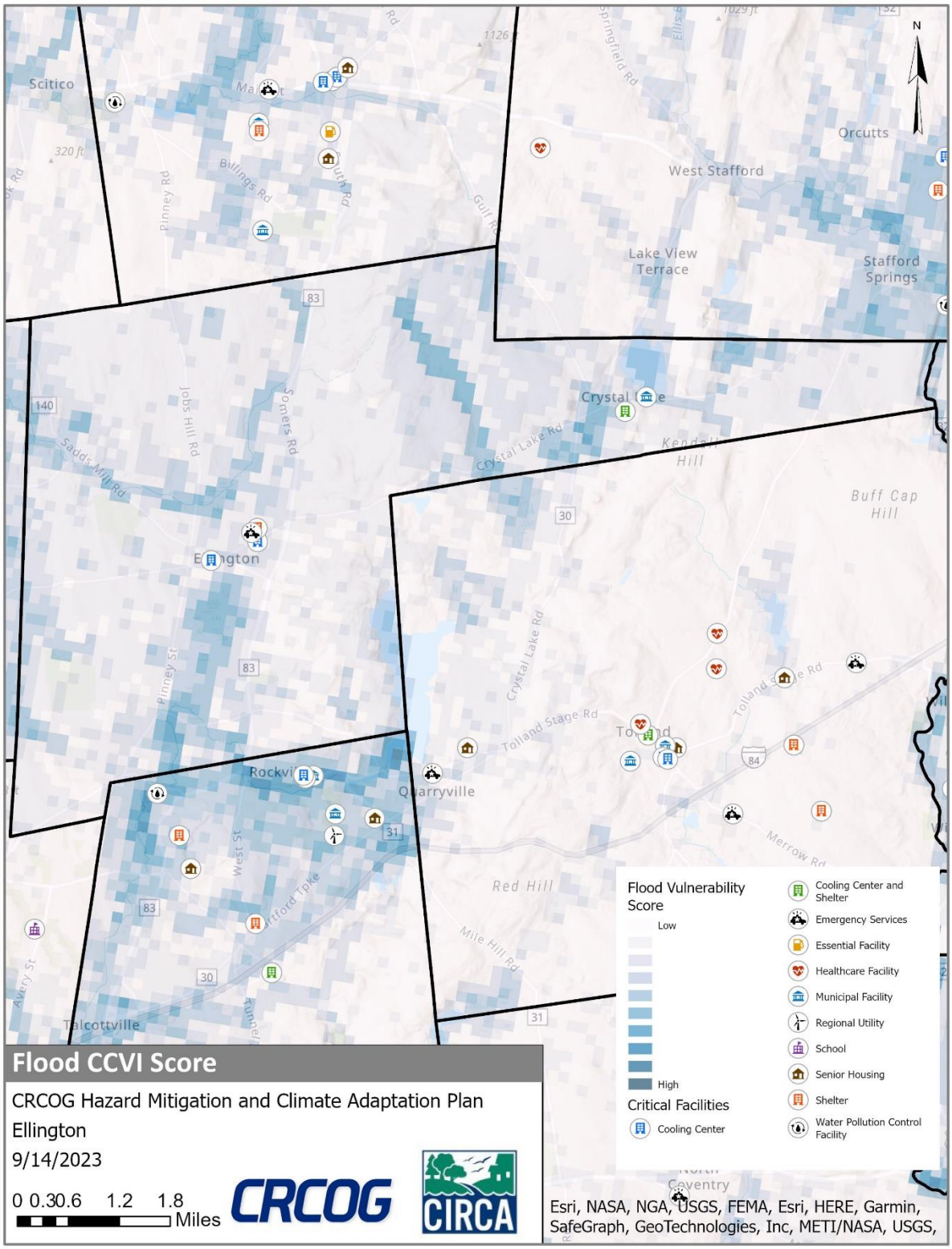


Figure 12-4: Dam Inundation Area and Critical Facilities, Ellington

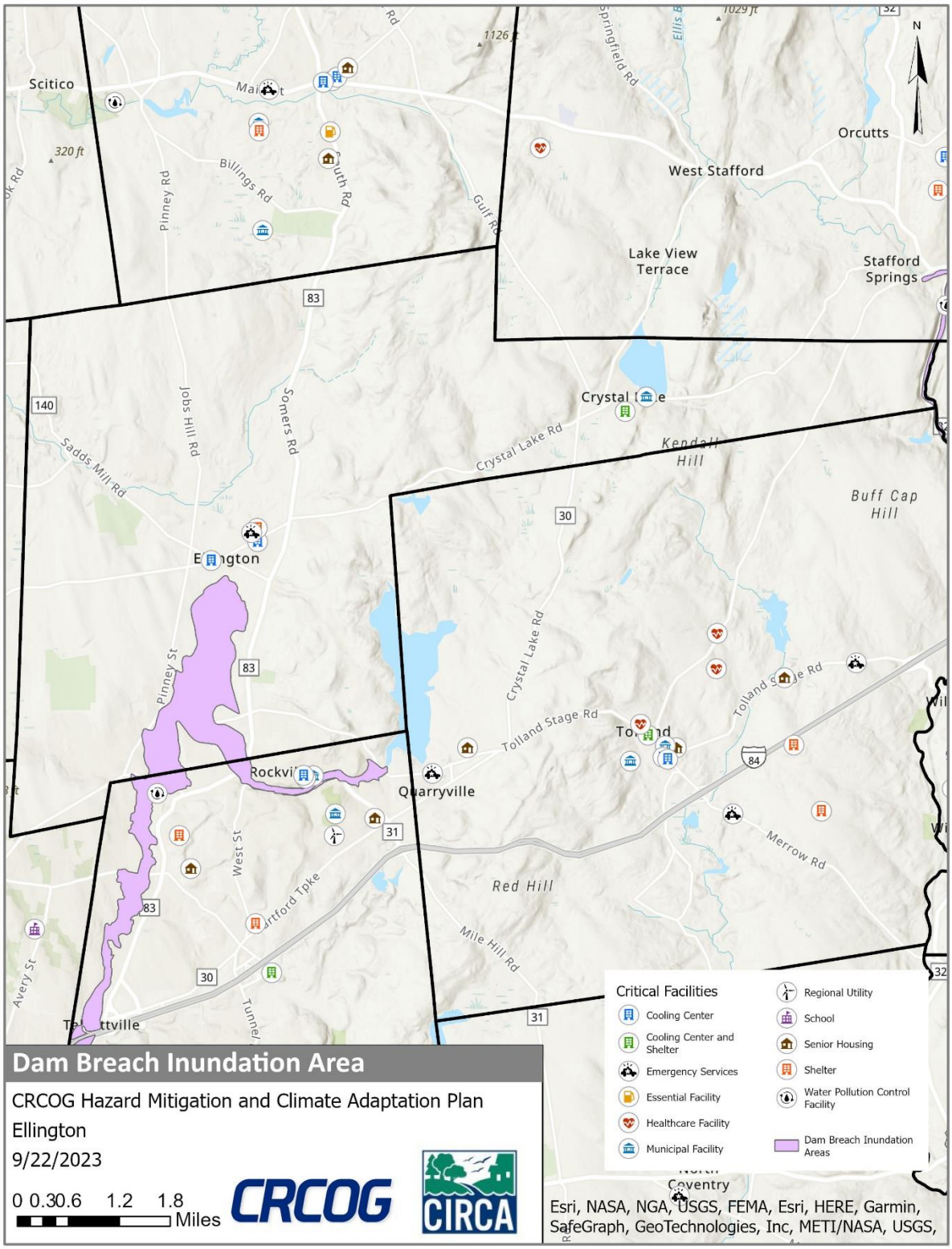
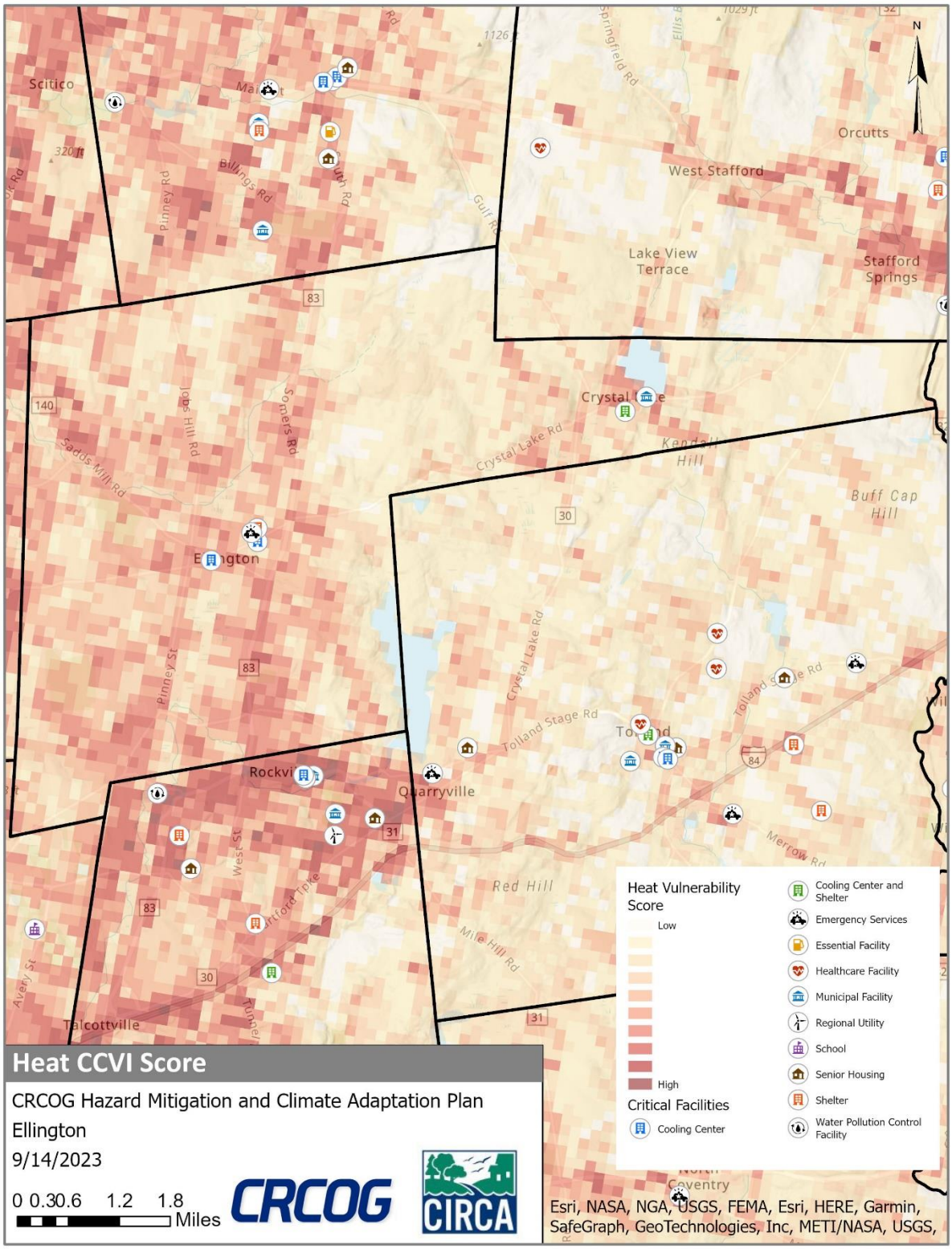


Figure 12-5: CIRCA Heat CCVI and Critical Facilities, Ellington



13. Enfield

Community Overview

The Town of Enfield encompasses 33.4 square miles with an estimated population of approximately 42,141 people. Enfield is located along the Massachusetts border and is in both the Connecticut River mainstem watershed (eastern drainage) and the Scantic River watershed which drains to the west. Elevation is approximately 154 feet above sea level. The main watercourses include Grape, Pierce and Terry Brook as well as the Connecticut and Scantic River. Parks in Enfield include: Powder Hollow Park, Scantic River State Park, Lafayette Park, and Hazardville Historic District.

Interstate 91 travels north-south in Enfield while other main transportation routes are 190, 192 and 220. Major industries include insurance, manufacturing of a variety of products, warehousing and distribution of toys, clothing, and pharmaceuticals, processing of food and dairy products, vegetable and tobacco farming, and ice cream production.

New development in Enfield is primarily in the form of redevelopment of retail and warehouse distribution centers. Notably, these centers are separate from the shopping mall area. One such center is planned for 35 Bacon Road, covering 800,000 square feet, with construction pending. At 113 North Maple Street, a 480,000 square feet distribution center has already been built. Another warehouse, around 500,000 square feet, has received approval for construction at 0 King Street near the East Windsor line. In the mall area, there is some smaller infill development happening, but the mall itself remains largely vacant. The town expects future redevelopment or changes in occupancy within the mall area. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

Critical facilities throughout the Capitol Region are listed in Appendix B. In Enfield these include the Town Hall, Police Station, EMS facility, DPW campus, Water Pollution Control Facility, Sewer Pumping Stations, six fire stations, schools, senior housing, medical facilities, State Prisons and town libraries.

Table 2-11: Critical Facilities, Enfield

Facility	Shelter	Cooling Center	Generator
Town Hall (Backup EOC)			X
Police Station (EOC)		X	X
EMS Facility			2 Portable
DPW Campus (building & yard)			
6 Fire Stations			X
Water Pollution Control Facility			X
Sewer Pumping Stations			
JFK Middle School		X	X
Enfield High School	Primary		X
6 Elementary Schools			
7 Private Schools			
St Joseph's Home for the Elderly			X
Parkway Pavilion Health & Rehabilitation Center			

Facility	Shelter	Cooling Center	Generator
Allied Rehabilitation Centers Home for Adults with Developmental Disabilities			
Community Health Resources Group Home for Adults with Chronic Mental Illness			
5 State Prisons			
Enfield Public Library		X	Likely
Pearl Street Library		X	
2 Eversource Substations			

During extreme heat events, Enfield Public Library, Enfield Pearl Street Library, Enfield Police Department and Enfield JFK Middle School can all be opened as public cooling centers. A generator for Pearl Street Library is needed. The Police Department and JKF Middle School both currently have generators. JFK Middle School was the town Shelter but no longer is. The town previously used the Lamagna Center as a cooling center which has since been demolished and redeveloped, thus no longer used.

Capabilities

Hazard mitigation is incorporated, to some degree, as a specific element in Enfield's Plan of Conservation and Development.

The Town adopted a Flood Hazard Mitigation Plan (FHMP) in 2000 to assist the community in identifying localized flood prone areas, flood hazards and risks, and strategies for preventing the loss of life and reducing property damages. The Town updated and incorporated its FHMP into the 2008 Capitol Region Natural Hazards Mitigation Plan, and maintains its currency. The Town of Enfield has several structural and regulatory flood mitigation tactics currently in place. The Town requires flood compensation on all applications.

The Town has completed, or is currently working on, most of the planned mitigation projects included in the 2000 FHMP, including drainage system improvements, dredging, catch basin cleanings, GIS implementation, and property acquisitions among other things. Equally important to these structural and property remedies are the education and outreach efforts that Enfield has made. All-hazard workshops are offered twice a year for emergency management personnel and non-profit organizations, and flood insurance policy seminars are available for homeowners.

The Town of Enfield has pursued a number of approaches to help reduce the community's vulnerability to flooding and prepare for emergencies. Examples of such actions by the Town in recent years include, but are not limited to the following accomplishments:

- *Implemented a GIS system which both citizens and staff can access. This database provides detailed information, including wetlands.*

- *Continued its comprehensive road resurfacing/rebuilding program which was initiated in 2000. Any street contemplated for improvement under this program is also assessed for flooding problems, and corrected where such action is feasible.*
- *Implemented an erosion control effort for areas of Town vulnerable to rapid slope deterioration, particularly the area along the west bank of the Scantic River with its escarpment soils. One location in particular – Cloud Street has several residential properties threatened due to severe erosion from rainfall runoff. An extensive slope stabilization project was implemented and completed in 2010 to save these properties.*

The new focus is now on Kimberley Drive

- *Conducted extensive stream clearing and bank stabilization work in Beeman's Brook which flows through a heavily development residential neighborhood.*
- *Trained over 150 Town of Enfield employees in the Red Cross Shelter Worker program.*
- *Established a local television station – E-TV to broadcast emergency alerts with a scrolling banner, commonly referred to as "Chy-Alerts."*
- *Implemented the Everbridge phone/message alert system to inform citizens of emergency situations in Enfield. A backup system is the use of the transmitter at Asnuntuck Community College , station WACC*
- *Established and actively share important information with citizens through social media. Enfield Emergency Management Facebook wall presently has over 1,200 "likes."Both the Police Department and Town Manager utilize this system*
- *Established a Community Emergency Response Team (CERT), whose primary mission is shelter operations, with a secondary mission of providing emergency support such as HAM radio operations.*
- *Completely revised its Inland Wetlands and Watercourses Regulations in March 2011, revised in April of 2020.*
- *Continue to reduce the volume of storm-water entering the Town's Water Pollution Control's sanitary sewage system by systematic elimination of infiltration and inflow. Progress in recent years has not been as substantive as in prior time periods due to reduced funding.*
- In Dec of 2022, the 10 year Plan of Conservation and Development was adopted. This document includes goals to implement *Low Impact Development regulations which include pubic outreach, engagement and education. This in turn will further benefit MS4 compliance; *promote the insulation of homes and businesses and provide public outreach and programs to educate on the importance of, and cost savings from insulation;*To confront climate change, goals set include incorporation of solar or geothermal systems to municipal buildings; *remove regulatory barriers to allow alternative energy to be installed throughout he town; and to consider tax abatement for installation of alternative energy for new developments.

Enfield has a tree warden responsible for tree trimming and maintenance. Most work is contracted out.

Enfield is undertaking a significant overhaul to its Water Pollution Control Facility. This project includes measures to improve the resiliency of the site, which is adjacent to the Connecticut River. The Town worked closely with the State on this project. *Recently this $35 Million dollar upgrade was completed,. This also included a berm around the plant to reduce flooding.*

Since the 2014 HMP, Enfield has acquired emergency generators for its two shelters, developed a Vehicle Replacement Plan to guide upgrades of its Public Works fleet, and offered flood policy seminars to homeowners.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Pursue opportunities to bury utilities in appropriate locations and scenarios, such as during a road reconstruction.
- 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.
- Send information to residents about emergency preparedness and services available in the event of an emergency by mailing out a newsletter and including information in tax bills.(Facebook)
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The town of Enfield noted that T.S. Isaias brought challenges, with extensive wind damage and fallen trees leading to power outages. In the aftermath, the town collected the wood, and the Department of Public Works piled it at the town dump for measurement purposes. Additionally, power lines dropped and melted a section of Brainard Road, measuring approximately 40 by 60 feet.

Another recent storm, potentially occurring in 2021 (though exact details elude town staff), resulted in the rupture of a drainage culvert along one of the rivers, causing damage to two-thirds of the right lane of Abbe Road.. Fortunately, the town swiftly addressed this issue within 4-5 days, although the specific road remains unidentified due to staff recollection limitations.

Enfield's farmers, particularly those involved in tobacco cultivation, have encountered challenges due to erratic drought and excessive wet conditions. While specific affected sites remain unclear, there have been crop losses.

Enfield faces a significant challenge with Freshwater Brook, particularly in the vicinity of I-91, which creates a constriction point for the waterway. Additionally, the town grapples with recurring flooding on Freshwater Boulevard during heavy rainfall, a situation that is typically mitigated by opening the dam at Freshwater Pond in a timely manner. While this is a manageable solution, there are instances when sudden, intense high intensity , short and long duration storms produce a high volume of water flow that surpasses the dam's capacity to control flooding.

Enfield town officials noted that some parts of town have neither public water nor sewer.

A pressing concern for the northeastern corner of the town revolves around the lakes in the area. Elevated water temperatures in these lakes have the potential to exacerbate problems such as algal blooms and adversely affect local fish and wildlife populations. The spillway is scheduled to be improved in the near future.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Enfield. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 13-2: Average Annualized Losses, Enfield

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$108,295.15
	NRI	$1,522,095.48
	FEMA PA	$7,514.80
Tornados/High Winds	NCEI	$40,543.72
	NRI	$385,918.13
Winter Storms	NCEI	$32,117.87
	NRI	$23,987.54
	FEMA PA	$14,201.89
Flood	NCEI	$32,825.80
	NRI	$53,488.75
	NFIP	$6,340.21
Drought	NRI	$353,443.98
	USDA	$118,075.70
Extreme Heat	NRI	$49,001.89
Wildfire	NRI	$2,558.56

Hazard	Source	Average Annualized Losses (AAL)
Earthquakes	NRI	$109,057.97
Dam Failure	HMP	$80.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Enfield 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should continue proactive tree and power line monitoring and maintenance to minimize damage and power outages.
- Supporting local farmers during droughts can involve implementing irrigation systems or offering assistance and resources to protect crops.
- The town should continue to look into options to address underperforming culverts near I-91 and near the river that experience flooding over the past 5 years.
- To tackle the lack of public water and sewer in some areas, the town should explore options for extending these utilities to underserved regions.
- Enfield may wish to incorporate a water quality monitoring system to ensure the health of the town lakes.

Status of Previous Mitigation Strategies and Actions

The Town of Enfield reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Enfield

No.	Action	Notes	Status
6	Complete and implement Freshwater Brook dam action plan to mitigate flooding on I-91 and Route 5.	Repairs have been completed on the dam including the replacement of the damaged wall, Flooding in the Freshwater Brook area is still a concern for the town (this is discussed again later in the notes). Town staff report that flooding is not as severe or as frequent as it used to be, and the recent dam repairs have helped this. Thompsonville used to flood and reportedly no longer does so. There are a few low points that are prone to flooding in the Freshwater Brook area – such as Palomba Drive, north of 190. These areas do still flood. Both Freshwater Boulevard and Palomba Drive have culverts carrying Freshwater Brook. Both of these culverts are on the town's CIP Wishlist for replacement. The town has completed two bridge replacements with state funds. One is on Orlando Drive, and was an upsized due to DEEP fishery requirements, rather than flooding, and is now a much larger box culvert. The other bridge replacement is the South River Street Bridge. The new design for this bridge is not an enlargement due to FEMA-related challenges. A smaller design was selected to avoid the need meet FEMA's map revision requirements. The pinch point for Freshwater Brook is I-91. CIRCA Staff asked whether perhaps a new approach is needed for this area, which could be aligned with Resilient Connecticut or, in the future, a DEEP Climate Resilience Fund grant. Town staff report that the CT Dept of Ag Soil Conservation Service did a study of this area and looked at the possibility of retaining water upstream. But because the area is so flat, achieving this would require a lot of private land acquisition. Town staff report this would likely be an uphill battle both monetarily and politically. Town staff reported that overall, "baby steps" are happening along the Freshwater Brook waterway – the town approved a parking lot that used to be a bus commuter lot (which flooded and led to the loss of cars), which now serves as a "flood compensation area". Other flood detention or retention has been achieved with tanks underground.	Carry forward, revisions to reflect today's discussion to suggest a larger study as well as individual projects

No.	Action	Notes	Status
7	Pursue opportunities to bury utilities in appropriate locations and scenarios, such as during a road reconstruction.	The town staff is not aware of any progress on this. No subdivisions require this. The town does give the utilities a list of the roads when they do reconstruction, but putting utilities underground has not occurred. Some replacement of already-underground utilities has happened. The utilities don't get paid or reimbursed for putting utilities underground, so the town doesn't have much ability to promote them. So the town is already working on this when possible, but can't do much more than they're doing. Perhaps retire this action. Town staff report that external funding would be needed to make this happen – town referendums will not be enough.	Retire, as this is accomplished as needed
8	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff are not aware of any repetitive loss properties or where they might be.-34 Lynch Terrace is a repetitive flooding location One possibility is a property on Lynch Terrace. The town offered to purchase the property a number of years ago but the owner was not interested. Some residential properties sometimes get water in their basement, but town staff surmised that it's more likely that RL properties are commercial properties. There was building near town hall called Laurel House, which had a furniture store and a warehouse behind it that was in the flood zone. This was recently demolished, perhaps a month ago. CIRCA staff will try to get the exact list of RL properties for Enfield, working with either CRCOG or the town to get this list.	Carry forward
10	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	See above.	Carry forward

No.	Action	Notes	Status
3	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.	Attendees reported that this could apply to some businesses, who could follow better management practices. About 2/3 of the town is over an Aquifer Protection Area, so the town conducts detailed reviews with those businesses anyway to make sure that their pollutants don't affect the aquifers. So this is a capability for the town.	Capability / Retire
11	Send information to residents about emergency preparedness and services available in the event of an emergency by mailing out a newsletter and including information in tax bills.	The town website has most of this information somewhere, and sometimes added to social media. Town staff report they are constantly updating websites and putting information out.	Capability / Retire
4	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.	Town staff are confident the town is compliant with MS4.	Capability / Retire
5	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff have occasionally attended the flood conference. This is a capability.	Capability / Retire
9	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town has mapped all of the historic resources in town and came up with a "Historic Resources Book," using an economic development grant, but town staff are not sure whether resiliency was addressed in this effort. Historic resources are a timely topic in the town, so town staff would like to keep an action related to this.	Carry forward with revisions (to trim down the text a bit, incorporate resiliency more directly)
2	Implement Vehicle Replacement Plan to upgrade and replace public works fleet.	This is complete. Also acquired some EVs.	Complete.

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	The town went to great effort (4-5 staff members doing hours of work), but the application was rejected due to not meeting criteria (about 3 years ago). Town staff report being devastated by this. Town leadership has since changed and much of the staff who worked on it have also left. The town might consider doing this again, but the experience was reportedly frustrating. Remove this action – the town can make progress in the future if it chooses, but this doesn't need to be in the HMP.	No longer a need / Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Enfield

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EN1	Determine if the Pearl Street Library has a generator and if not, acquire a generator for this facility.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2024-06/2025	High	All Hazards	Yes - Distressed Municipality	19	5	95
EN2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	3	57
EN3	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2026-06/2028	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
EN4	Conduct a comprehensive flood mitigation study for Freshwater Brook	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2026 - 06/2028	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	6	120
EN5	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	7	140
EN6	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2026 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	5	100
EN7	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	Yes - Distressed Muni	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Opportunity Areas (ROARs).									cipality			
EN8	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	Yes - Distressed Municipality	19	9	171
EN9	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Community Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Yes - Distressed Municipality	18	7	126

Figure 13-10: CIRCA Environmental Justice Rank and Critical Facilities, Enfield

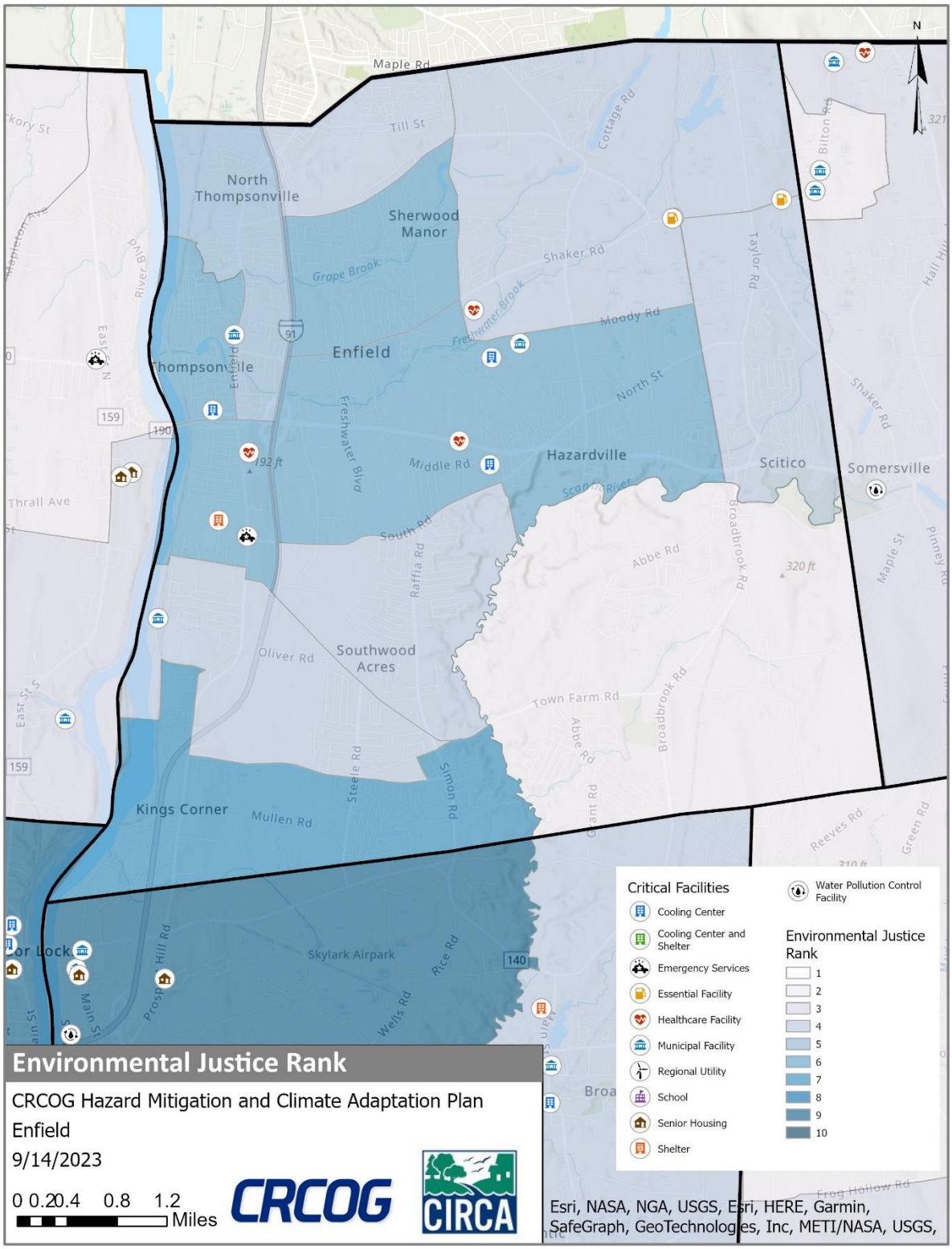


Figure 13-2: FEMA Flood Zones and Critical Facilities, Enfield

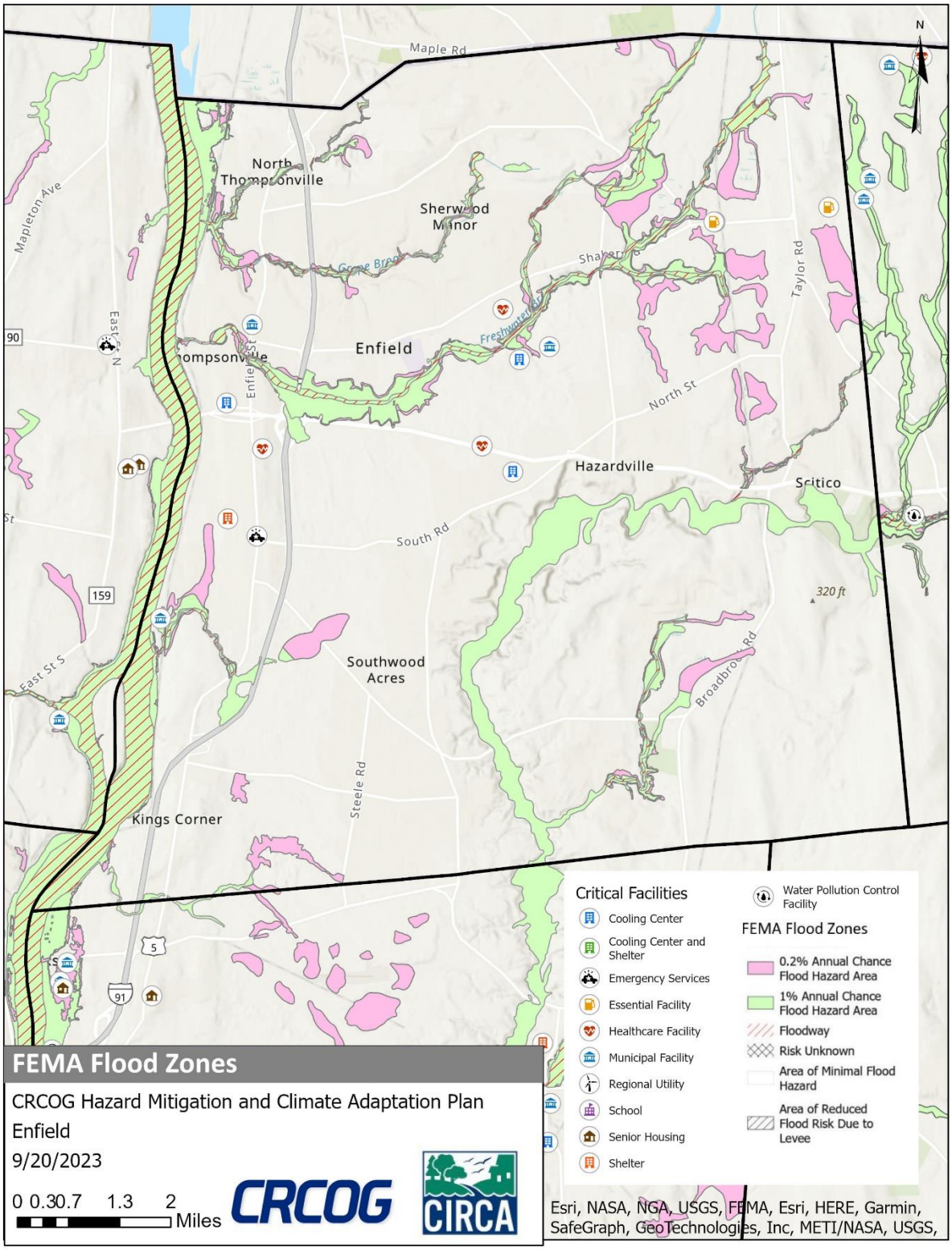


Figure 13-3: CIRCA Flood CCVI and Critical Facilities, Enfield

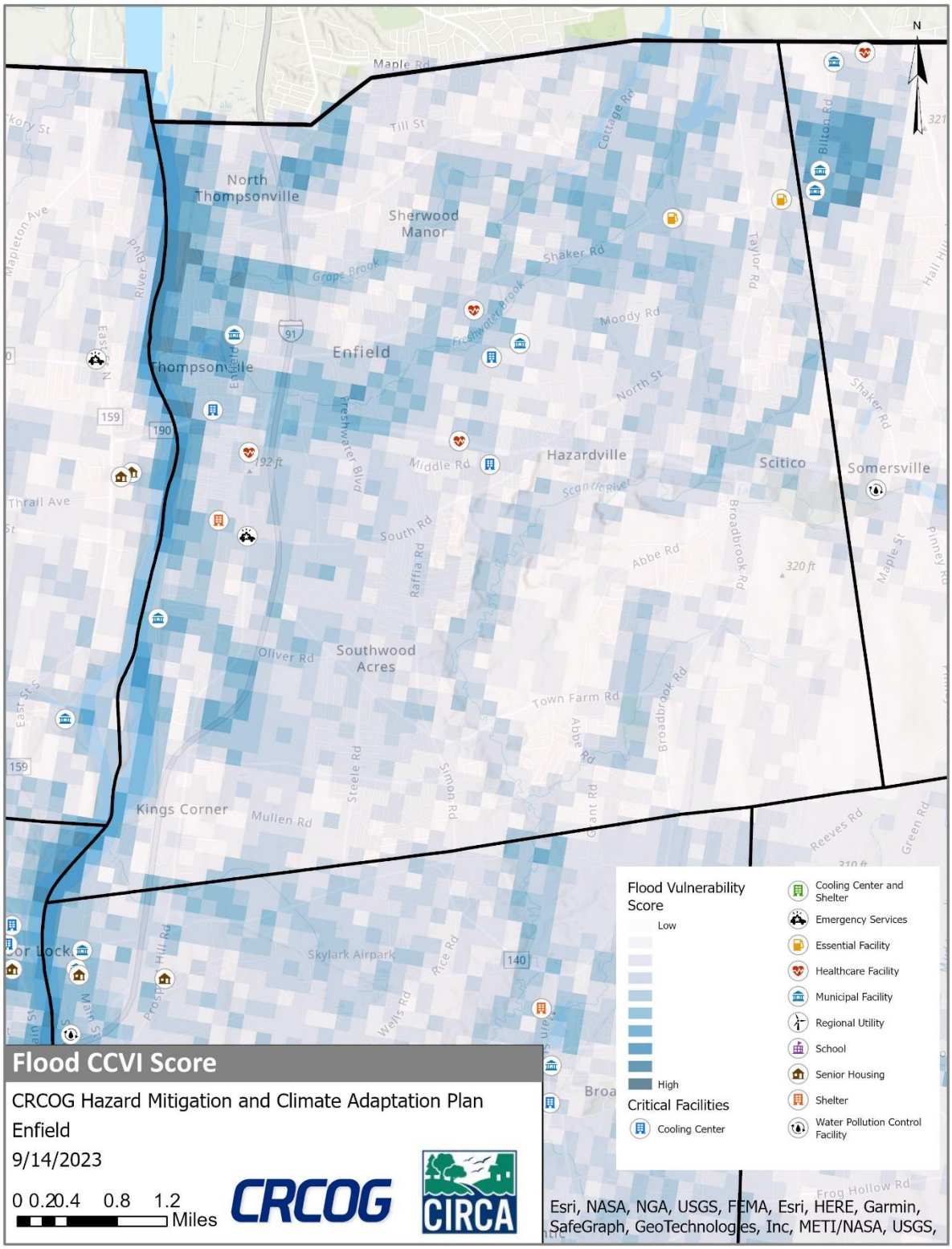
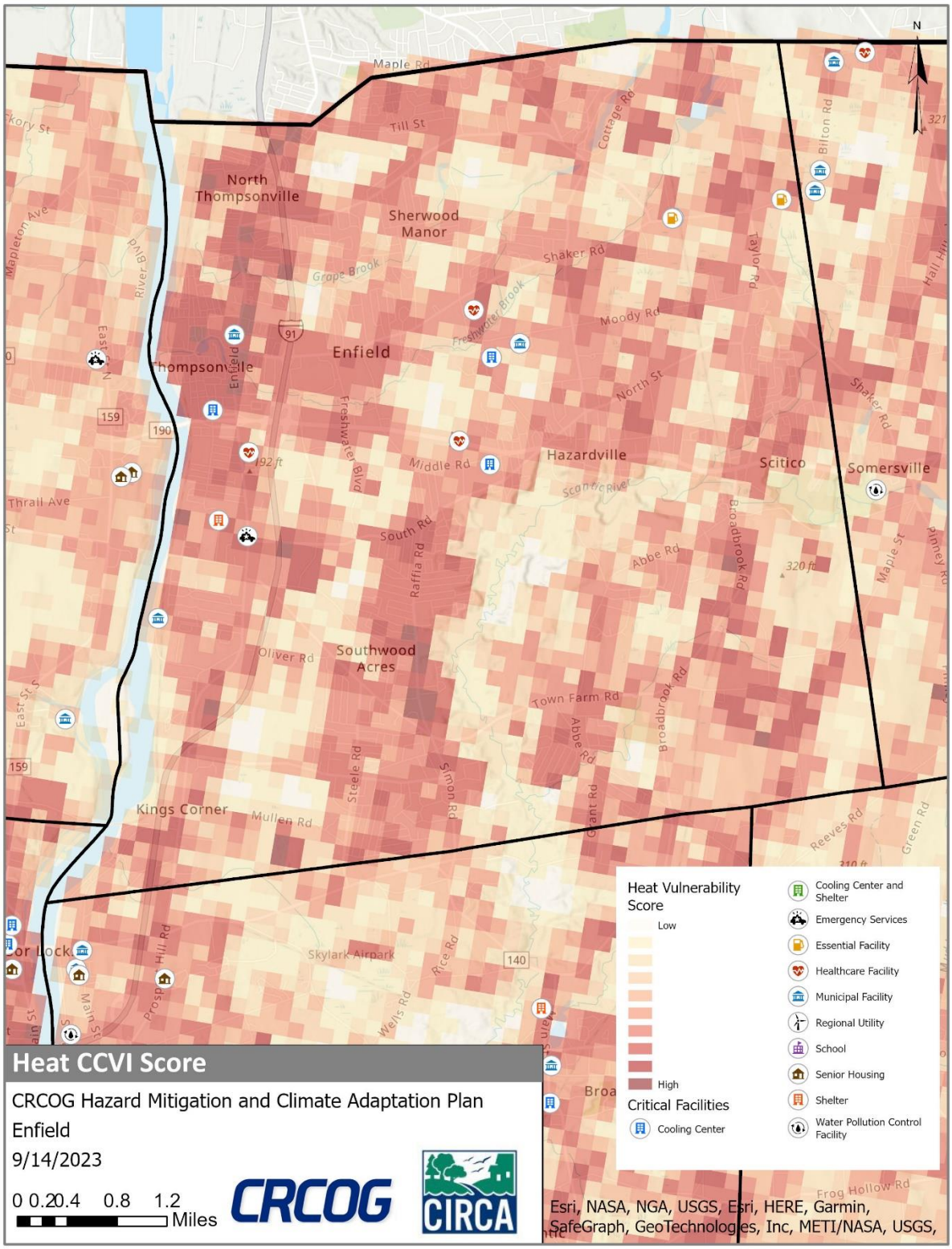


Figure 13-4: CIRCA Heat CCVI and Critical Facilities, Enfield



14 Farmington

Community Overview

Farmington is located in the southwest corner of the Capitol Region. It has a land area of 28.1 square miles and a population of approximately 26,712. Farmington's elevation is between 160-245 feet. The majority of Farmington's land area is located in the Farmington River watershed, but the eastern portion of Town is within the Park River Watershed. The main watercourses in Town include the Farmington and Pequabuck Rivers and Great, Hyde and Scott Swamp Brooks. Several major transportation routes traverse Farmington, including Interstate 84, and routes 4, 6, 9, 177 and 10. The University of Connecticut's John Dempsey Hospital and medical and dental schools are located in Farmington. Principal industries located in town include numerous national and international corporate facilities, banking, insurance, retail (West Farms Mall), biomedical research and product development, aerospace engineering and products, laser research and production, precision and specialty manufacturing, manufacture of ball bearing spindles, springs, flow and level switches, fans, metals and plastics.

Recent developments in Farmington include multiple new apartment complexes along Rt 4 and the conversion of a former hotel on Fienemann Rd into apartments. None of these development are believed to be in areas of flood risk. Development/redevelopment is not increasing risk to natural hazards.

Critical facilities

In Farmington critical facilities include the Police Department (EOC) and Irving Robbins Middle School (shelter). Other critical facilities include fire stations, schools, the library, Town Hall, and other municipal departments.

Table 2-12: Critical Facilities, Farmington

Facility	Shelter	Cooling Center	Generator
Police Department (EOC)			X
Irving Robbins Middle School	X	X	X
East Farms School			
Farmington high School	X	X	X
Noah Wallace School			
Union School			
West District School			
West Woods Upper Elementary School			
East Farmington Fire Station			
Farmington Fire Station			
Oakland Gardens Fire Station			
Southwest Fire Station			
Tunxis Hose Fire Station			
Farmington Library			
Highway and Grounds Department			
Town Hall			
Senior/Community Center		X	X
Water Pollution Control Plant			
Eversource Substation			

Facility	Shelter	Cooling Center	Generator
UConn Health (John Dempsey Hospital, Medical School, and Dental School)			
UConn Fire Department Station 122			

During extreme heat event Irving Robbins Middle School, Farmington High School, and the Senior/Community Center can all be opened as public cooling centers. All facilities currently have generators. A new high school is under construction this year that will have full AC.

The current high school has limited AC.

Capabilities

Farmington's hazard mitigation capabilities include its emergency responders, snow and tree management, and regulations limiting construction in hazard zones. Hazard mitigation is addressed specifically in the community's Plan of Conservation and Development.

The Town has not permitted any recent new construction in the floodplain. The Farmington Center Bridge over the Farmington River was replaced in 2010; capacity was not significantly changed.

Firefighting capabilities are fairly extensive within Farmington. The Town has not required any new cisterns or dry hydrants in the last few years for neighborhoods, but has required private water tanks for individual large homes located in areas without fire protection. This requirement is decided on a case-by-case basis.

Farmington coordinates the trimming of trees near powerlines with the local energy provider (Eversource). The Town reports that this relationship has been positive and has effectively lowered the number of outages that residents experience; however, some residents have complained that the tree clearing is excessive. Utilities are required to be underground in new developments, however these new developments utilities are fed from existing overhead utilities.

The Town's snow management is considered to be sufficient. New plows are purchased each year to maintain the fleet.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"), a new emergency generator was installed at the Irving Robbins Middle School, allowing the facility to operate as a full shelter.

A Repetitive Loss (RL) property on Dorset Lane is traversed by a small stream at the same elevation as the rear of the house. Culverts under the street were upsized from 18 inches to 42 inches and flooding has subsequently decreased. The State's RLP list has noted that the risk at this site has been mitigated.

Farmington is currently pursuing funding for a riverbank stabilization project at the cemetery.

The Town plans to utilize the Reverse 911 communications system along with the proposed hydrologic study of the Farmington River in order to warn the owners six RL properties of potential flooding incidences based upon rainfall predictions. This will allow for the early mitigation and evacuation of affected properties, thereby reducing the potential for loss of life and mitigating the loss of property.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Farmington's recurring concern revolves around Meadow Road, which has been prone to annual flooding, causing significant traffic disruptions. This road serves as a crucial route for commuters from Bristol heading to I-84. The town previously explored the idea of raising the road's elevation, but hydrological complexities stemming from the Farmington and Pequabuck Rivers suggest that a straightforward road elevation and culvert approach may fall short of a complete solution.

The Farmington Police Department (EOC and emergency communications center) is located in the 1% annual chance flood plain and has come close to flooding during past storms. The Town has no alternate site to move the communications center.

Following Isaias, Farmington staff have voiced concerns about the lingering wind damage and its impact on the town's infrastructure.

Farmington has a number of RLP. The low lying area of these houses makes physical mitigation difficult, and homeowners are not interested in selling their property; the Town is therefore left with mitigation in the form of early warning (see Capabilities). .

Traffic issues, primarily stemming from commuters on Rt 4 remains an issue in Farmington. The addition of an extra lane on Route 4 has provided some relief.

The most pressing need in Farmington relates to the erosion of the cemetery riverbank, although a direct link to climate change is not immediately evident.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Farmington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10

years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 14-2: Average Annualized Losses, Farmington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$68,645.26
	NRI	$1,273,643.49
	FEMA PA	$30,147.77
Tornados/High Winds	NCEI	$25,699.53
	NRI	$325,076.81
Winter Storms	NCEI	$20,358.62
	NRI	$17,240.27
	FEMA PA	$28,088.87
Flood	NCEI	$20,807.36
	NRI	$79,700.31
	NFIP	$27,209.91
Drought	NRI	$95,217.70
	USDA	$1,972.15
Extreme Heat	NRI	$30,562.65
Wildfire	NRI	$9,482.92
Earthquakes	NRI	$65,225.18
Dam Failure	HMP	$45.00

Other Hazard Costs

Town officials estimate that a typical severe winter storm event will cost the Town about $35,000 in overtime and equipment. This estimate is based on the January 4th and 5th, 2018, snowstorm.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Farmington 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should continue to explore methods to address the flooding and traffic issue on Meadow St.
- Farmington should investigate possible locations to relocate their Emergency Management operations center.
- Farmington staff should continue to work with homeowners of RLP with early warning.
- Continue optimizing traffic management strategies on Rt 4 to alleviate traffic congestion.
- The town should implement immediate erosion control measures along the cemetery riverbank.

Status of Previous Mitigation Strategies and Actions

The Town of Farmington reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Farmington

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Farmington has registered with the SCT program.	Complete/ retire
2	Identify funding sources and requirements to conduct a town-wide hydrologic study.	There is still interest in this type of study. The town put it in for a capital project for funding, but it wasn't as high-priority as some other projects. CIRCA Staff noted that other towns are beginning to seek various new funding sources for this kind of study,	Carry forward.

No.	Action	Notes	Status
3	Develop a new concept for a permanent erosion prevention measure at the cemetery on Garden Street that will be accepted by regulatory agencies. Complete a grant application to implement the new concept.	Town staff reports that there is definitely still a need for this. The Farmington River heads north and has flat farmland around it. When it floods overbank, the water cuts through the farm fields and hits the subject embankment. This embankment is located close to the cemetery and a 21-inch gravity sewer line. The town previously submitted a grant through DEEP for hazard mitigation. FEMA and the Army Corps of Engineers and a third group (Russ can't recall the name) came to see the site about 7-8 years ago. The ultimate suggestion from these agencies was to plant trees so that the root systems could protect the slope, whereas the town was imagining a solution with sheet piling. The slope in this area is steep and planting trees would be challenging; there was very little follow-up from the federal agencies afterward. The town is somewhat discouraged with the lack of response and assistance on this issue, after multiple years of effort. Town staff notes that if the sewer is undermined through bank erosion and breaks, and sewage gets into the river, the costs of river clean-up would be substantial and many other problems would follow. The Eastern Mussel is also present in the water. Russ reported that about 20 feet of lateral space is left before the sewer line, and CIRCA Staff noted that one bad flood could be enough to lose this. Town staff still feel strongly that something needs to be done here. CIRCA Staff suggests that FEMA's recent BCA adjustments for progressive hazards (I.e., erosion) might be applicable or helpful here.	Carry forward, perhaps with revisions
4	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.	The intent of this has been accomplished, and this action can be retired.	Intent is Complete/ Retire
5	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.	This is a capability, as the town is up to date on MS4 compliance and knows how to get help if they need it.	Complete/ Retire

No.	Action	Notes	Status
6	Develop a scope of work and Request for Proposals (RFP) for an engineering and feasibility study of elevating Meadow Road and installing culverts to allow flow in both directions.	When Meadow Road floods it creates a "traffic nightmare" because people coming from Bristol use this road on their way to I-84. This road floods every year. Particularly severe flooding occurred in '06 or '07. The town previously discussed elevating the road. There are hydrologic complications here from the Farmington and the Pequabuck Rivers, so a simple road elevation and culvert may not be enough of a solution. However, a need remains.	Carry forward with revision.
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff routinely attends an annual dam failure exercise with MDC, which is well attended by other municipalities too. This is a capability.	Complete/ Retire
8	Explore the feasibility of a fourth bridge over the Farmington River. For the current planning period, develop a report of permitting needs and possible funding sources to allow for next steps to be taken during the next Plan period.	This is under way and nearing completion, with SLR as the consultants. The intention of this action has been completed, and the next step is finding funding. The town continues to see the need for this bridge. If the town has to shut down a different bridge – for example the truss bridge in Unionville -- then Rt 4 floods and access to the town shelter would be compromised without another bridge option. Completed, so revise and carry forward to reflect the next step which is to secure the funding	Carry Forward with Revisions
9	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	CIRCA Staff explained at length why MDC-related actions were in the plan, using GNHWPCA as an example from the SCRCOG Hazard Mitigation Plan. The only facilities that MDC has in town are below-grade water mains and related hydrants. The supply is in West Hartford. The town staff say it doesn't benefit anyone to have an action in the Farmington plan. There are transmission lines in Farmington. Town staff say that if it helps the overall program to leave the action in, then leave it in, but they don't think it makes a difference to Farmington either way.	No Longer Needed/Retire
10	Conduct an assessment of the Town's snow-removal capabilities to identify opportunities for improvement.	Town staff believe there is no longer a need for this.	No Longer Needed/Retire
11	Establish the Southwest Fire Station as a backup EOC.	A backup EOC still of interest to the town. There is a question of whether Southwest Fire Station is equipped for the communications needed, whereas Farmington Fire (76 Main St) has recently received an upgrade in communications systems. Revise to include both stations as options as a possible backup EOC.	Carry Forward with revisions

No.	Action	Notes	Status
12	Identify, possibly in cooperation with neighboring watershed communities, funding sources and requirements to conduct a hydrologic study of the Farmington River.	Town staff have seen the new FEMA mapping, and there are some changes for Farmington that put new properties into the flood zone. Russ thinks that some of these revisions are not an accurate reflection of the landscape. Russ will send CIRCA Staff the comments he sent to FEMA. The DOT is replacing and upsizing some culverts leading to Roaring Brook. Russ previously asked for the drainage analysis of the downstream piping, and heard back from the DOT that the drainage engineer has not finished this analysis, even though the project is already in construction. This action came about after a particularly severe period of flooding. Russ suggests keeping this action but revising the relevance to be medium or low, because the likelihood of taking action is low.	Carry Forward with revisions
13	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	CIRCA will get the list of current Rep Loss properties from CRCOG to check whether this action is needed; the presence of RL properties will make this action necessary.	Carry Forward
14	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	CIRCA Staff notes that there is new mapping from SHPO about historic resources. Russ says that the majority of historic structures in Farmington are not in floodprone areas.	Carry Forward with Revisions
15	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	CIRCA will get the list of current Rep Loss properties from CRCOG to check whether this action is needed; the presence of RL properties will make this action necessary.	Carry Forward
16	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	See discussion in Action 14. Combine with #14.	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.

Table 2-4: Active Mitigation Strategies and Actions, Farmington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
FM1	Establish either the Southwest Fire Station or Farmington Fire (76 Main St) as a backup EOC.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	DEMHS and other Preparedness Grants; Municipal CIP Budget	07/2026 - 06/2028	Medium	All Hazards	No	17	4	68
FM2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
FM3	Identify funding sources and requirements to conduct a town-wide hydrologic study.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
FM4	Seek funding for making the sewer line more resilient along the Farmington River.	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Public Works	>$1M	CWSRF; FEMA HMA; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
FM5	Develop a scope of work and seek funding for an engineering and feasibility study of elevating Meadow Road, installing culverts to allow flow in both directions or other methods to reduce flooding.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget; IIJA AOP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114
FM6	Explore the feasibility of a fourth bridge over the Farmington River.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	FEMA HMA; DCRF; LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	No	18	4	72
FM7	Identify, possibly in cooperation with neighboring watershed communities, funding sources and requirements to conduct a hydrologic study of the Farmington River. This is a low priority for the town.	More than one goal.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2028 - 06/2029	Low	Riverine and Pluvial Floods	No	18	6	108
FM8	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	maintenance and upsizing.	increases frequency and severity of floods.											
FM9	Develop more water supply sources and interconnections as needed	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Planning	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	4	76
FM10	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
FM11	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
FM12	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	High	Riverine and Pluvial Floods	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	mitigation status of each listed property.	climate change increases frequency and severity of floods.											
FM13	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
FM14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 14-11: CIRCA Environmental Justice Rank and Critical Facilities, Farmington

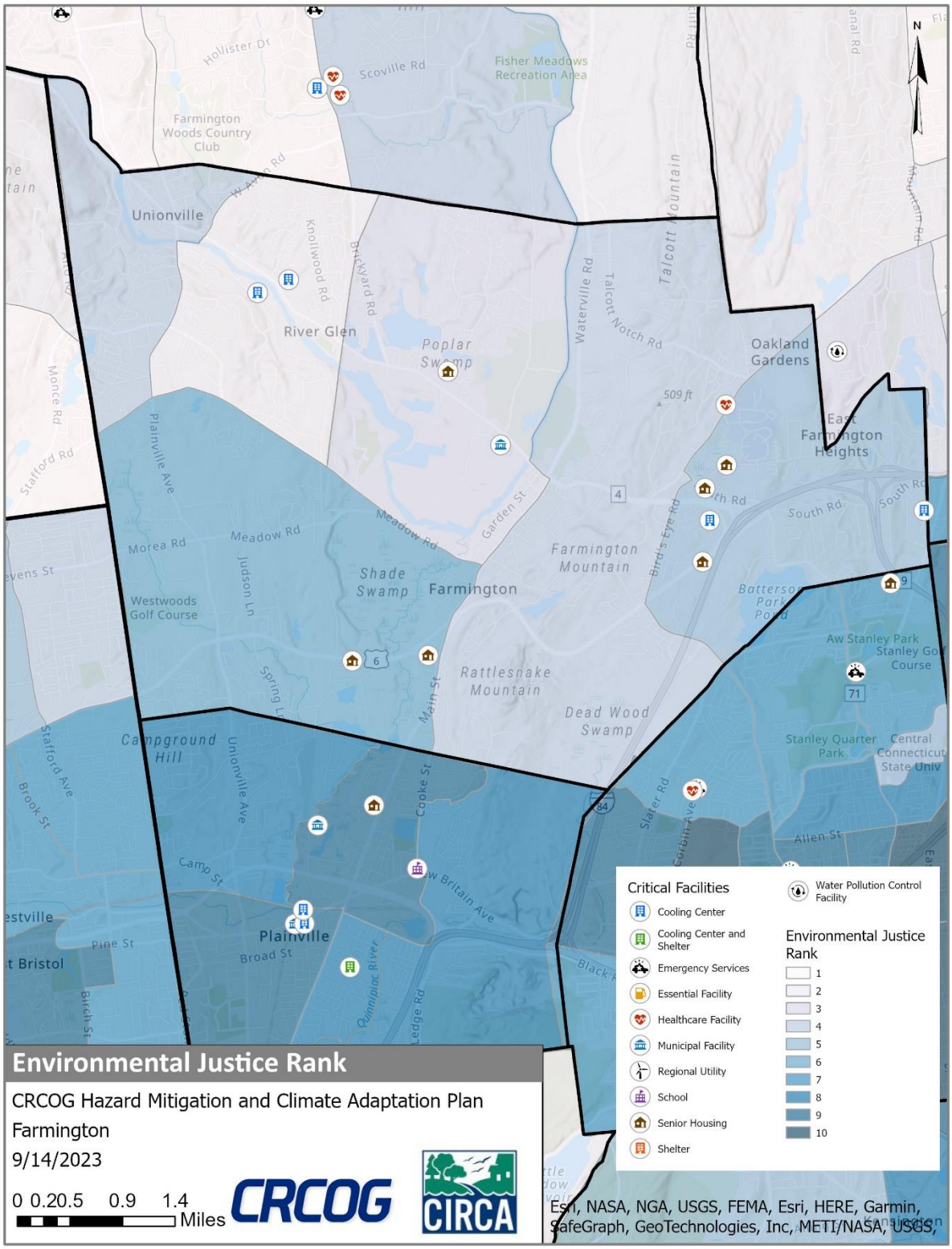


Figure 14-2: FEMA Flood Zones and Critical Facilities, Farmington

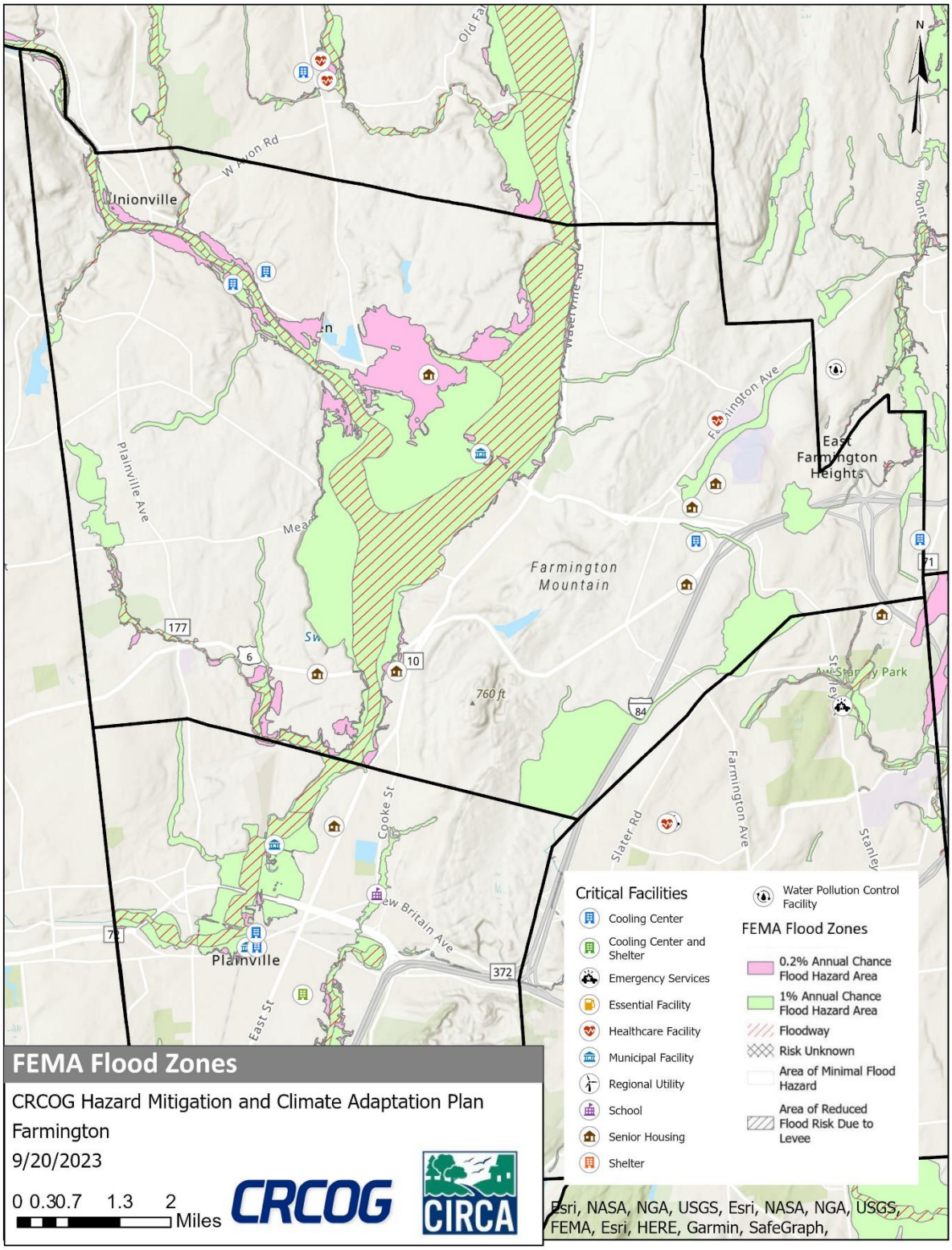


Figure 14-3: CIRCA Flood CCVI and Critical Facilities, Farmington

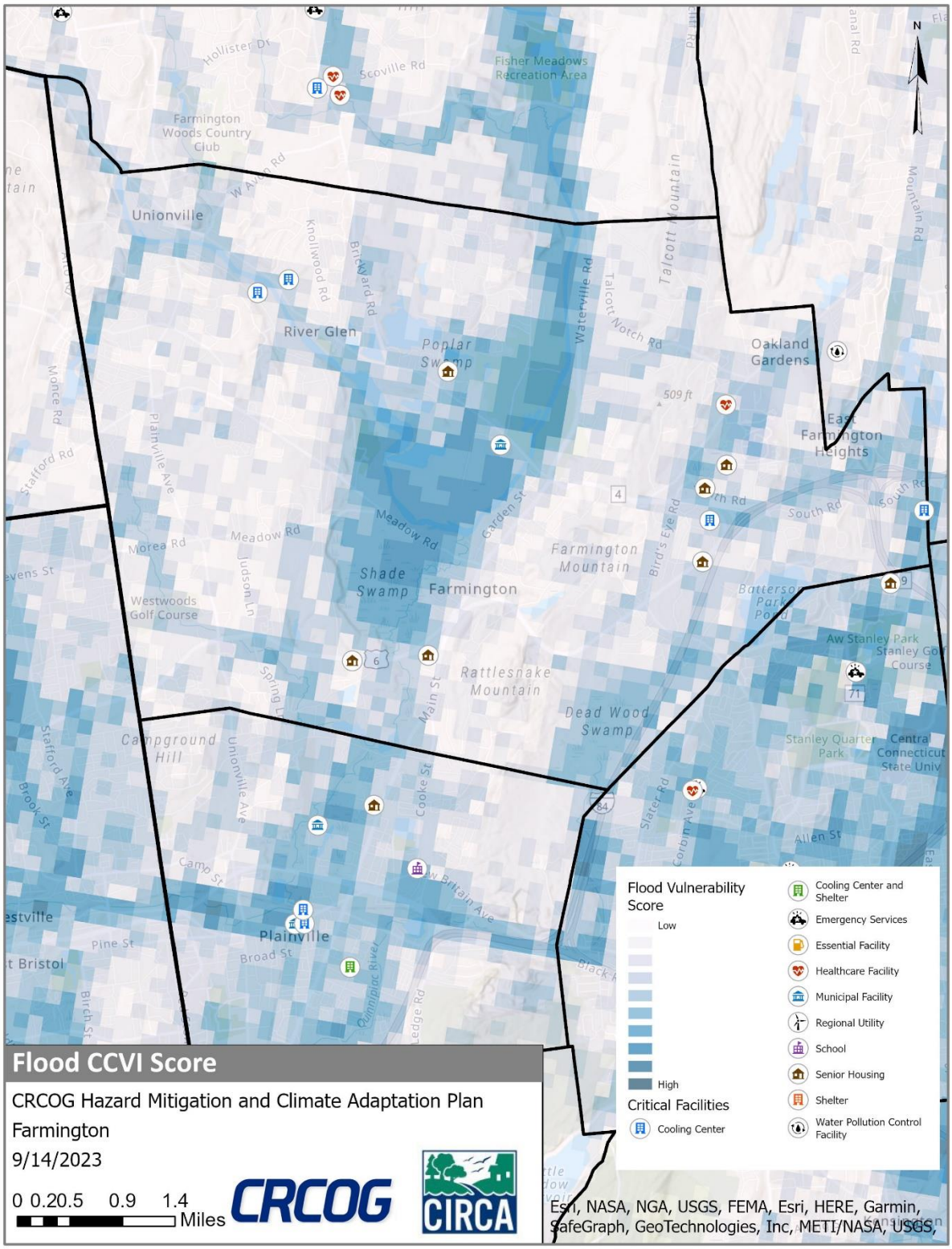


Figure 14-4: Dam Inundation Area and Critical Facilities, Farmington

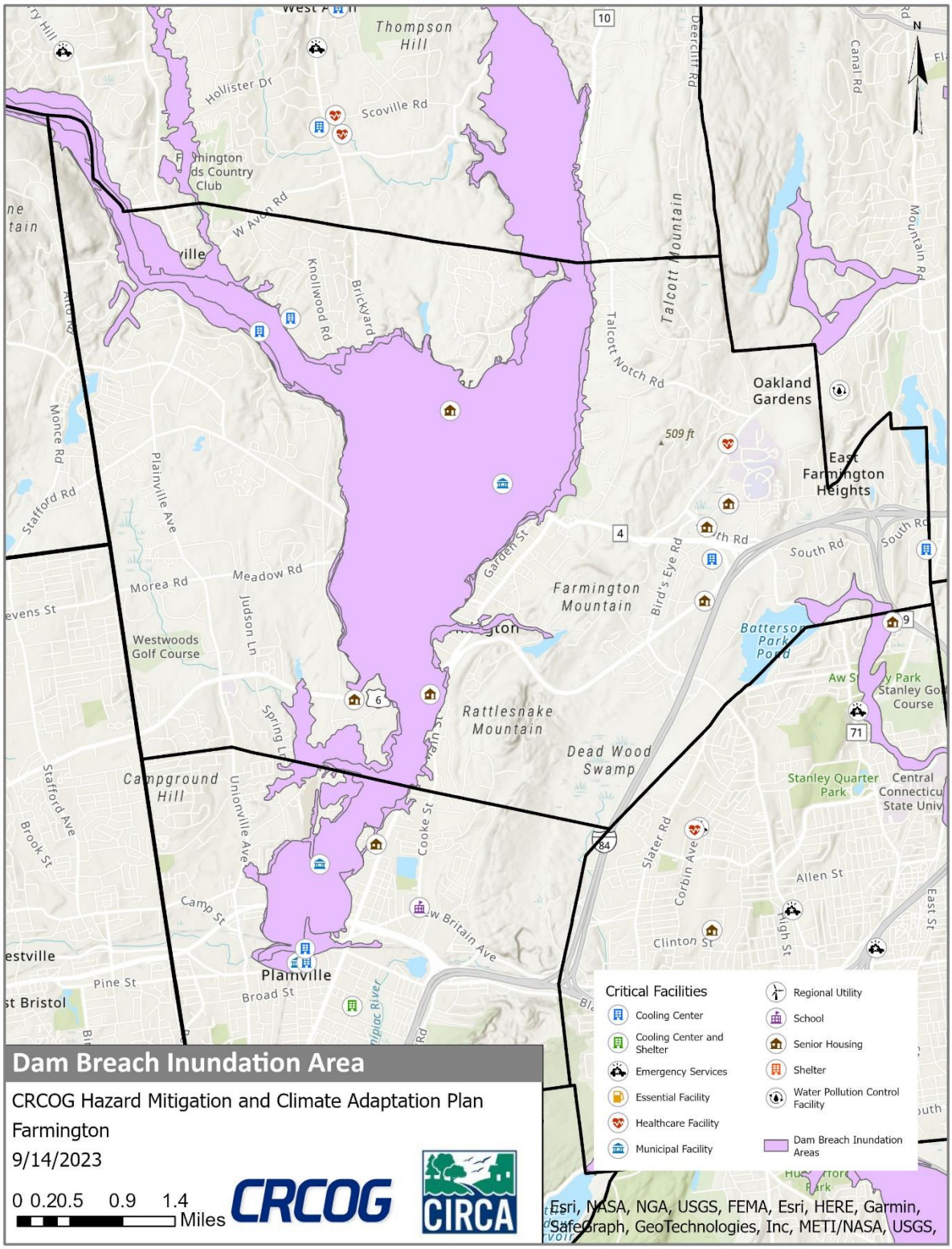
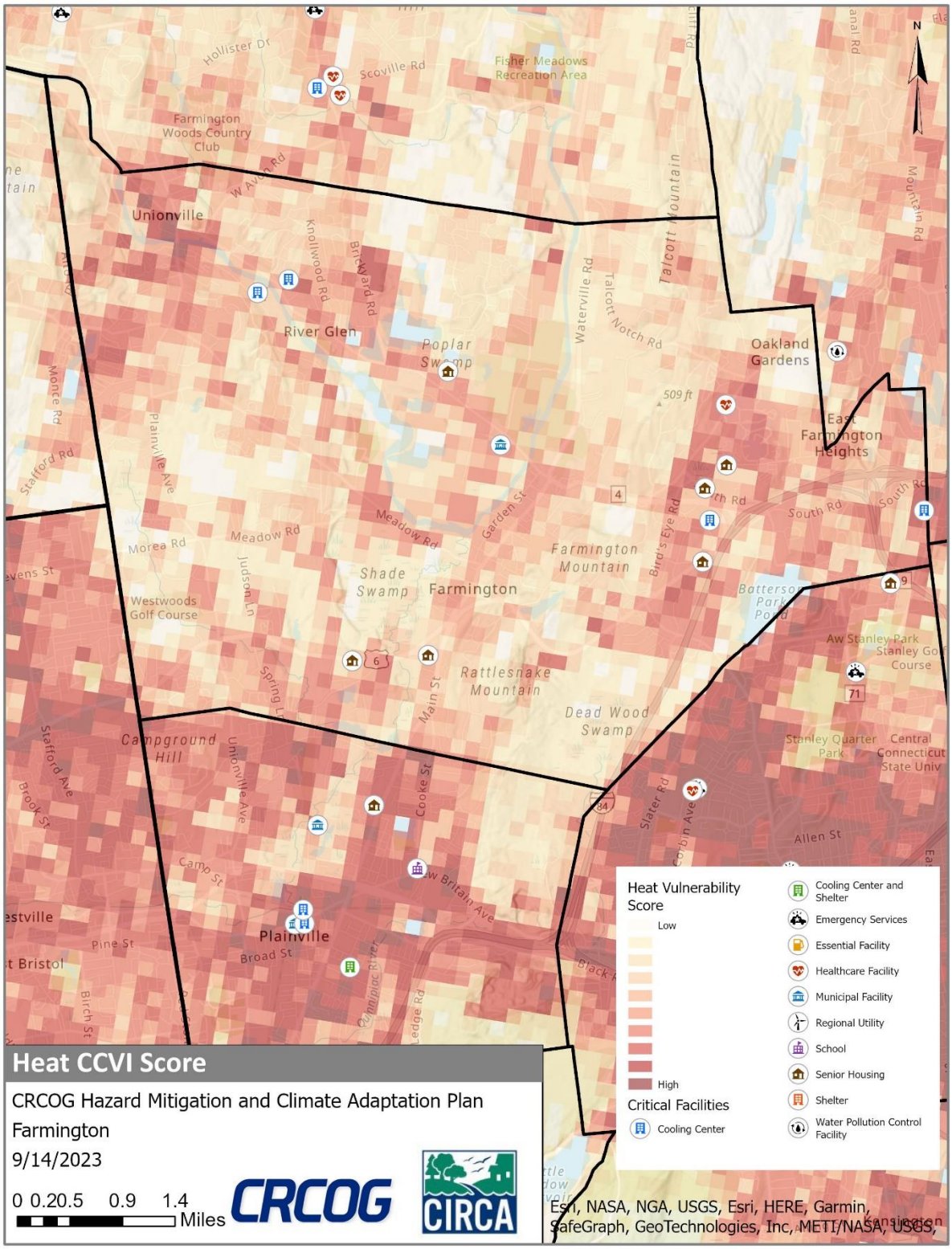


Figure 14-5: CIRCA Heat CCVI and Critical Facilities, Farmington



15 Glastonbury

Community Overview

The Town of Glastonbury encompasses 51.37 square miles with an estimated population of over 35,159 people. The elevation ranges from about 80 to 800 feet. The Town lies primarily in the Main Stem of the Connecticut River drainage basin while a small portion in the northeast corner of Glastonbury drains to the Hockanum Watershed. In addition to the Connecticut River which flows along the western boundary, main watercourses include Hubbard, Roaring, Salmon and Slab Gut Brooks. Major transportation routes through Glastonbury include Routes 2, 3, 17, 83 and 94. Glastonbury's major industries include insurance and financial services, technology and banking, computer services, medical and adult care facilities, agriculture, as well as retail.

Since the previous plan update, development has been limited to mostly residential development, none of which are in flood-prone areas. Several large multi-family projects include apartments at Main and Hebron Avenue, Nye Road development, a mix of apartments and townhouses, and a 74-unit Pratt Street development. Additionally, there has been a development proposal suggested on Feldspar Rd in Glastonbury. Although Town staff has informally assessed this proposal, there is currently no regulatory application awaiting review. As far as town staff know, there are no plans to submit such an application in the near future. Finally, there's potential for a hotel project north of the town center, off Glastonbury Boulevard, with early plans suggesting a 5-story structure. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. A number of Glastonbury critical facilities are listed here.

The Town's Emergency Operations Center (EOC) is now located in the Academy building. This complex is provided with Emergency generator power.

The High School is the primary shelter. The Community Center serves as the secondary shelter. Emergency supplies are kept at the Facilities Maintenance Barn located adjacent to the EOC, Town Hall, and Police Department; an emergency generator was being installed at the Facilities Maintenance barn as this HMP was being developed. Numerous charging and warming centers are dispersed throughout the town, given its large size.

Table 2-13: Critical Facilities, Glastonbury

Facility	Shelter	Cooling Center	Generator
Town Hall			X
Police Department			X
Glastonbury High School	Primary		X
Glastonbury East Hartford Magnet School			X
Riverfront Community Center	Secondary	X	X
Facilities Maintenance Barn (Emergency Supply Storage)			X
Four Volunteer Fire Stations			X
Eight (8) Sewage Pumping Stations			X
Center Village			X
Village Green & Knox Lane Annex			X

Facility	Shelter	Cooling Center	Generator
Herbert T. Clark Housing			X
Genesis Health Care Facility			X
Mountain Laurel Health Care Facility			X
Naubuc Green			X
Ambulance Facility			X
Welles Turner Library		X	
Waste Water Treatment Plant			
Academy Building (EOC)			X
Four (4) MDC Water Pumping Stations			
2 Eversource Substations			

During extreme heat events, Glastonbury Riverfront Community Center and Welles Turner Library can both be opened as public cooling centers. The Riverfront Community Center does not have a fixed-in-place generator but can be hooked up to a mobile generator. The Riverfront Community Center is also the town's backup shelter. The library does not have a generator.

Capabilities

Hazard mitigation is addressed specifically in Glastonbury's Plan of Conservation and Development.

Nearly 92% of land at risk of flooding in Glastonbury is in the Flood Zone or otherwise zoned for resource protection /agriculture, recreation or public use. Development is generally restricted from the floodplain. The Town adopted enhanced Inland Wetlands and Watercourses Regulations in 2010 which could reduce its overall level of vulnerability.

Glastonbury coordinates tree-trimming near powerlines and power outage prevention and response with the regional energy provider (Eversource). This relationship has been positive and trimming efforts have been effective at minimizing outages. Some work has been controversial, as property owners near the lines are upset about the extent of clearing.

Glastonbury has acquired emergency generators using taxpayer funds. A STEAP grant for $300,000 (approximate) provided funding for transitioning the Facilities Maintenance Barn to an emergency preparedness support facility.

The Town has undertaken a lot of work over the past few years in response to the storms of 2011. They have found it helpful to post written and electronic messages in town during events.

Several bridge and drainage projects have been completed by the Town since the previous HMP. A major drainage project underway at Tryon Street and Dug Road should reduce flooding in South Glastonbury. The Blackledge River Dam has been removed.

Glastonbury has a Fire Marshal; this official requires construction of new cisterns or dry hydrants as is deemed necessary.

Glastonbury was awarded the Silver Certification within the SustainableCT program in October 2018.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Conduct outreach to private property owners encouraging them to remove dangerous trees and branches on their property.
- Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.
- Apply the same flood damage prevention guidelines to the Connecticut River floodplain and other isolated flood zones not associated with Roaring Brook, Salmon Brook, Grindle Brook, and Meadow Drain.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Glastonbury has experienced disruptions and damages due to flooding and severe storms. Specific locations mentioned by town staff include Forest Lane, Shoddy Mill Road, the low end of Tryon Street, almost at Portland line and Naubuc Ave (although this has not flooded recently). In addition, there's an area near Ferry Lane that sometimes floods, but this is not a major concern for the town. Challenges also stem from the increased frequency of intense precipitation events. Drainage system capacity issues have been revealed during such events and resulting high groundwater tables contribute to continuous flow through aged metal drainage pipe, thereby contributing to premature deterioration.

Droughts tend not to be a significant hazard in Glastonbury; however, some residents on private wells use significant amounts of water for turf irrigation, which can have an impact on groundwater supplies. In addition, Uranium in private wells has been an issue in certain parts of town.

A concentration of lower-income housing is located on the north side of town near Harris Street / Deming Road / off Griswold, which may not have air conditioning. If these facilities don't have A/C, this could pose a threat during extreme storms.

Town staff noted that there has been an increase in the number of assisted living facilities in town over the past few years.

Town staff also noted that they are working with DEEP to identify hazards in the CT River if there was an oil spill from the north.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Glastonbury. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 15-2: Average Annualized Losses, Glastonbury

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$90,352.60
	NRI	$1,734,145.66
	FEMA PA	$48,189.83
Tornados/High Winds	NCEI	$33,826.36
	NRI	$321,601.42
Winter Storms	NCEI	$26,796.53
	NRI	$23,066.57
	FEMA PA	$18,520.62
Flood	NCEI	$27,387.16
	NRI	$105,100.00
	NFIP	$3,237.53
Drought	NRI	$106,247.25
	USDA	$57,250.45
Extreme Heat	NRI	$40,335.12
Wildfire	NRI	$3,438.59
Earthquakes	NRI	$56,595.50
Dam Failure	HMP	$62.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Glastonbury 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should consider a number of actions to reduce the flooding on Forest Lane, Shoddy Mill Road, Tryon Street, and Naubuc Ave including installing additional drainage systems and/or improving existing ones, continue to regularly maintain and clear stormwater drainage infrastructure and or develop an early warning system to alert residents in advance of potential floods and severe storms.
- The town should consider ensuring that the assisted living facilities and lower-income housing facilities have A/C and/or easy access to cooling centers during extreme storms
- To address uranium in private wells, the town should work with homeowners to find a new water sources.
- The town should continue to work with residents with private wells and educate them on proper water usage during droughts.

Status of Previous Mitigation Strategies and Actions

The community reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Glastonbury

No.	Action	Notes	Status
11	Update the Town-wide storm drainage management program/Master Drainage Studies. Provide recommendations pertaining to the latest innovative techniques to manage stormwater quality and quantity, such as biofilters and rain gardens.	Related to Master Drainage studies completed for various watershed areas in Town. The existing documents date back to the 1980's. These studies are very comprehensive and look at not only general strategies but also look at specific system component condition/capacity. Replicating this level of detail in updating the plans would require a significant Capital funding appropriation. No such appropriation is currently in place and it is difficult to envision such going forward given the many competing projects and limited resources. Nonetheless, the existing documents still provide good information and general guidance for consideration. It is likely that we will simply continue with current practice.	Remove/Retire
10	Update the Storm Drainage Management Reports prepared for the Roaring Brook, Salmon Brook, Grindle Brook and Meadow Drain watersheds to ensure their continued use as policy guidelines for development within these areas to prevent downstream flooding, erosion, and property damage.	Related to Master Drainage studies completed for various watershed areas in Town. The existing documents date back to the 1980's. These studies are very comprehensive and look at not only general strategies but also look at specific system component condition/capacity. Replicating this level of detail in updating the plans would require a significant Capital funding appropriation. No such appropriation is currently in place and it is difficult to envision such going forward given the many competing projects and limited resources. Nonetheless, the existing documents still provide good information and general guidance for consideration. It is likely that we will simply continue with current practice.	Remove/Retire
5	Apply the same flood damage prevention guidelines to the Connecticut River floodplain and other isolated flood zones not associated with Roaring Brook, Salmon Brook, Grindle Brook, and Meadow Drain.	Policies in place do adequately prevent flood damage in the CT River Flood Plain. In fact, an argument can be made that Regulations are overly restrictive.	Capability/ Remove
1	Complete the Tryon Street and Dug Road drainage project to reduce flooding in South Glastonbury.	Drainage outfall to the CT River completed along with system installations over the westerly half of the road. Additional drainage construction and road construction being considered for the eastern half of the road.	Complete/ Retire

No.	Action	Notes	Status
12	Identify long-term stream channel erosion problems and prioritize for remediation. Include specific remediation projects in the next HMP update.	The Town has a long standing Policy of not becoming involved in maintenance of water courses where they are located on private property. Water courses which flow over publicly owned land are treated differently. Currently the Town is not aware of any severe stream channel erosion problem on Town land, however we would look to address such should we encounter such a situation.	Carry Forward with Revisions
2	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.	The town staff don't believe there are many businesses in low-lying flood areas for which this would be a concern. Glastonbury has local flood zoning that prevents many uses within a flood zone. This is no longer a need and can be removed.	No longer needed / Retire
3	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.	Glastonbury is on track with MS4. This is a capability. Five town-owned facilities have new stormwater pollution prevention plans.	Capability / Retire
4	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	. Community Development staff are relatively new to their positions and will intend on future involvement with relevant courses and conferences.	Capability / Retire
6	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	The town has its own sewer and eight town-owned sewer pump stations. For water, the western part of town is supplied by MDC potable water. The eastern section is the Town of Manchester potable water. There are four MDC pumping facilities in town, all water.	Retire
7	Conduct outreach to private property owners encouraging them to remove dangerous trees and branches on their property.	The town has a tree warden and money in the budget to address tree problems that are town-owned. The town also worked with Eversource to coordinate taking out trees in the power right-of-way. In terms of private trees, the town will sometimes send a letter asking private landowners to take action. So this is a capability.	Capability / Retire
8	Adopt best-practices guidelines for contractors performing major tree clearing projects to minimize impacts on drainage.	The town environmental planner would review any proposals for subdivisions with implications for wetland areas or sensitive areas. Seems like the intent of this action has been achieved.	Complete / Retire
13	Make progress with the hazard mitigation goals associated with SustainableCT certified actions.	The town is certified silver.	Complete / Retire

No.	Action	Notes	Status
9	Carry out a campaign to educate property owners on the impact of using water, especially private well water, to irrigate turf during droughts. Include alternative options.	The town has a number of homes with private wells. Drought is still a concern of the town for this reason. Town staff think that messaging would be sent out if there was a drought, but it might be on a case-by-case basis.	Carry forward, perhaps with revisions?
14	Promote the use of drywells and other infiltration structures to direct runoff and precipitation into structures for groundwater recharge	Significant progress has been made relative to this item. MS4 compliance and discharge water quality requirements are referenced with respect to Development and re-development projects. The land use regulations have some groundwater protection areas	Carry forward, perhaps with revisions to be more achievable ?
15	Adopt new Drought Ordinances that reflect and promote the findings and recommendations of the 2003 Connecticut Drought Preparedness and Response Plan (or future updates to that document).	The town does not have a drought ordinance. Revise to something more achievable / useful.	Revise
16	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	The town has a lot of historic structures. The town already has access to the new SHPO layer, so this can be considered a capability. The town is not looking to do more surveys, so that part of the action is no longer a need.	Capability / Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Glastonbury

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
GB1	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
GB2	Identify long-term stream channel erosion problems on Town land and prioritize for remediation. Include specific remediation projects in the next HMP update.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; NOAA/NFWF	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	5	95
GB3	Promote the use green infrastructure to increase infiltration and reduce runoff.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning	$0- $10,000	Municipal Operating Budget	07/2024- 06/2025	High	Riverine and Pluvial Floods	No	19	7	133
GB4	Adopt a drought ordinance based on the current model ordinance provided by the state.	Reduce losses from other hazards..	Natural Resources Protection	Planning	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Drought	No	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
GB5	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods/ Tidal Connecticut River Flooding	No	18	6	108
GB6	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/ Drought	No	19	10	190
GB7	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
GB8	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0- $10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat/Tidal Connecticut River	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
									Flooding				
GB9	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	No	18	6	108
GB10	Educate property owners on a case-by-case basis on the impact of using water, especially private well water, to irrigate turf during droughts. Include alternative options.	Reduce losses from other hazards..	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	Drought	No	18	7	126
GB11	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Community Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 15-12: CIRCA Environmental Justice Rank and Critical Facilities, Glastonbury

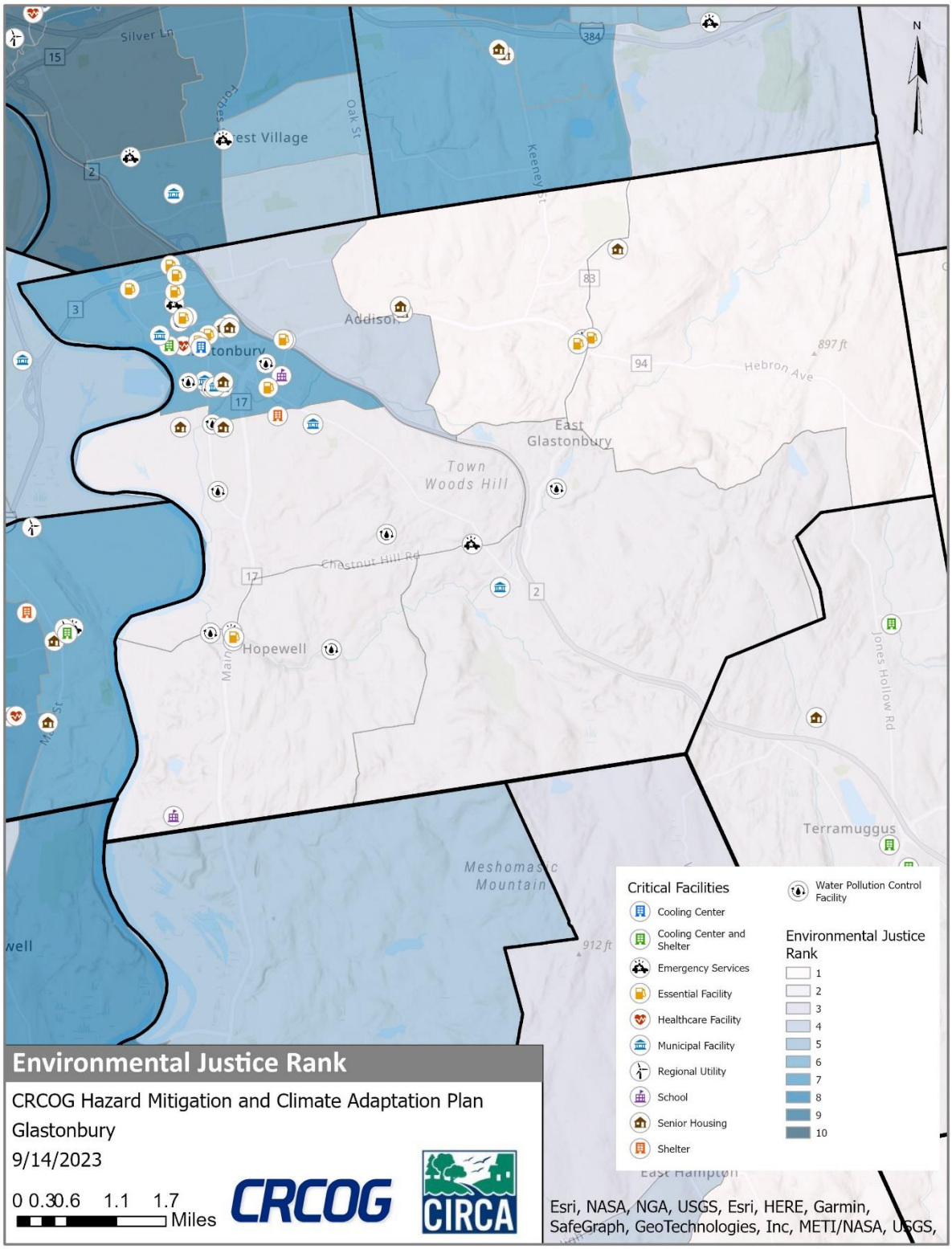


Figure 15-2: FEMA Flood Zones and Critical Facilities, Glastonbury

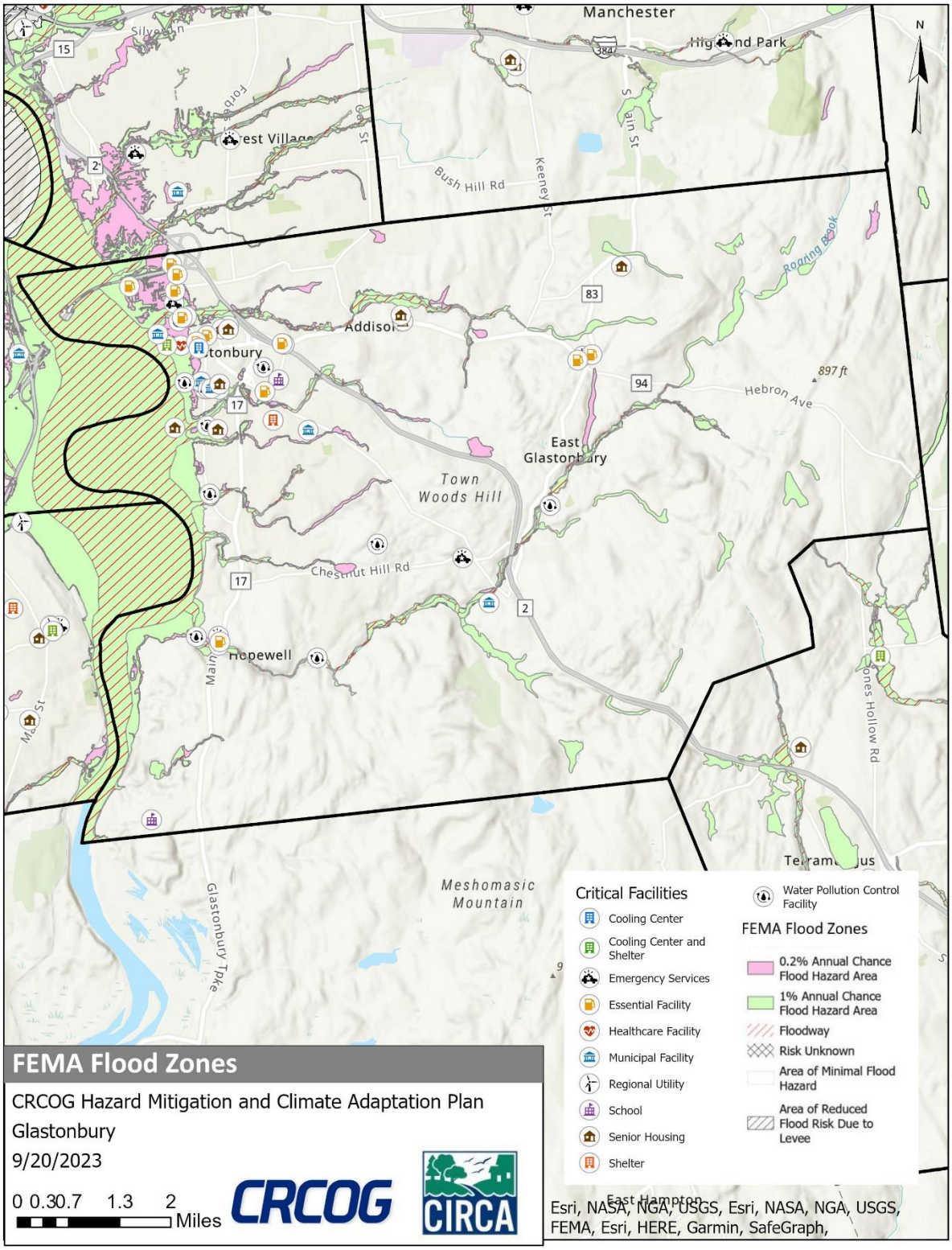


Figure 15-3: CIRCA Flood CCVI and Critical Facilities, Glastonbury

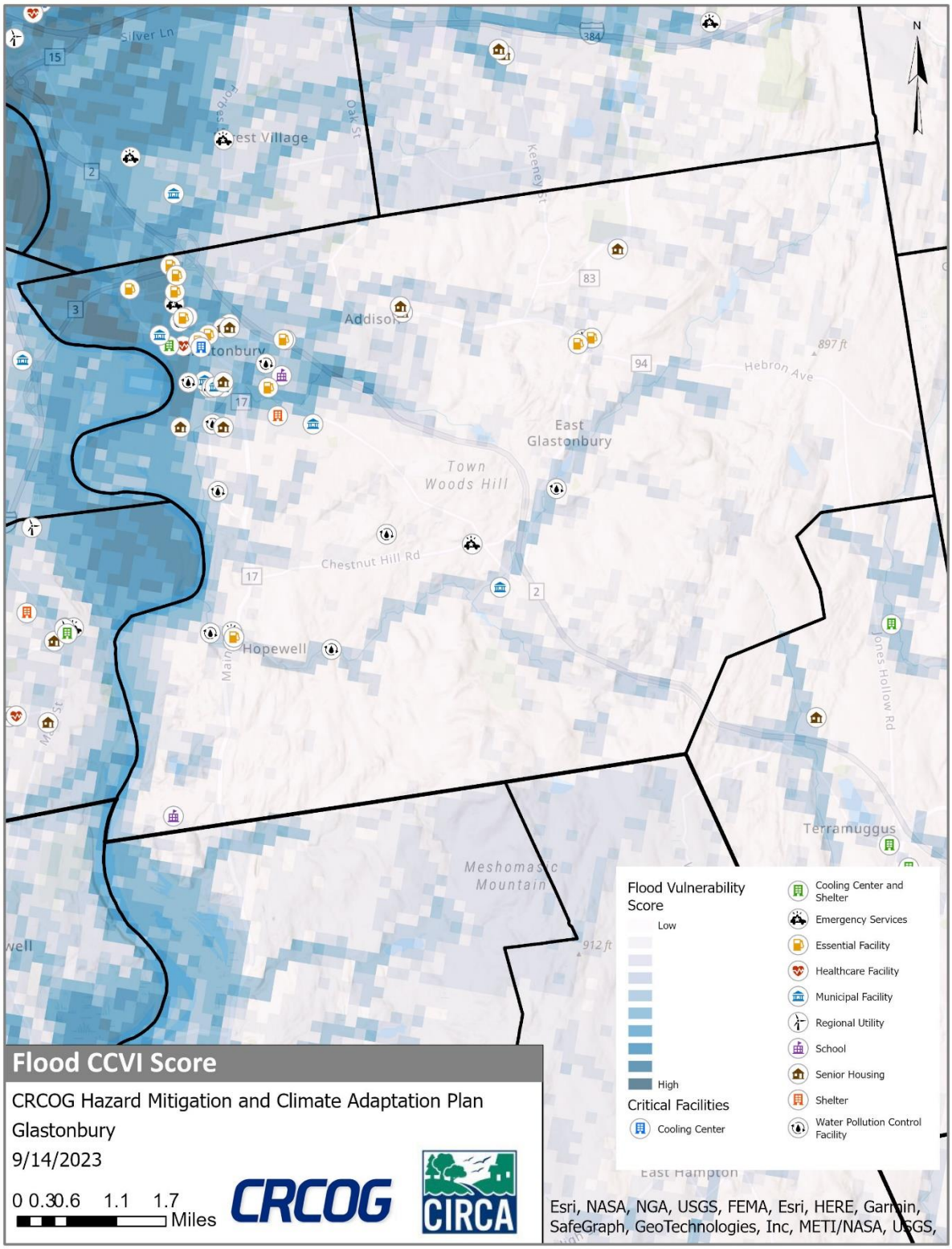
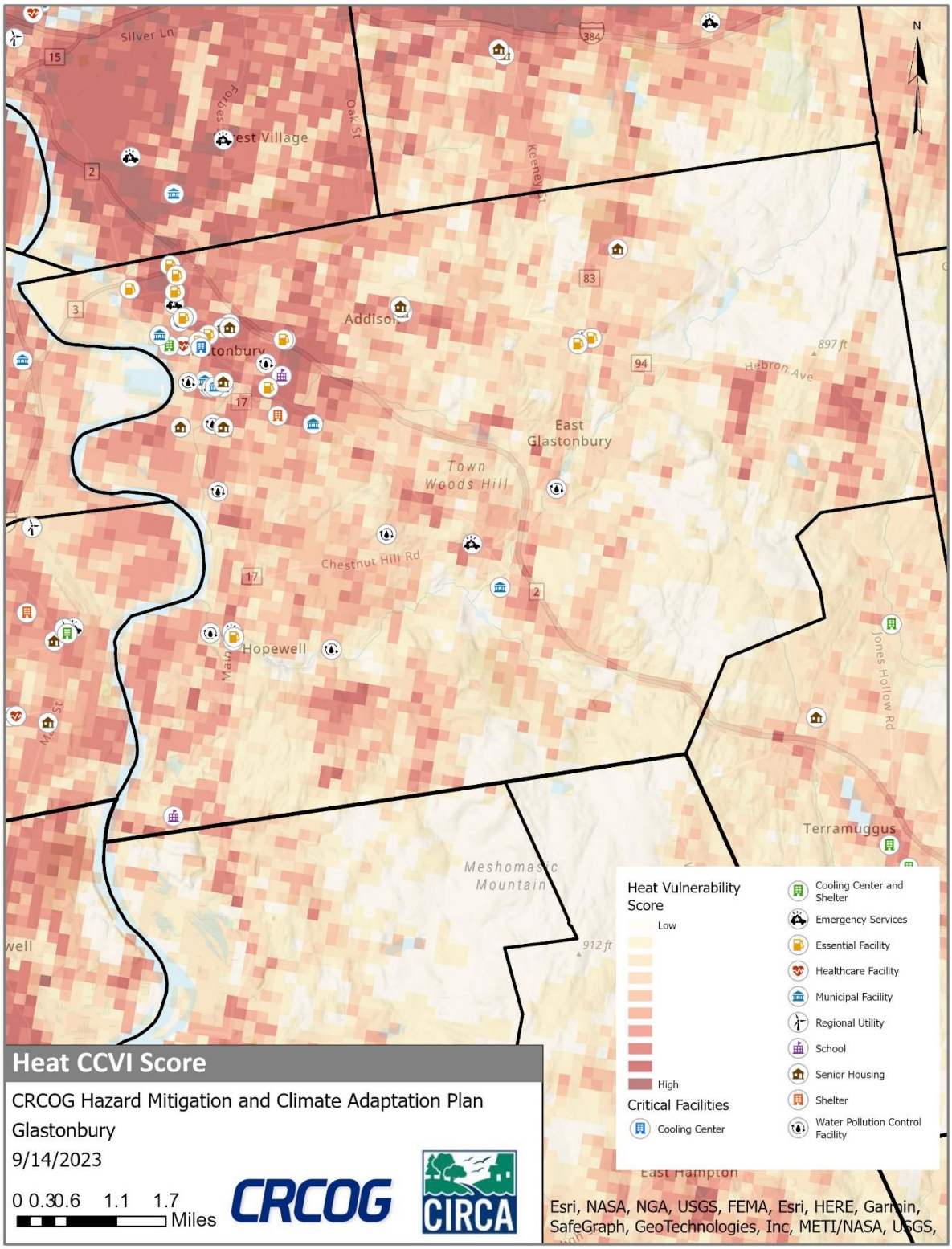


Figure 15-4: CIRCA Heat CCVI and Critical Facilities, Glastonbury



16 Granby

Community Overview

Granby is a rural, low density residential community with a land area of 40.7 square miles and an estimated population of 10,903, resulting in a population density of only 284 persons per square mile. Population is growing, with an estimated 7 new single family homes constructed a year. A large multi-family residential development that includes 130 apartments and 75 additional units, consisting of a mix of single-family and duplex homes, was recently completed.

Granby's elevation ranges from less than 200 feet to over 1000 feet above sea level. The main watercourses running through Granby include Beech, Bissell, Dismal, Higley, Hungary, Mountain and Salmon (East and West Branches) Brooks; all drain eventually to the Farmington River.

Major transportation routes include state routes 10/202, 20, 189 and 219. Restaurants and retail space account for most commercial development in Town. The largest employers in Granby are the Town itself, the YMCA, Stop & Shop, Meadowbrook Nursing Home, and Geissler's Supermarket. The largest property owner is McLean Game Refuge.

Most homes in Town have their own private wells and septic systems. It is estimated that as many as 20% of single family homes have backup generators. Limits on access to public water and sewer infrastructure restrict high density development outside of the Granby Center area.

Since the last plan update, the town has had a bit of recent residential development, but not in high-risk areas. There are 235 apartment units under construction just north of the center of town. The development will consist of seven, three-story buildings, detached garages, and other site improvements. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Granby critical facilities include the Town Hall, Police Station (EOC), public library, Department of Public Works, 3 Fire Houses, Salmon Brook Water Company, 2 Sewer Pump Stations, the Middle School (primary shelter), the Senior Center (backup shelter), the High School, the Elementary School, the Intermediate School, the Meadow Brook Nursing Home, the YMCA, and Stony Hill Village senior housing. The DPW stores emergency shelter cots and supplies, which are used at the Middle School. A portable generator that primarily serves the sewer pumping stations is also stored at the DPW; if necessary, this generator can be connected to the Senior Center and library. This portable generator is 40-50 years old. The Meadow Brook Nursing Home has agreed to shelter residents needing special assistance during a disaster. The YMCA is available for showering for those staying at shelters following an emergency.

Table 2-14: Critical Facilities, Granby

Facility	Shelter	Cooling Center	Generator
Town Hall			X
Police (EOC)	Charging Station		X
Public Library	Warming/charging center.	X	
Department of Public Works			Portable
3 Fire Houses			X
Salmon Brook Water Company			X

Facility	Shelter	Cooling Center	Generator
2 Sewer Pumping Stations			1 Portable
Middle School	Primary		X
Senior Center	Secondary/Warming	X	X
High School			
Elementary School			
Intermediate School			
Meadow Brook Nursing Home	Special Assistance		X
YMCA	Showers		X
Stony Hill Village			

During extreme heat events, Granby Public Library and Granby Senior Center can both be opened as public cooling centers. Generators for these facilities are needed.

Capabilities

Hazard mitigation is addressed specifically in Granby's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards, including climate change.

Granby uses the Everbridge Reverse 9-1-1 system to warn residents of impending disasters.

The Department of Public Works is responsible for re-opening roads that are blocked by fallen trees.

The Town's YMCA can made available for residents to shower, and the Town can distribute water for residents who lose both power and water pressure.

The Town has a community emergency response team (CERT) that can be activated to help coordinate emergency response. The CERT was formed in 2010, following the guidelines of Homeland Security, and works closely with the Fire Department and Emergency Management Director. Large plastic coated maps have been created through the Town's GIS system and provided to every fire station along with multiple copies to the Police Department and CERT. The Town's GIS is fully functional and assists with hazard mitigation and response.

The Town has added generators to all of its fire houses, the Senior Center, and the Middle School. CERT is now working on a plan to utilize these buildings during future emergencies.

Granby has an excellent understanding of the unique challenges posed by its significant elevation variations. While the steep terrain can be difficult to navigate during winter storms, Town crews are well trained and equipped to address such circumstances. New equipment and personnel are made available as necessary.

The Lost Acres Fire Department (LAFD) has an excellent understanding of forests fires and is well equipped to address the situation should it arise. The LAFD regularly updates its equipment as needed.

The Town has an excellent understanding of local flooding and is prepared to address areas of flooding. In most cases this involves short term road closures. No new development is anticipated within the areas of potential flooding. Granby has had no new construction or demolition since 2008 in floodplains or other vulnerable areas. The Town did a complete review and adopted modifications to Section 8.18 of

the Zoning Regulation Special Flood Hazard Areas in September of 2008. These changes were adopted in accordance with recommendations of the Connecticut Department of Energy and Environmental Protection (DEEP). The changes are designed to decrease Granby's vulnerability to flooding.

Hurricane Irene, which occurred in August of 2011, provided an opportunity for the Town to test its preparation for such major events. Early on the Emergency Management team was activated. Many roads were flooded during the height of the storm and the Town quickly closed such roads and re-routed traffic. As expected the floodwaters quickly receded after the storm and the Town returned to normal. The October 2011 snowstorm proved a much greater problem. Again the emergency response team was called into operation. However, the heavy snowfall and resulting tree and power line damage completely crippled the Town. The power outages were extensive and prolonged. The Town's emergency shelter proved to be a great help in accommodating those without power, but also proved inadequate. In response to these events the Town has added generators to most of its public buildings and plans are being considered as to the future use of these building during prolonged emergencies.

Since the 2019 HMP, no new actions have been incorporated as capabilities and thus, capabilities to address natural hazards and the losses that they have caused, have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Granby's large elevation variation results in unique hazard concerns. Winter weather often hovers around 32 degrees, and even a slight decrease in temperature due to the increase in elevation will result in a snow/ice division. This is a common occurrence in Granby, where ice/snow conditions may be found in half the town while rain falls in the remaining portion. Ice is becoming an increasing concern in Granby.

The Town contains significant forested lands, including state forest and the privately held properties of the McLean Game Refuge and Granby Land Trust; therefore wildfire is a significant concern. During storms, Town staff also report that the number and duration of power outages is high.

Only a small portion of the Town is within the 1%-annual-chance flood zone and very little development has occurred or is allowed to occur within the area; therefore the Town has had relatively minor losses due to flooding. Because of its steep terrain, when flooding does occur, the flood waters quickly recede following the storm. Areas at risk of flooding include sections of Mechanicsville Road, sections of ballfields in Salmon Brook Park that were lost to scour or erosion in 2021, and areas of Holcomb Farm where a pedestrian bridge was washed out.

Riverbank stabilization is a key concern in Granby due to the constantly shifting courses of small brooks. Although the town has managed some work in Salmon Brook Park to protect against erosion, ongoing bank stabilization is essential, including an area near the Donahue Road bridge. Town staff emphasized the critical need for bank stabilization in the community.

The Town is completely dependent on groundwater for its potable water supply. Most homes in Granby have individual wells, most of which are bedrock wells, though gravel pack or point wells are not uncommon. The Town has no history of droughts seriously impacting local wells, though shallow wells can be temporarily impacted; however, wells cannot operate without electricity and prolonged electrical

outages will result in potable water and sewage disposal issues. Most residents (and all of those who live at higher elevations) who lose power will also lose water. Areas that need to be prioritized during emergencies include the Meadowbrook Nursing Home and the water tanks and pumps that service the Salmon Brook Water District.

Granby is serviced by two water companies, the Salmon Brook Water District and the Aquarian Water Company. Both are supplied by well water. The Aquarian Water Company's wells are located in Simsbury. The Salmon Brook Water District has a 190,000 gallon water tank off of Pendleton Road and wells located near the Town's Salmon Brook Park. There is no history of water supply quantity problems. The Town works cooperatively with the Salmon Brook Water District to maintain the quality of the water.

The ability to access the animal shelter can be compromised due to flooding.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Granby. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 16-2: Average Annualized Losses, Granby

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$28,018.84
	NRI	$429,418.02
	FEMA PA	$2,688.02
Tornados/High Winds	NCEI	$10,489.74
	NRI	$114,026.61
Winter Storms	NCEI	$8,309.75
	NRI	$6,422.41

Hazard	Source	Average Annualized Losses (AAL)
	FEMA PA	$4,314.48
Flood	NCEI	$8,492.91
	NRI	$12,642.10
	NFIP	$1,978.08
Drought	NRI	$112,629.14
	USDA	$7,411.50
Extreme Heat	NRI	$12,687.15
Wildfire	NRI	$4,802.31
Earthquakes	NRI	$16,208.71
Dam Failure	HMP	$20.00

Losses Summary

A review of the above loss estimates demonstrates that the community 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should consider a forestry management plan to address concerns related to power outages and wildfires.
- An evaluation of options to improve access/egress to the animal shelter.
- The town should ensure they have ice removing equipment and the budget necessary to deal with ice removal.

- The town should continue to prioritize areas that need attention during emergencies including the Meadowbrook Nursing Home and the water tanks and pumps that service the Salmon Brook Water District.
- The town should replace the 40-50 year old portable generator.
- The town should replace/upgrade the generator at the Board of Education building and install generators at the Library and all schools.

Status of Previous Mitigation Strategies and Actions

The community reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Granby

No.	Action	Notes	Status
1	Review snow removal policy for emergency situations and adopt a policy that will limit road obstruction.	It's likely that ice will be more of a concern than snow going forward. It costs more money to work with ice than it does with snow. Getting snow out of the way of roads is not really a concern for Granby. Revise to address ice.	Carry Forward with Revisions
2	Develop the Town's social media presence and utilize that media to improve public communication about natural hazards.	The town has a Facebook page and is working on increasing its social media presence. The structure is there. Perhaps combine this action with #3.	Carry Forward with Revisions
3	Update the Town website to include up-to-date information about natural hazards.	The town has recently revamped the website. Perhaps combine this action with #2.	Carry Forward with Revisions
4	Develop a standard operating procedure to address trees that fall into streams and block bridges and culverts.	This is an ongoing concern, and happened in a recent storm. This action is still needed, and needs to be coordinated with Inland Wetlands Commission.	Carry Forward
5	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	Conservation Commission is now leading the effort to become certified, working on getting enough points to be certified. So this action is complete, as the consideration has already happened. No other actions related to Sustainable CT are needed.	Complete/Retire
6	Develop and implement timber management program for town-owned property.	This is still needed. Attendees remarked that "What we need is a forester." The town owns about 1400 acres, many of which are remote. Many have hiking trails, and many have required tree trimming in order to protect residents' houses. DEEP has a program to assess town-owned forest, which might be useful. The town staff suggested getting some UConn interns to work on this. Through a facilitated discussion, attendees settled on potentially combining with action 7 below to provide a new action to develop a Forestry Management Plan.	Carry Forward

No.	Action	Notes	Status
7	Increase local budget for tree trimming.	This can be combined with the previous action. The budget is $27,000. The town will work with tree service companies so that the company does the trimming and the town does everything else (i.e., chipping and debris management), which reduces the total cost.	Carry Forward with Revisions
8	Replace analog communication system and acquire new computers for the EOC.	The EOC now has a new computer and monitor to replace the old projector. The communication system still needs work, and needs to upgrade from a radio system (estimated cost $4 million). Perhaps make this its own action. The EOC is in the police department, but the police chief has noted that the facility might be at risk due to the large number of windows / possibility of wind damage. This should be another action – not a new EOC, but fortifying the current EOC, perhaps with a retrofit using safety glass windows.	Carry Forward with Revisions
9	Complete the reconstruction of the Silver Street Bridge.	This is complete. This was an in-kind replacement, not an up-size.	Complete/Retire
10	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.	This likely did not happen, and this action can be marked as Completed because the need is not apparent in Granby.	No longer needed/Retire
11	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.	The town is part of MS4 and has this very well handled. This action can be removed.	Complete/Retire
12	Pursue opportunities, including MOUs and CRCOG's service sharing initiative, for service and equipment sharing with neighboring communities. Specifically, the Fire Department needs access to a utility vehicle.	This can be removed, as the CRCOG initiative is no longer active.	No longer needed/Retire
13	Establish ordinance to prevent road obstruction due to illegal snow removal.	There is still no ordinance. This can be removed, given the snow removal discussion above for action #1.	No longer needed/Retire
14	Draft a regulation requiring dry hydrant installation in new developments.	There is no regulation, and this remains at the fire marshal's discretion to encourage the developer. This allows the decision to be made case-by-case, which is the town's preference.	No longer needed/Retire

No.	Action	Notes	Status
15	Conduct outreach to promote timber management planning with major landholders.	This should be addressed within the timber management plan/program referenced in Action #6. Needs to be clear that the Tree Warden does not go on anybody's private property. The ordinances should not change, and any messaging should be completely voluntary. More holistic forestry management is needed, with clear distinctions between what is in the Tree Warden/town's jurisdiction and what is not. Revised/combined with actions 6/7 above.	Carry Forward with Revisions
16	Pursue MOUs with local vendors on an annual basis to provide assistance during and following storms.	This is complete and now is a capability.	Complete/Retire
17	Annually evaluate and update training protocols, particularly in relation to flooding.	The town staff feel that the training is important but merge with action below.	Carry Forward
18	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	This can be merged with #17.	Carry Forward with Revisions
19	Evaluate and update the stormwater management plan to state requirements.	This is complete and part of MS4 so it doesn't make sense to have it as a separate action. The town uses a consultant for assistance.	Complete/Retire
20	Conduct outreach efforts to prevent road obstruction due to illegal snow removal.	This can be removed, consistent with above discussions about snow risks decreasing	No longer needed/Retire
21	Evaluate and update the zoning, subdivision and wetland regulations to ensure they limit exposure to natural hazards.	This is a capability.	Complete/Retire
22	Conduct a wildfire vulnerability and needs assessment to guide construction of additional dry hydrants and/or cisterns and fire roads through forested areas.	This can be incorporated into the forestry/timber management plan action. The town has had some small brush fires, maybe an acre at most.	Carry Forward with Revisions
23	Update GIS technology to coordinate and prioritize response.	The town's GIS capabilities are pretty good.	Complete/Retire
24	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Granby has one RLP.	Carry Forward

No.	Action	Notes	Status
25	Generate a list of priority bridge, culvert, and other drainage projects identified in the Capital Improvement Plan to be included as individual actions in the next HMP update.	Bridges are inspected regularly by the state or by the town (depending on the size of the bridge). The town keeps track of the bridges in need of repairs—the bridge on Doherty Road is an example of a bridge in need of repair/replacement There is a pedestrian bridge that got flooded in 2021, and a "Friends Of Holcomb" group is trying to find funds to get it replaced. The pedestrian bridge is unlikely to be funded by FEMA. Attendees discussed the possibility of not replacing this bridge, due to the permitting complexities that would occur.	Carry Forward with Revisions
26	Complete an analysis of costs and benefits of joining the FEMA Community Rating System.	There are very few homeowners in Granby who have flood insurance, and the town does not have the staff time to work on this. Joining the program would not be cost effective.	No longer needed/Retire
27	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	Revise this to something like "Request and use the new SHPO data on historic resources to identify resources at risk."	Carry Forward with Revisions
28	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Combine with the previous action. The town has no other plans to look for historic structures.	Carry Forward with Revisions
29	Create a long-range plan for relocating high density utility facilities.	The town staff were initially not sure which facilities this is referring to, but given that this possibly refers to a critical facility within a flood zone, attendees agreed that this may be referring to sewer pumping stations. The Salmon Brook Park pumping station replacement project is underway—the project was put out to bid and a contractor selected. . The new pump station will be elevated and floodproofed so that it won't take in water. So the town is working on this. The action can be revised from "relocating" to "relocate or floodproof."	Carry Forward with Revisions
30	Purchase large wood chipper and new utility vehicle.	But the fire department might still be looking for an RTV, and this could be its own action.	Complete/Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Granby

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
GR1	Create a long-range plan for relocating or flood-proofing the sewer pumping stations.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Works	>$1M	CWSRF; FEMA HMA; STEAP	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	18	2	36
GR2	Acquire generators or upgrade existing generator for critical facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
GR3	Determine additional access/egress routes to access the animal shelter which can be compromised due to flooding or consider a new location for the animal shelter.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Municipal CIP Budget	07/2025 - 06/2027	High	All Hazards	No	18	5	90
GR4	Review ice removal policy for emergency situations and adopt a policy that will limit road obstruction and be cost effective.	Reduce losses from other hazards.	More than one type	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Low	Severe Winter Storms	No	18	8	144
GR5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
GR6	Replace analog communication system for the EOC.	Ensure that critical facilities are resilient, with special attention	Preparedness & Emergency Response	Public Works	$50,000 - $100,000	STEAP; Municipal CIP Budget	07/2025 - 06/2026	High	All Hazards	No	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
		to shelters and cooling centers.											
GR7	Fortify the EOC at the Police Department by retrofitting it with safety glass windows to mitigate the risk of wind damage and tree-related hazards.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	Municipal CIP Budget	07/2025 - 06/2027	High	Hurricanes and Tropical Storms/ Tornadoes and High Winds	No	18	4	72
GR8	Develop a standard operating procedure to address trees that fall into streams and block bridges and culverts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$0-$10,000	Municipal Operating Budget	1/2025 - 12/2015	Medium	Tornadoes and High Winds	No	18	7	126
GR9	Develop and implement timber management program for town-owned property and Increase local budget for tree trimming. The plan should include a wildfire vulnerability and needs assessment to guide construction of additional dry hydrants and/or cisterns and fire roads through forested areas as well as a guide with distinctions between what is in the Tree Warden/town's jurisdiction and what is not.	Reduce losses from other hazards.	Prevention	Fire Department	$10,000 - $50,000	Municipal Operating Budget	07/2026 - 06/2028	High	Wildfires	No	19	5	95
GR10	Generate a town wide forestry management plan.	Reduce losses from other hazards.	Prevention	Fire Department	$10,000 - $50,000	Municipal Operating Budget	01/2026 - 12/2027	High	Wildfires	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
GR11	Make progress with priority bridge, culvert, and other drainage projects identified in the Capital Improvement Plan.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
GR12	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/ Drought	No	19	10	190
GR13	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
GR14	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
GR15	Annually evaluate and update training protocols, particularly in relation to flooding. Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	No	17	6	102

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
GR16	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
GR17	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	No	18	9	162
GR18	Enhance hazard communication by boosting the Town's social media presence. Continue to update the Town website with current information on natural hazards for a comprehensive communication strategy.	More than one goal.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	1/2025 - 12/2015	Medium	All Hazards	No	17	7	119

Figure 16-13: CIRCA Environmental Justice Rank and Critical Facilities, Granby

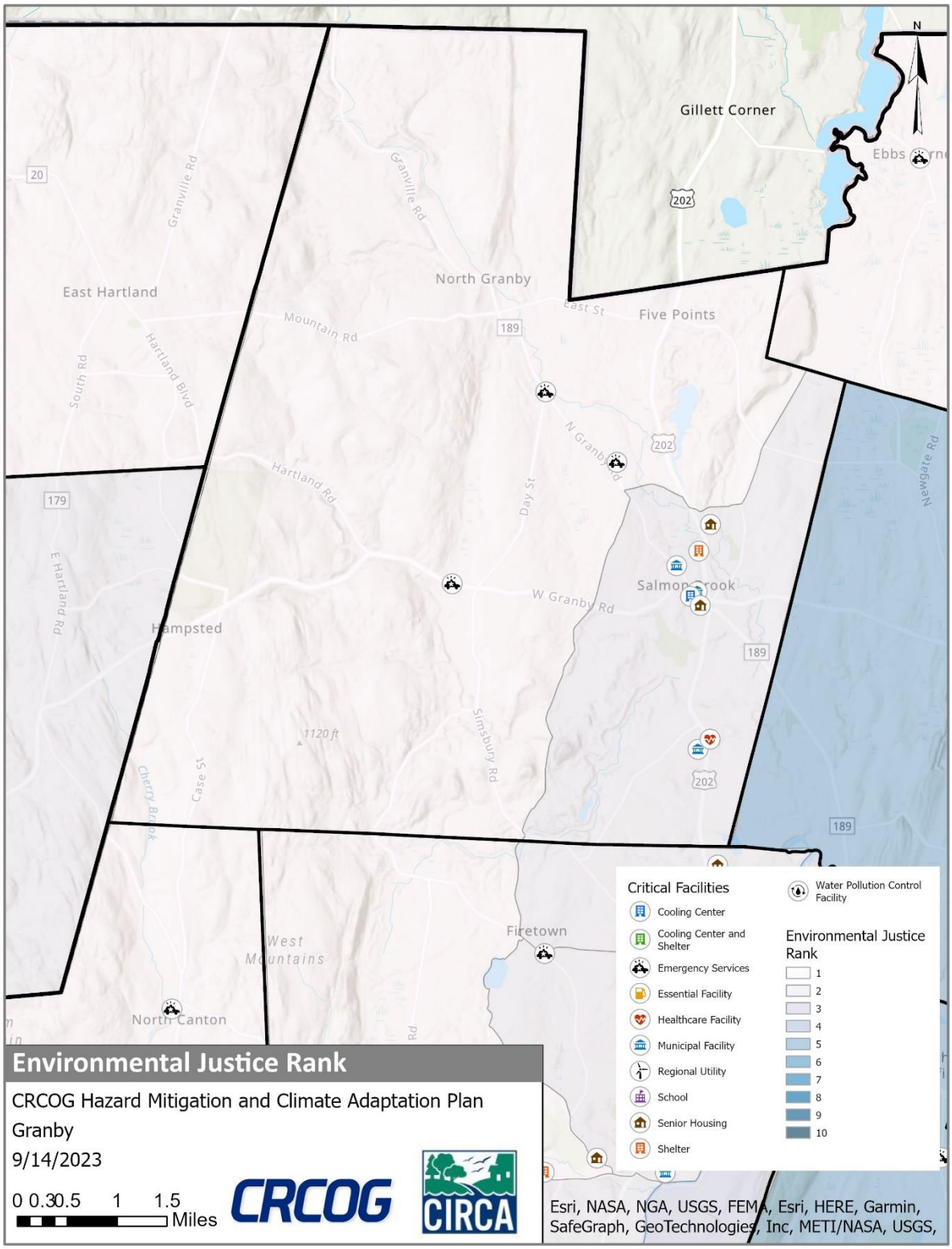


Figure 16-2: FEMA Flood Zones and Critical Facilities, Granby

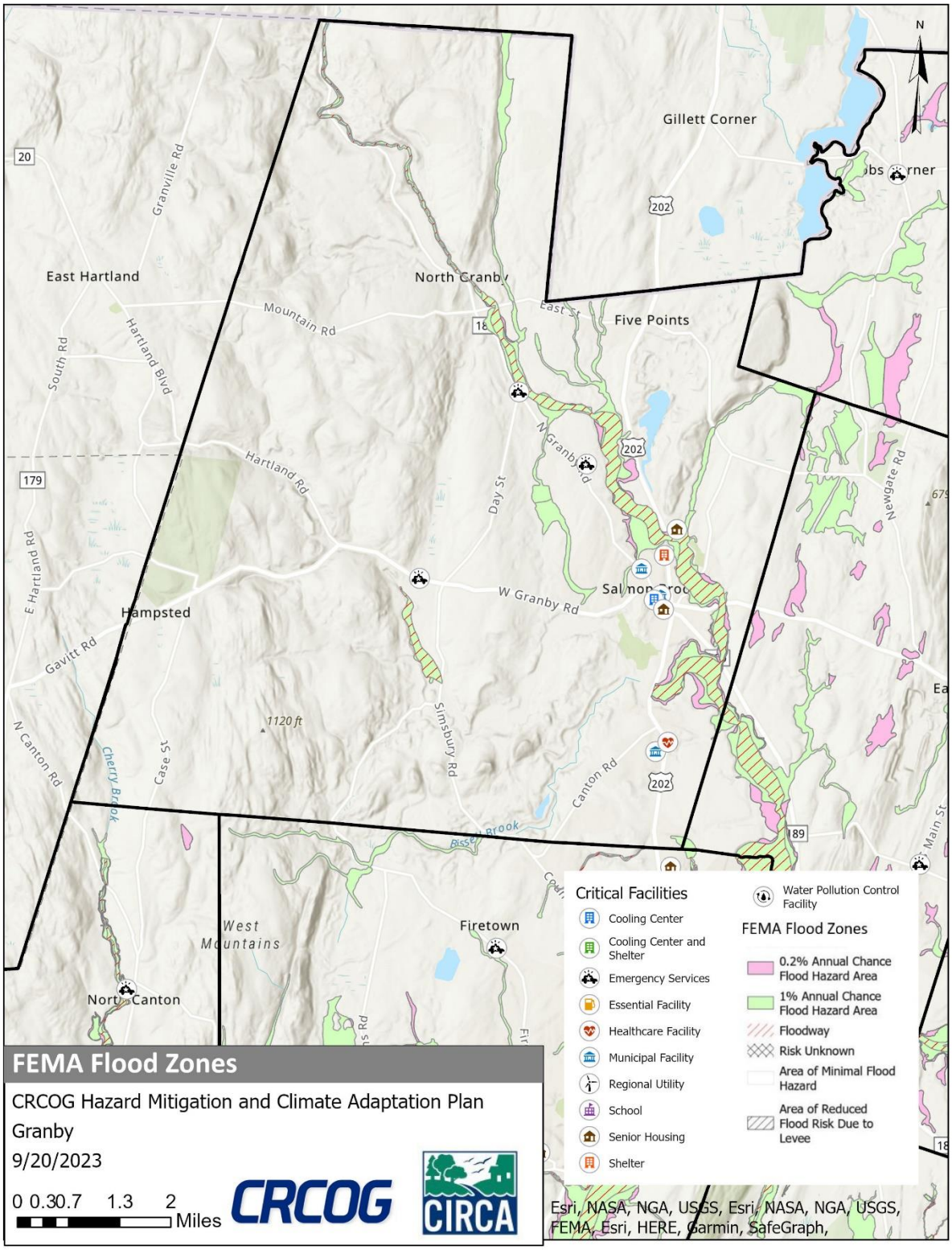


Figure 16-3: CIRCA Flood CCVI and Critical Facilities, Granby

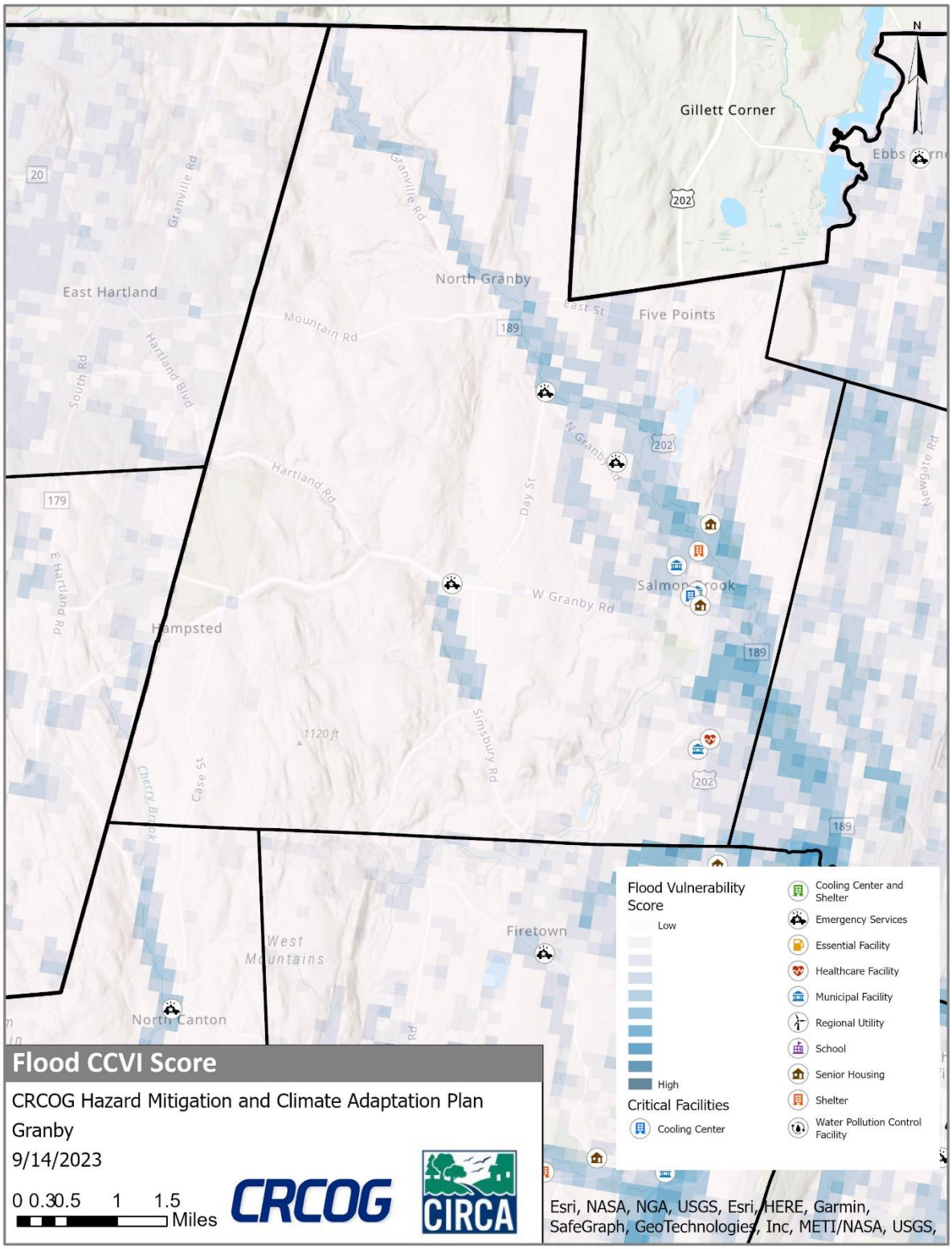


Figure 16-4: Dam Inundation Area and Critical Facilities, Granby

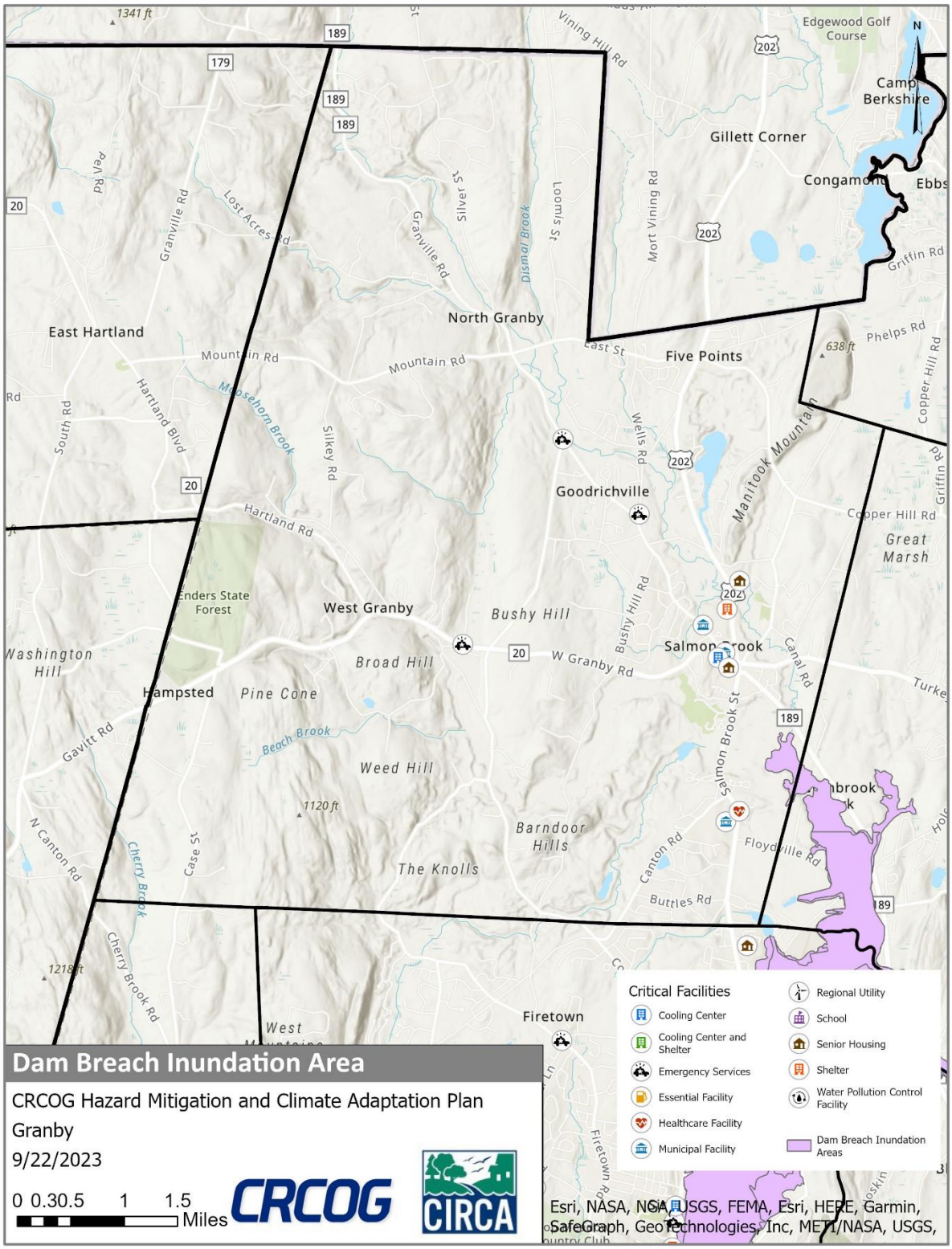
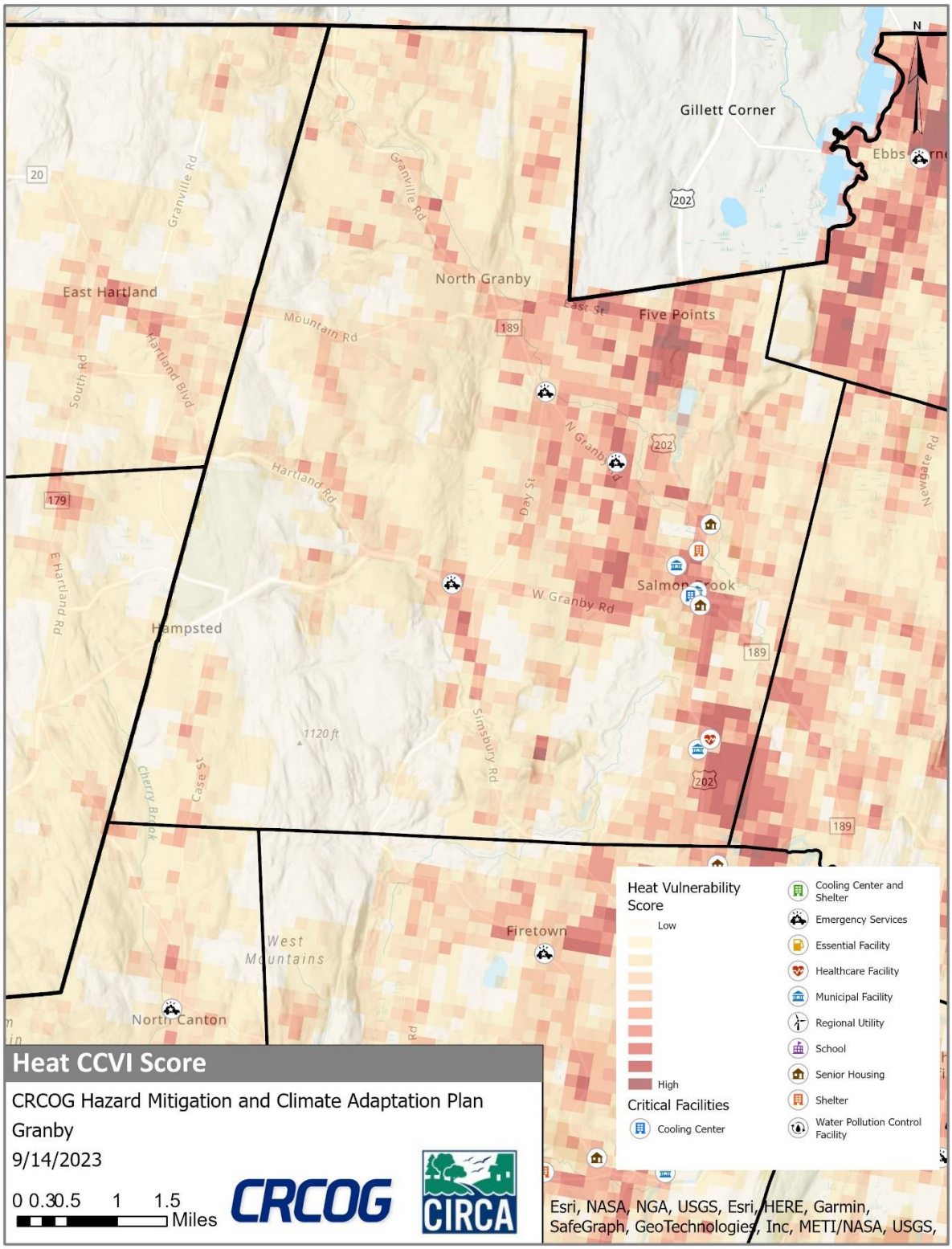


Figure 16-5: CIRCA Heat CCVI and Critical Facilities, Granby



17 Hartford

Community Overview

Hartford, Connecticut's capital city, is an urban community centrally located within the Region. It has a land area of 17.3 square miles and an estimated population of nearly 121,054 (2020 Census). The elevation ranges from approximately 30 to 150 feet above sea level. Hartford drains to the Connecticut River to the east and the Park River to the west. Other watercourses in the City include Cemetery and Gully Brooks. Interstates 91 and 84 intersect in Hartford. State routes 44, 187 and 189 also traverse the City. An Amtrak commuter rail line and the Hartford Line commuter rail each stop in the City, and CT*fastrak*, a regional Bus Rapid Transit System, has stations in Hartford.

Hartford is home to the Capitol and numerous state facilities. Brainard Airport is located in the southeastern corner of the City. Numerous industries and businesses operate throughout Hartford, including many insurance companies. The City also houses three major hospitals: Hartford, Connecticut Children's, and St. Francis. The City is also home to Trinity College and the University of Hartford. The University of Connecticut and University of St. Joseph have branches in the Downtown area. Hartford attracts visitors throughout the year to its historic, arts and cultural venues including the Convention Center, XL Center, Dunkin' Stadium, Riverfront Recapture, Comcast Music Theater, Wadsworth Athenaeum, Connecticut Science Center, the Old State House, Mark Twain and Harriet Beecher Stowe Houses, and the Bushnell Center for Performing Arts.

Hartford has an old and primarily combined sewer infrastructure system. There are pressures on the system from climate-related weather events, and The Metropolitan District MDC is currently planning impediments to new sewer connections for critical development projects. While some development/redevelopment might occur in areas of flood risk, strict adherence to state and local flood regulations and state building codes will reduce overall risks.

Critical Facilities

In Hartford critical facilities include the Emergency Operations Center, housed at the Hartford Public Safety Complex, 7 Eversource substations and 4 Eversource Area Work Centers. The Fire Chief is also the Emergency Management Director. Please see Table 17.1 on the follow pages for a listing of Hartford's critical facilities.

Table 27.-15: Critical Facilities, Hartford

Critical Facility	Shelter	Cooling Center/Warming Center	Generator	School	Public Safety	Infrastructure	Municipal Government	Medical
Hartford Public Safety Complex			X		X		X	
Hartford City Hall							X	
50 Jennings Road - DPW/HPD			X		X		X	
40 Jennings Road - DPW Yard			X			X	X	
250/260 Constitution Plaza							X	
HFD - Station 1					X	X	X	
HFD - Station 2					X	X	X	
HFD - Station 5					X	X	X	
HFD - Station 7					X	X	X	
HFD - Station 8					X	X	X	
HFD - Station 9					X	X	X	
HFD - Station 10					X	X	X	
HFD - Station 11					X	X	X	
HFD - Station 14					X	X	X	
HFD - Station 15					X	X	X	
HFD - Station 16					X	X	X	
North Meadows Pump Station					X	X		
Keney Pump Station					X	X		
Armory Pump Station					X	X		
Bushnell Pump Station					X	X		
Pope Park Pump Station					X	X		
South Meadows Pump Station					X	X		
The Metropolitan District EOC					X	X		
MDC Water Pollution Control Plant					X	X		
North End Senior Center	X	X						

Critical Facility	Shelter	Cooling Center/Warming Center	Generator	School	Public Safety	Infrastructure	Municipal Government	Medical
Parker Memorial Community Center	X	X	X					
South End Senior Center	X	X						
Arroyo Recreation Center	X	X						
Wille Ware Recreation Center	X	X						
Hartford Armory	X	X			X	X		
Metzner Community Center	X	X						
110 Washington Street	X	X						
Hartford Community Correctional Center					X			
Connecticut River Right Bank Flood Risk Management System, Hartford, CT (levee system)					X	X		
Park River Flood Risk Management System, Hartford, CT					X	X		
South Branch Park River Watershed Project – NRCS Flood Control					X	X		
Batterson Park Dam & Dike – Class C Dam located in New Britain / Farmington					X	X		
MDC Sewer Pump Stations						X		
Hyland Recreation & Early Learning Center	X	X		X				
Hartford Hospital								X
St. Francis Hospital								X
Connecticut Children's Medical Center								X
Mount Sinai Rehabilitation Hospital								X
Institute for Living								X
7 Eversource Electrical Substations						x		
4 Eversource Area Work Centers						x		
Trinity College				X				
University of Hartford				X				
Capital Community College				X				

Critical Facility	Shelter	Cooling Center/Warming Center	Generator	School	Public Safety	Infrastructure	Municipal Government	Medical
UConn - Hartford Campus				X				
UConn Law School				X				
Hartford Steam Generation Plant						X		
Union Station Transportation Center						X		
Parkville Community Center	X	X						
Parkville Micro Grid						X		
Brainard Airport						X		
CT Fastrack Stations						X		
Railyard Service Station						X		
South Park Inn	X							
McKinney Shelter	X							
ImmaCare, Inc.	X							
House of Bread	X							
The Open Hearth	X							
St. Elizabeth House	X							
Betances Magnet School				X				
Breakthrough Magnet School - North				X				
Breakthrough Magnet School - South				X				
Burns Latino Academy				X				
Alfred E. Burr Middle School				X				
Capital Preparatory Magnet School				X				
Naylor/CCSU Leadership Academy				X				
Renzulli Gifted & Talented Academy				X				
Dr. Michael D. Fox School				X				
Bellizzi Dual Language Academy				X				
Hartford High School				X				
E. B. Kennelly School				X				

Critical Facility	Shelter	Cooling Center/Warming Center	Generator	School	Public Safety	Infrastructure	Municipal Government	Medical
Environmental Sciences Magnet School at Mary Hooker	-	-	-	X	-	-	-	-
Expeditionary Learning Academy at Moylan School	-	-	-	X	-	-	-	-
Fred D. Wish Museum School	-	-	-	X	-	-	-	-
Global Communications Academy	-	-	-	X	-	-	-	-
Hartford Pre-K Magnet	-	-	-	X	-	-	-	-
Kinsella Magnet School of Performing Arts	-	-	-	X	-	-	-	-
Sanchez Elementary School	-	-	-	X	-	-	-	-
MLK, Jr. Middle School	-	-	-	X	-	-	-	-
McDonough Middle School	-	-	-	X	-	-	-	-
Milner Middle School	-	-	-	X	-	-	-	-
Montessori Magnet School at Annie Fisher	-	-	-	X	-	-	-	-
Montessori Magnet School at Batchelder	-	-	-	X	-	-	-	-
Noah Webster MicroSociety Magnet School	-	-	-	X	-	-	-	-
Parkville Community School	-	-	-	X	-	-	-	-
S.A.N.D. School	-	-	-	X	-	-	-	-
Rawson Elementary School	-	-	-	X	-	-	-	-
STEM Magnet School at Annie Fisher	-	-	-	X	-	-	-	-
West Middle School	-	-	-	X	-	-	-	-
Bulkeley High School	-	-	-	X	-	-	-	-
Classical Magnet School	-	-	-	X	-	-	-	-
Hartford Magnet Trinity College Academy	-	-	-	X	-	-	-	-
Hartford Public High School	-	-	-	X	-	-	-	-
Pathways Academy of Technology and Design	-	-	-	X	-	-	-	-
Sport and Medical Sciences Academy	-	-	-	X	-	-	-	-
Weaver High School	-	-	-	X	-	-	-	-
University High School of Science and Engineering	-	-	-	X	-	-	-	-

The shelters in Hartford are not only used as Emergency Shelters but are also always open as homeless shelters. Thus, City staff reported that the shelters are always full. The City is aware that they are the capitol city and have many of the services that are needed to provide for homeless or other vulnerable populations. Shelters are allowed only in Industrial Zones, so the underlying zoning needs to be looked at to have a shelter or resilience hub/shelter placed somewhere in the City.

Prior to COVID, the City had plans to renovate McKinney Shelter in the Coltsville section Hartford, but the pandemic disrupted these efforts, and now there are reports of a developer potentially being involved in its redevelopment.

City staff report a high turnover and frequent changes in the facilities designated for sheltering, cooling, or warming, with inconsistent allocations from year to year.

City staff proposed the idea of refurbishing the abandoned Waverly School to repurpose it as a shelter and cooling center.

The City noted that MDC is a partner in the flood control system, with specific responsibilities in a flood situation. City staff reported that various MDC pump stations including the MDC's Fish Fry Pump Station should be listed as critical facilities.

Capabilities

Hazard mitigation is addressed specifically in Hartford's Plan of Conservation and Development.

The United States Army Corps of Engineers (USACE) built a series of dikes in Hartford along the Connecticut River following historic floods in 1936 and 1938. Other flood control projects include the flood risk management system for the Park River constructed by the USACE and the South Branch Park River Watershed Project constructed by Natural Resources Conservation Service (NRCS). The South Branch River Watershed Project is currently operated and maintained by the Connecticut Department of Energy and Environmental Protection (CT DEEP). CT DEEP is exploring shifting some of the maintenance responsibilities of the South Branch Park River Watershed Project to the City. The City has maintained the levee system for 80 years, and has a capital improvement program (CIP) specifically devoted to the system. CIP projects undertaken in the past include floodwall repairs, rip-rap repair, vegetation removal, animal burrow repair, construction of access roads, system testing and analysis, pump station generator replacement, backstop installation, valve operator replacement, sediment removal, dredging, monitoring instrument installation, and drainage improvements. The flood control system is an Accredited Levee under FEMA's map modernization project.

Hartford has not approved any building construction within the 1% annual chance floodplain and has undertaken significant work since 2008 to reduce its vulnerability to flooding.

The Metropolitan District Commission's (MDC) Clean Water Project and new, statewide MS4 Stormwater Drainage requirements pose significant opportunities and challenges for the City. As planning for the separation of combined sewer lines in the City and region moves forward, much of which discharges to the Connecticut River in Hartford, it is critical for the City to monitor potential impacts on flood control infrastructure.

Hartford has fourteen (14) Neighborhood Revitalization Zone (NRZ) Committees that meet regularly as part of "Hartford 2000," a coalition with a mission to "strengthen the collective power of the NRZs and

to serve as an advocate for neighborhood issues." City personnel feel these NRZs are a good way to reach the public in Hartford; Fire and Police personnel regularly attend these meetings.

The Greater Hartford Flood Commission charged with ongoing management of Hartford's flood risks. The City has two private consulting companies on-call to provide continuing services to Hartford regarding flood control.

The Flood Commission, with assistance from the consultants, prepared two submittals for the U.S. Army Corps of Engineers: a System Wide Improvement Framework (SWIF) and a Semi-Qualitative Risk Assessment (SQRA). Both documents have been finalized.

The City repaired a problem with the Weston Street culvert which was clogged and would not function properly. The City has switched from using sand to using two varieties of salt for road de-icing, decreasing issues related to drainage system clogging.

In recent years Hartford has implemented new initiatives and completed projects that mitigate hazards, each of which is highlighted in more detail in the Multi-Jurisdictional HMP. These are:

- The City of Hartford Climate Action Plan, which sets forth environmental stewardship initiatives in six action areas: energy, food, landscape, transportation, waste, and water.
- Green Infrastructure Zoning Regulations that promote environmental sustainability in new development, including reducing threats to water quality from stormwater runoff.
- The Hartford Boathouse was designed to allow flood waters into the lower boat-storage level using flood grates and flood-resistant materials. Critical systems are located on the second level. The building also has a community and function room.
- The Parkville Microgrid is a natural gas powered fuel cell that is able to power a school, senior center, library, health center, gas station, and grocery store in a power outage. The system feeds excess energy back into the regional grid under normal conditions.

It is likely that in the coming years towns on the Park River upstream of Hartford will perform maintenance activities for the river; CT DEEP has contacted these Towns to inform them that maintenance will be required. Funding and resources for such maintenance has not yet been sourced, so it is unclear what the timeframe for improvements will be. It is important to note that the impact of maintenance on Hartford's flood risk is not clear at this point.

Hartford was awarded the Silver Certification level within the SustainableCT program in October 2018.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Conduct tabletop natural hazard emergency response drills with local departments more frequently. Ensure multiple hazard scenarios are drilled.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Historically, Hartford has suffered significant losses from flooding and continues to be vulnerable to the risks posed by flooding.

Additional areas of concern (not an exhaustive list):

- North Main Street / North End – the town seeks to address flooding concerns through continued discussions with MDC.
- Theodore Napper Lane
- Cleveland Ave
- Albany Ave – An opportunity for a significant stormwater conveyance pipe beneath this avenue arose, but it was reported that no one was willing to take ownership of the project, resulting in the pipe's non-construction. As a consequence of this and other factors, Upper Albany Ave remains at a high risk of flooding.
- Granby Street and Blue Hills neighborhood
- Scarborough Street
- Properties adjacent to the North Branch of the Park River

The City has six flood control pump stations. Two of the stations, Pope Park and Armory Pump Stations, reportedly have never been called on to pump. The Armory Pump Station has been activated but pumping was not required. The locations of these stations were originally based on the contours of the ground, and they would operate for catastrophic floods.

City staff raised concerns on the topic of the levee system, which reportedly needs to be addressed before any major redevelopment can happen in the vicinity of the Connecticut River. City staff note that work is ongoing, and the flood protection system will continue to provide protection as individual maintenance and repair projects are completed.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Hartford. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50-year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the

past five years. The 2019 HMP Dam failures 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.

Table 17-2: Average Annualized Losses, Hartford

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$311,088.03
	NRI	$3,334,928.51
	FEMA PA	$106,374.59
Tornados/High Winds	NCEI	$116,465.66
	NRI	$981,694.16
Winter Storms	NCEI	$92,261.63
	NRI	$62,452.40
	FEMA PA	$174,491.35
Flood	NCEI	$94,295.21
	NRI	$26,684.77
	NFIP	$13,104.65
Drought	NRI	$9,205.87
	USDA	$13,187.38
Extreme Heat	NRI	$137,715.12
Wildfire	NRI	$2,065.14
Earthquakes	NRI	$410,595.09
Dam Failure	HMP	$223.00

Losses Summary

A review of the above loss estimates demonstrates that the City of Hartford 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

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

- A culvert at New Park Avenue needs attention.
- Continue to work with MDC to address the flooding concerns in Hartford.
- Continue to seek funding to improve the aging stormwater infrastructure.

Status of Previous Mitigation Strategies and Actions

The City of Hartford reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Hartford

No.	Action	Notes	Status
1	Develop an EAP for the Batterson Park levee in Farmington, and provide it to the Town of Farmington.	When the City is finished refurbishing the park, the ownership will be taken over by the state. The City is trying to make sure the levee is included in this transfer of ownership, as the staff don't think it makes sense for the City to retain ownership. The EAP is either done or almost done – Frank will check and confirm. There were no tabletop exercises.	Complete/ retire
2	Supplement or replace the generators at the city's Fire Houses to support their roles as emergency places of refuge.	City staff weren't sure about the fire houses – this kicked off a further conversation about shelters, see the critical facilities section of the notes. City staff present for the meeting generally seemed unfamiliar with this action. Perhaps revise to encompass the issues discussed in critical facilities section of discussion.	Carry Forward with Revision
3	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.	City staff said that this action doesn't make sense with the reality on the ground in Hartford. The City reportedly has flooding issues, but telling business owners that they should move their equipment and stock to a higher floor is unlikely to help. Perhaps revise to encourage City staff watch the one-hour DEEP webinar training on this topic.	Carry Forward with Revision
4	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.	City staff says that stormwater and MS4 compliance is still very much a concern. CIRCA Staff suggested that the City needs to solve stormwater challenges, rather than rely on the technical assistance suggested by the action (i.e., learning how to submit annual reports, etc.). Erin and the other attendees explained the challenges of a combined system, and the MDC has been telling the City that there can be no net increase in stormwater right now, which impacts redevelopment. Another concern is outfall ownership -- the City thinks they know what outfalls they own, and MDC disagrees. It would be helpful to have a third party assess this. Keep; perhaps with revisions to reflect the specific concerns.	Carry Forward/Carry Forward with Revision

No.	Action	Notes	Status
5	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	While the City staff may not have participated in the events recommended by the action, they participate in the ongoing Army Corps exercises about the flood protection system. CIRCA Staff mentioned the Silver Jackets flood awareness workshops as an example of training presently available, noting that continuing education is often available from DEMHS and other agencies. The City may wish to continue this action with a revision to provide some flexibility.	Carry Forward with Revisions
6	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Given the sensitivity of MDC operations in the City, CIRCA Staff explained the background for this action. The reason this action is in here is because Greater New Haven Water Pollution Control Authority previously missed out on FEMA funding because they didn't list sewer pumping stations in the appropriate annexes of the HMP. The City noted that MDC is a partner in the flood control system, with specific responsibilities in a flood situation. This arrangement works well. Erin raises the concern that MDC might compete with the City for FEMA funds. After some discussion, attendees agreed that Fish Fry pumping station should be listed as a critical facility. Frank notes that a number of sluice gates in the city are also important. Erin suggests listing all the MDC infrastructure near the "hot spot" areas in Hartford. CIRCA Staff notes that the new FEMA guidance requires more robust stakeholder engagement, so CIRCA will likely be reaching out to MDC directly as well. Revise to include Fish Fry, perhaps others?	Remove; addressed in the critical facilities section of the town annex
7	Determine the best course for addressing drainage issues at the culvert on New Park Avenue near the tire facility. Complete the determined action or include it in the next plan.	West Hartford applied for a DCRF grant for Kane Brook, which would include Hartford. Not known yet whether this will be funded. CIRCA Staff notes that Kane Brook is also a very good candidate for a Resilient Connecticut study and concept design. City staff aren't sure what the "tire facility" referenced here is. Revise to be more clear that this is Kane Brook, and to tie to the DCRF project for Kane Brook if that is funded.	Carry Forward with Revisions

No.	Action	Notes	Status
8	Complete implementation of System Wide Improvement Framework and Semi-Qualitative Risk Assessment for the Hartford Flood Control System, submitted to USACE in 2018.	The "SWIF" is underway and therefore the intent of this action ("complete implementation" is complete. Toe drain project and closure structure still need to be completed. Revise To describe the next steps.	Complete/ Revise to describe next steps that need funding
9	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	City staff were unsure about who the floodplain manager may be. Some outreach/education is being conducted and underway, in collaboration with an MDC program to address flooding associated with sewer backups and infrastructure challenges. Janice Castle (Hartford Office of Community Engagement) is the city staff member who would know about this. Frank notes that this is complicated, because for a while MDC was saying it wasn't their responsibility. A change in mindset may be occurring, as MDC has reportedly canvassed about 1,000 homes in North Hartford. Check with Janice Castle, Director of city Engagement, for more information on this. CIRCA Staff noted that, ideally, outreach related to flooding may inherently address areas with repetitive loss properties. Nevertheless, the two issues (sewer backups and repetitive losses under NFIP) are different.	Carry Forward
10	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	This was a top-down action from the last plan update, given to most of the CRCOG towns because SHPO had completed a historic resources resiliency planning project. SHPO has since created a data layer of historic and cultural resources. Revise to suggest that City staff should acquire and review the new SHPO layer Combine with Action 12.	Carry Forward with Revision.

No.	Action	Notes	Status
11	Make progress with the hazard mitigation goals associated with SustainableCT certified actions.	The City is certified Silver. Cecilia says it would be helpful if the City could implement green infrastructure without the MDC limiting the use of green infrastructure, but currently MDC is an obstacle because even green infrastructure still adds to the stormwater system, and would add more maintenance to MDC's plate. Therefore further action towards greater certification in this specific area is unlikely to happen. CIRCA Staff suggests adding another action about green infrastructure since FEMA is funding these types of projects. There is an arrangement between the City and MDC that MDC is responsible for maintaining green infrastructure, which is another reason why MDC might not be in favor of additional green infrastructure. Perhaps the new action should skate around this maintenance issue. Remove or broaden the Sustainable CT action, as CRCOG and the state are no longer pushing this. Perhaps add a new action for green infrastructure.	Complete/ Retire Or Carry Forward with Revisions to broaden or include green infrastructure
12	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Another top-down action, can be combined #10.	Carry Forward with Revisions
13	Conduct tabletop natural hazard emergency response drills with local departments more frequently. Ensure multiple hazard scenarios are drilled.	City staff participate in drills with the Army Corps (as mentioned above) and agencies such as DEMHS. This is a capability.	Complete/ Retire
14	Increase DPW budget or personnel to allow for proper maintenance of drainage swales.	The City has a good relationship with DOT, and DOT does some of this work. This is maintenance, which FEMA doesn't fund. This will be addressed in other ways, but not with FEMA funding.	Partly Complete/ Retire

Active Mitigation Strategies and Actions

The City 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.

Table 2-4: Active Mitigation Strategies and Actions, Hartford

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERSISTS	STAPLEE Score	PERSISTS x STAPLEE =
HF1	Conduct a city-wide facilities inventory and assessment study to identify and prioritize facilities that could serve as shelter and cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	DCRF; FEMA HMA; Municipal CIP Budget	7/2026 - 6/2027	High	All Hazards	Yes - Distressed Municipality	19	5	95
HF2	Renovate Waverly School to serve as a shelter and cooling center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	FEMA HMA; DEHMS and Other Preparedness Grants	07/2025 - 06/2026	High	All Hazards	Yes - Distressed Municipality	19	5	95
HF3	Complete the feasibility study for a new microgrid and determine next steps.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Chief Elected Official	$10,000 - $50,000	DCRF; FEMA HMA	07/2024 - 06/2026	Medium	All Hazards	Yes - Distressed Municipality	18	4	72
HF4	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
HF5	Conduct a city-wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods/ Tidal Connecticut River Flooding	Yes - Distressed Municipality	19	6	114
HF6	Execute the DEEP Climate Resilience Fund (Kennedy/Kane Brook) project and apply for funds to pursue the recommendations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	DCRF	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
HF7	Acquire funding for the Toe Drain Project and Closure Structure for the System Wide Improvement Framework.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114
HF8	Seek a combination of federal and state funds for flood mitigation and sewer system projects in the North End.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	>$1M	FEMA HMA; EPA; CWSRF	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		increases frequency and severity of floods.											
HF9	Undertake a flood mitigation study for the North Branch Park River that identifies potential acquisitions and green infrastructure projects that will reduce flooding and flood damage and that provide other co-benefits such as habitat enhancement.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	6	120
HF10	Execute the DEEP Climate Resilience Fund (Climate Resilience Assessment) project and apply for funds to pursue the recommendations.	More than one goal.	Structural Project	Public Works	$100,000 - $500,000	DCRF	07/2024 - 06/2026	High	All Hazards	Yes - Distressed Municipality	20	6	120
HF11	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0- $10,000	CIRCA	07/2024 - 06/2027	High	Riverine and Pluvial Floods/ Extreme Heat/Tidal Connecticut River Flooding	Yes - Distressed Municipality	20	5	100

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
HF12	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods/ Tidal Connecticut River Flooding	Yes - Distressed Municipality	18	7	126
HF13	Coordinate with CLEAR/NEMO 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.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$0-$10,000	Municipal Operating Budget	7/2026 - 6/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	7	140
HF14	Complete an assessment of outfall ownership to determine which outfalls are owned by the City of Hartford and which are owned by MDC; consider a third party contractor for this assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	Muncipal CIP Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	6	120

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
HF15	Participate in EMI, DEMHS and/or courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	Yes - Distressed Municipality	19	6	114
HF16	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	7	140
HF17	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	Yes - Distressed Municipality	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERSISTS	STAPLEE Score	PERSISTS x STAPLEE =
HF18	Make progress with the hazard mitigation goals associated with green infrastructure and the SustainableCT certified actions.	More than one goal.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	Low	All Hazards	Yes - Distressed Municipality	19	7	133
HF19	Update the city website to include hazard mitigation and emergency preparedness tips for residents, including sections corresponding to each hazard considered in this Plan Update.	Reduce losses from other hazards.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Yes - Distressed Municipality	18	7	126

Figure 17-14: CIRCA Environmental Justice Rank and Critical Facilities, Hartford

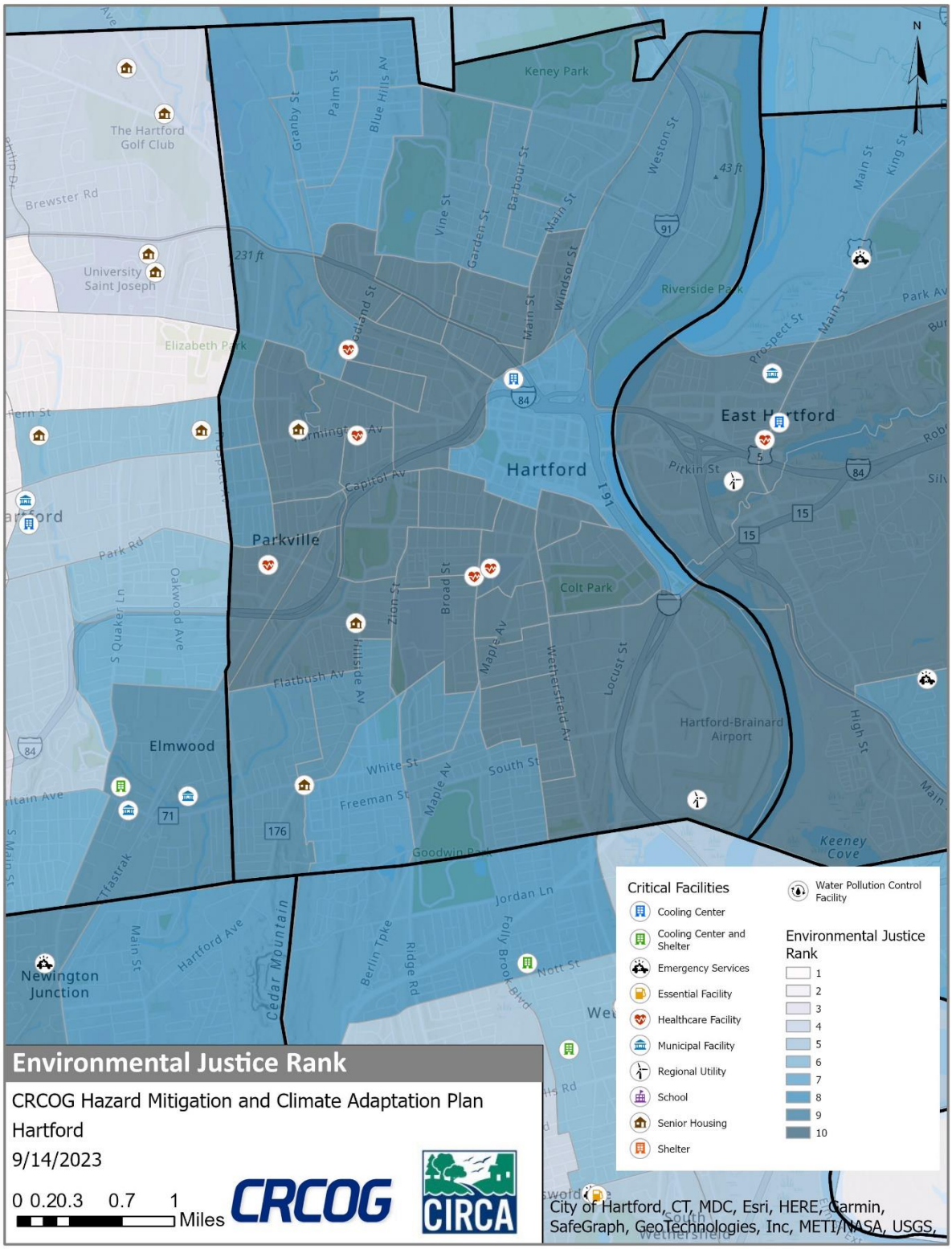


Figure 17-2: FEMA Flood Zones and Critical Facilities, Hartford

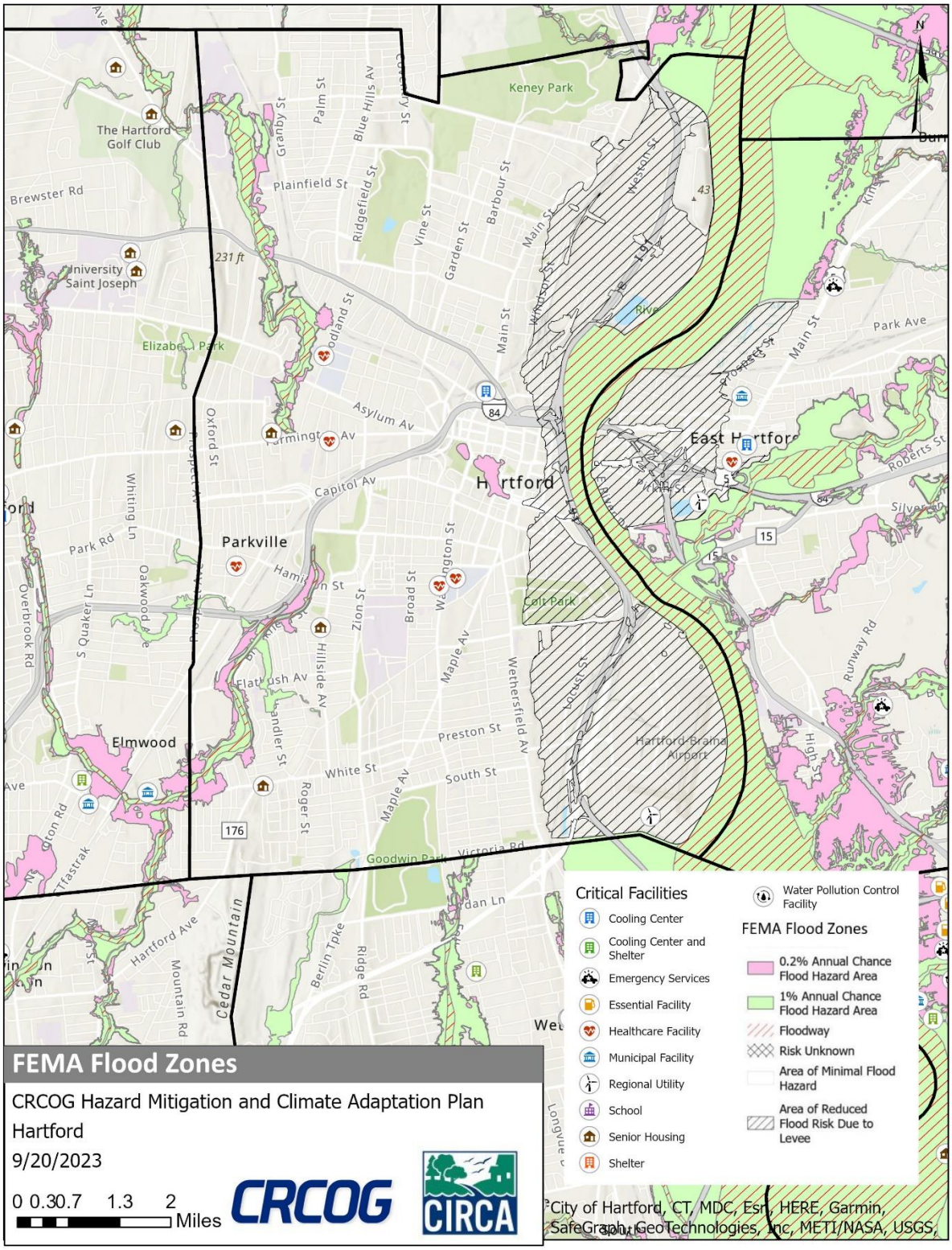


Figure 17-3: CIRCA Flood CCVI and Critical Facilities, Hartford

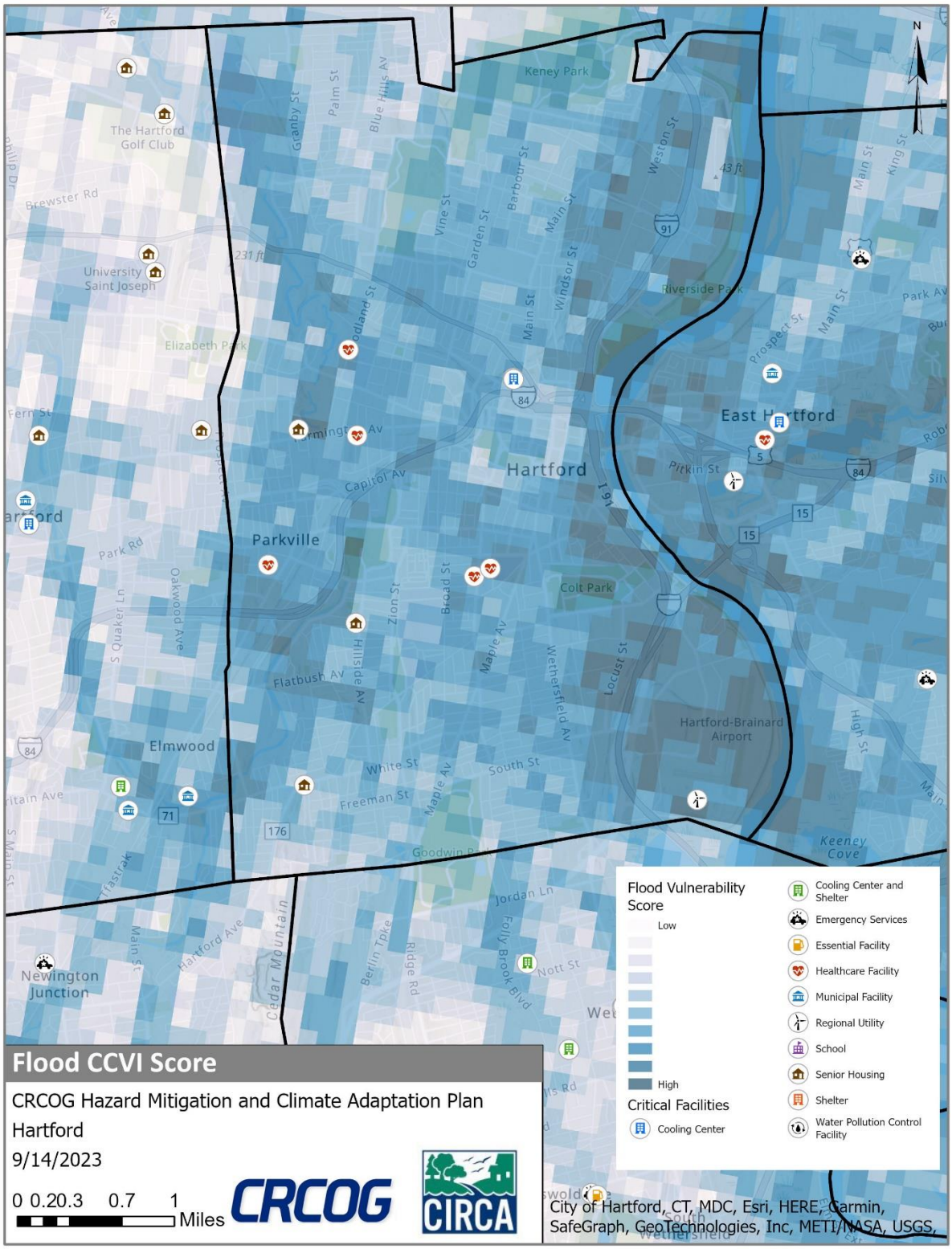
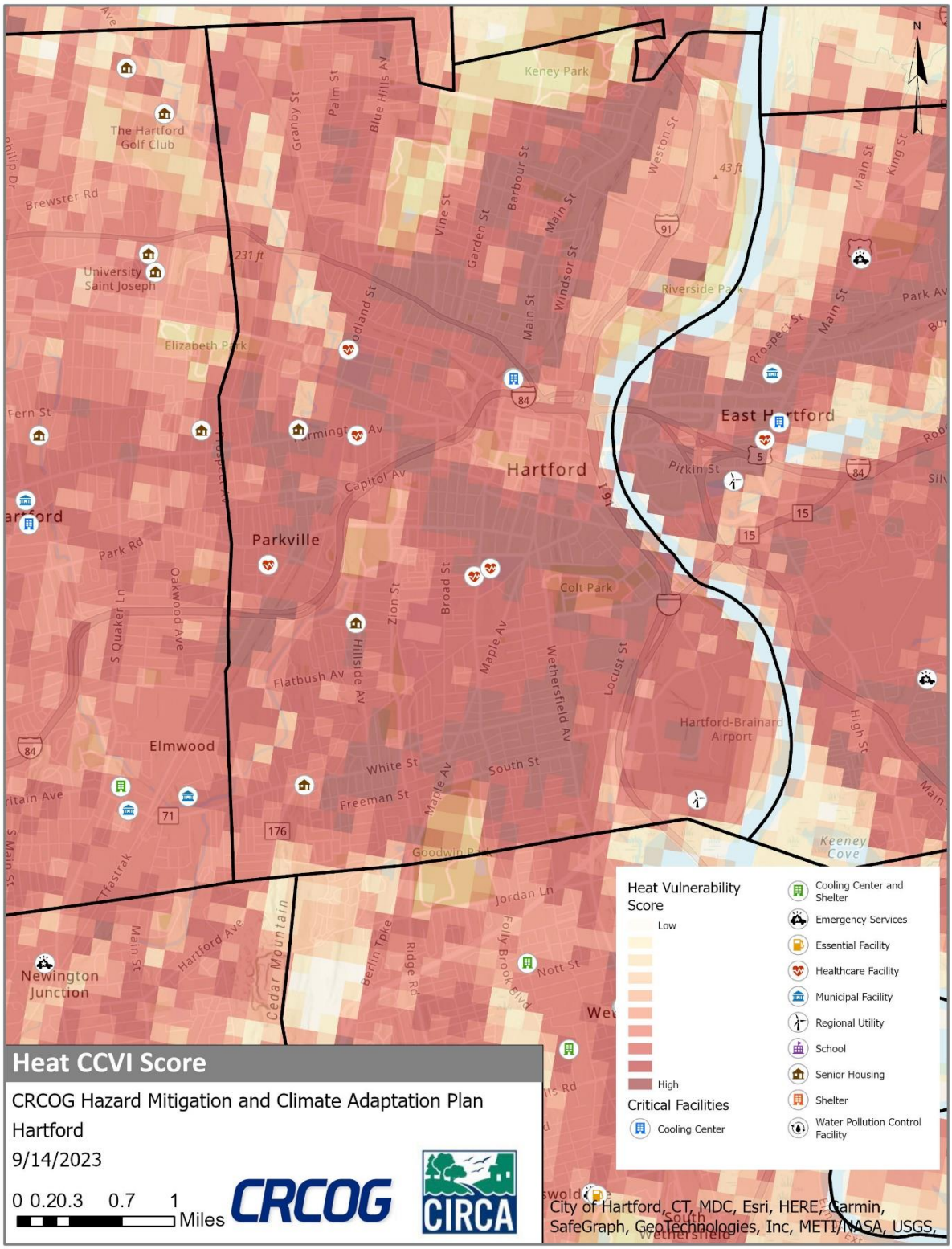


Figure 17-4: CIRCA Heat CCVI and Critical Facilities, Hartford



18 Hebron

Community Overview

Hebron is a rural community in Tolland County that covers 37 square miles with an estimated population of 9,098 (2020 Census). Most of the residential development in Hebron consists of single-family homes. Recently, most new development has been constructed near the center of town.

Elevation in Hebron ranges from 300 to over 650 feet above sea level. Most water drains to the Salmon River Watershed, but a small portion in the northeast drains to the Willimantic Watershed. The principal watercourses in Hebron are Fawn, Mint, Raymond and Senate Brooks. The 184-acre Amston Lake is located in the southeast portion of Town.

Major transportation routes through Hebron include state routes 66, 85, 207 and 316.

Development and redevelopment are light in the town. Development is reviewed by town land use boards, and they are unlikely to approve any development or redevelopment in high-risk areas.

Critical Facilities

A number of Hebron critical facilities are listed here.

Table 2-16: Critical Facilities, Hebron

Facility	Shelter	Cooling Center	Generator
Town Hall (EOC)		X	X
Library		X	X
Senior Living Facility			X
RHAM High School	Regional Shelter	X	In Process
RHAM Middle School			X

During extreme heat events, Hebron Town Hall (EOC), Douglas Library and Rham High School can all be opened as public cooling centers. The town hall and library currently have generators. Town is working on getting a generator for Rham High School which also serves as a regional shelter

Hebron, Andover and Marlborough share a regional middle/high school (RHAM) located in the center of the town of Hebron. The high school is being considered for use as a regional general population shelter while the middle school is being considered for use as a special needs shelter. Electrical upgrades, generators and fuel capacity sufficient to provide power to operate bathroom and cooking facilities are needed to enable the schools to be used as emergency shelters.

The current generators at the Middle School and High School only run emergency lighting. Therefore, the Middle School is not usable as a special needs shelter unless the generator upgrade for the high school also adds heating/cooling, shower/toilet/sink water flow, and 120VAC outlet support for the Middle School as well.

Capabilities

Hazard mitigation is incorporated into Hebron's Plan of Conservation and Development. The HMP document itself is cited.

Public water service, provided through a private water company, has been extended, and is available in several neighborhoods including the Town Center and the Amston Lake area. The center of town has a pressurized hydrant system fed by CT Water Co. The rest of Hebron has a fire suppression program that primarily relies on tanker trucks to transport water. The Fire Department routinely has inventories all fire ponds and dry hydrants in Town and is now working to develop a plan for additional dry hydrant locations. The High School has a sprinkler system and is serviced by the CT Water Co.

The Town of Hebron has worked to limit its vulnerability to flood hazards. No new construction has occurred in a floodplain since 2008. The building codes are based on FEMA requirements or reference FEMA recognized ASCE 24 construction standards.

Eversource has a contract with Asplundh Tree Services to provide tree maintenance services in Hebron. Additionally, the Town has its own bucket truck and crew for tree removal needs impacting Town property.

Amston Lake's water level is controlled by an earthen dam with a concrete spillway. The outlet of the lake is an unnamed watercourse that feeds into Raymond Brook. The dam was recently repaired and upgraded.

The Town actively seeks to protect sensitive lands. Approximately 20% of the Town's land area is permanently protected open space.

The Town Plan of Conservation and Development will be adopted in 2024 and assessed its infrastructure needs as part of that process.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Hebron it will cover, is unknown.

One bridge replacement was underway at the time of development of this Hazard Mitigation Plan.

The Hebron CERT team has increased three-fold in size since the 2014 HMP, and merged with the Andover CERT.

Hebron received the Bronze Certification within the SustainableCT program in October 2018.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

The Town relies primarily on groundwater for its drinking water. Most residences and businesses have private wells. The Town's most extensive aquifer is located in the Raymond Brook Marsh area. Among

the challenges facing Hebron in the event of a natural disaster are providing adequate water supply and emergency shelter for residents. The Town and Chatham Health District will need to monitor the available capacity of the sewer treatment plant and ability of the Town's ground water reserves to address the needs of future development including fire suppression particularly in the event of drought. The Town will also need to assess the capability of the RHAM middle and high school to serve as regional emergency shelters.

There are no public water hydrants in Town; the Fire Department relies on dry hydrants and tanker trucks to find and transport water for fire suppression.

During the 2020 and 2021 storms, the town experienced some power outages. The town needed to open charging stations and hand out potable water during these outages.

The town has made improvements on the culverts on Mill Stream Rd but during some rain events, the culverts still overtops.

The town is working on elevating bridges in town due to flood related concerns.

The primary concern for the town is the protection of water quality. Town staff said that they take pride in the health of their watersheds and are concerned with runoff impacts or development patterns that could affect water resources in the watersheds.

Town staff reported that there was an incident about a year ago where the regional sewage line failed in Colchester. This line runs through Hebron and ends in East Hampton; however, this was not flood related.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Hebron. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50-year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 18-2: Average Annualized Losses, Hebron

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$23,380.30
	NRI	$550,030.42
	FEMA PA	$3,295.81
Tornados/High Winds	NCEI	$8,753.16
	NRI	$88,566.54
Winter Storms	NCEI	$6,934.06
	NRI	$44,210.73
	FEMA PA	$11,510.26
Flood	NCEI	$7,086.90
	NRI	$10,519.21
	NFIP	$100.87
Drought	NRI	$2,915.35
	USDA	$3,976.35
Extreme Heat	NRI	$1,629.85
Wildfire	NRI	$742.56
Earthquakes	NRI	$14,724.82
Dam Failure	HMP	$595.00

Losses Summary

A review of the above loss estimates demonstrates that the community has experienced 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The primary focus of the Town is twofold: firstly, to oversee the accessibility of its groundwater reserves in anticipation of future development, and secondly, to ensure an adequate water supply for fire suppression during drought conditions.
- To address power outages during storms, the town should consider increasing tree trimming.
- Additional measures should be taken to prevent overtopping at Mill Stream Rd during heavy rain events. The town should consider upsizing this culvert.
- Hebron should focus on monitoring and regulating runoff impacts and development patterns to maintain water quality in the watershed.

Status of Previous Mitigation Strategies and Actions

The community reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Hebron

No.	Action	Notes	Status
1	Assess the capability of the RHAM middle and high school to serve as regional emergency shelters.	Town staff said this is complete and RHAM is designated as a regional shelter now. Previously RHAM served as the town's shelter but not the regional one, so this is a change. The town is working on getting a generator for this facility.	Complete/ Retire
7	Perform upgrades to the electrical system, generators, and fuel capacity of the RHAM Middle and High Schools so that they can operate bathroom and cooking facilities and be used as emergency shelters.	Working on this. The town is going to put out an RFQ for this soon. CIRCA will double check to see what funding source the town will be using to fund the generator. Revise to change this to completing the installation. UPDATE: RFQ for Electrical Engineering Services was issued. $2 million grant from DECD.	Carry Forward with Revisions
2	Perform study to determine Town's ability to maintain sufficient water supply to use for wildfire suppression in the future given continued development. Consider the effect of droughts and climate change.	Town staff said this is an ongoing process, but they are not sure why this is related to wildfires specifically and have not performed a study specific to wildfires. The town does recognize that there are limitations with the existing water supply and are looking into other sources for water use especially for the downtown area. The town does have dry hydrant systems on the outskirts of town. An ongoing goal is to improve the water supply. This action can be rewritten to reflect this broader concern, but take out the wildfire component.	Carry forward with revisions

No.	Action	Notes	Status
9	Complete a draft timber management plan for Town-owned forested land.	Town staff said a timber management plan was developed but there was some conflict with the goals of the Conservation and Open Space Commissions. The town staff would like this action to be revised to either call for revising the plan to have more of a hazard mitigation / climate change focus, and/or to use the plan as a resource to educate residents and commission members.	Carry Forward with Revisions
5	Update floodplain regulations when new FIRM maps are issues by FEMA to be at or higher than regulatory standards.	Town staff said they do have flood plain regulations consistent with the NFIP. Town staff don't think that they are likely to see new FEMA flood maps anytime soon but are in need of new FIRM maps. This is an ongoing capability of the town when new FIRM maps are available, and the town does not have control over when those FIRM maps are updated, so the intent of this action has been completed.	Complete/ Retire
6	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	Town staff said the intent of this action has been completed in collaboration with watershed groups.	Intent is complete/ Retire
3	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.	Town staff believe there is a pool company in town that this action might be relevant for. The town work with regional sanitation groups but are unsure if this type of outreach has been done. Revise to say "Watch the DEEP webinar related to this program."	Carry Forward with Revisions
4	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said this will always be valuable and the staff are doing this. Ongoing capability.	Capability/ Retire
8	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.	Town staff said they are compliant with MS4.	Complete/ Retire
10	Make progress with the hazard mitigation goals associated with Sustainable CT certified actions.	The Town was certified in the past but, upon reflection, staff are unsure if the effort to get certified takes too much town given staff capabilities. This is not a priority for the town.	No Longer Needed/R etire

No.	Action	Notes	Status
11	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Revise to say " Acquire SHPO data and review with Flood zones". Town staff mentioned that historic resources are important to town members.	Cary 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.

Table 2-4: Active Mitigation Strategies and Actions, Hebron

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
HB1	Complete the installation of the electrical system, generators, and fuel capacity of the RHAM Middle and High Schools so that they can operate bathroom and cooking facilities and be used as emergency shelters.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
HB2	Perform study to determine Town's ability to maintain sufficient water supply in the future given continued development. Consider the effect of droughts and climate change.	Reduce losses from other hazards.	Natural Resources Protection	Planning	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Drought	No	19	5	95
HB3	Use the timber management plan as a resource to education residence and commissions members about Town-owned forested land.	Reduce losses from other hazards.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	High	Wildfires	No	18	7	126
HB4	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop	Reduce flood Information erosion risks by reducing vulnerabilities	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	a priority list for maintenance and upsizing.	Information consequences, even as system change increases frequency Information severity of floods.							Pluvial Floods				
HB5	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods /Drought	No	19	10	190
HB6	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	More than one goal.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
HB7	Develop more water supply sources and interconnections as needed	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Planning	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Riverine and Pluvial Floods	No	19	8	152
HB8	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
HB9	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Resilience/Chemical-Management-and-Climate-Resilience	increases frequency and severity of floods.											
HB10	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood Information erosion risks by reducing vulnerabilities Information consequences, even as system change increases frequency Information severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
HB11	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	reduce losses from other hazards	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 18-15: CIRCA Environmental Justice Rank and Critical Facilities, Hebron

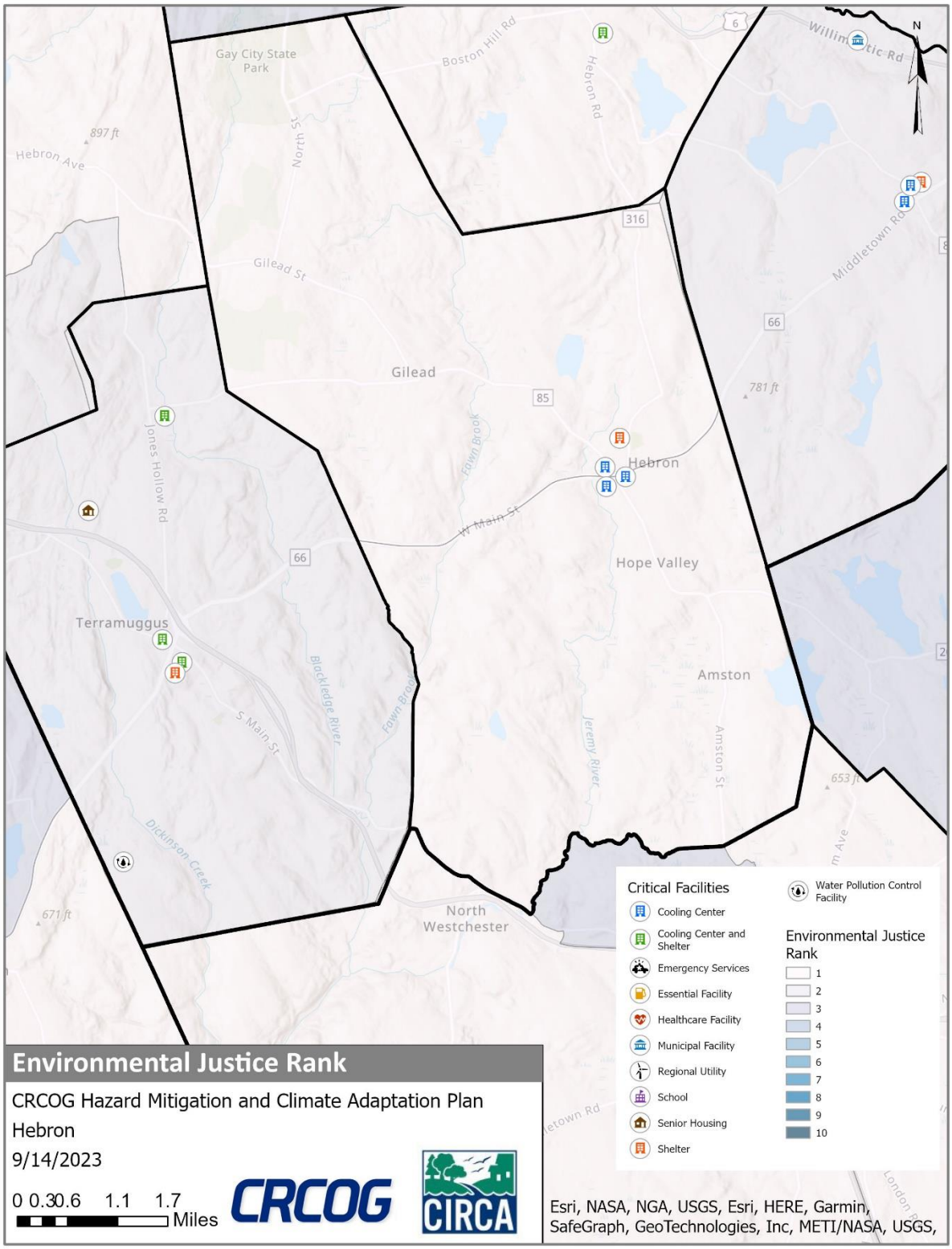


Figure 18-2: FEMA Flood Zones and Critical Facilities, Hebron

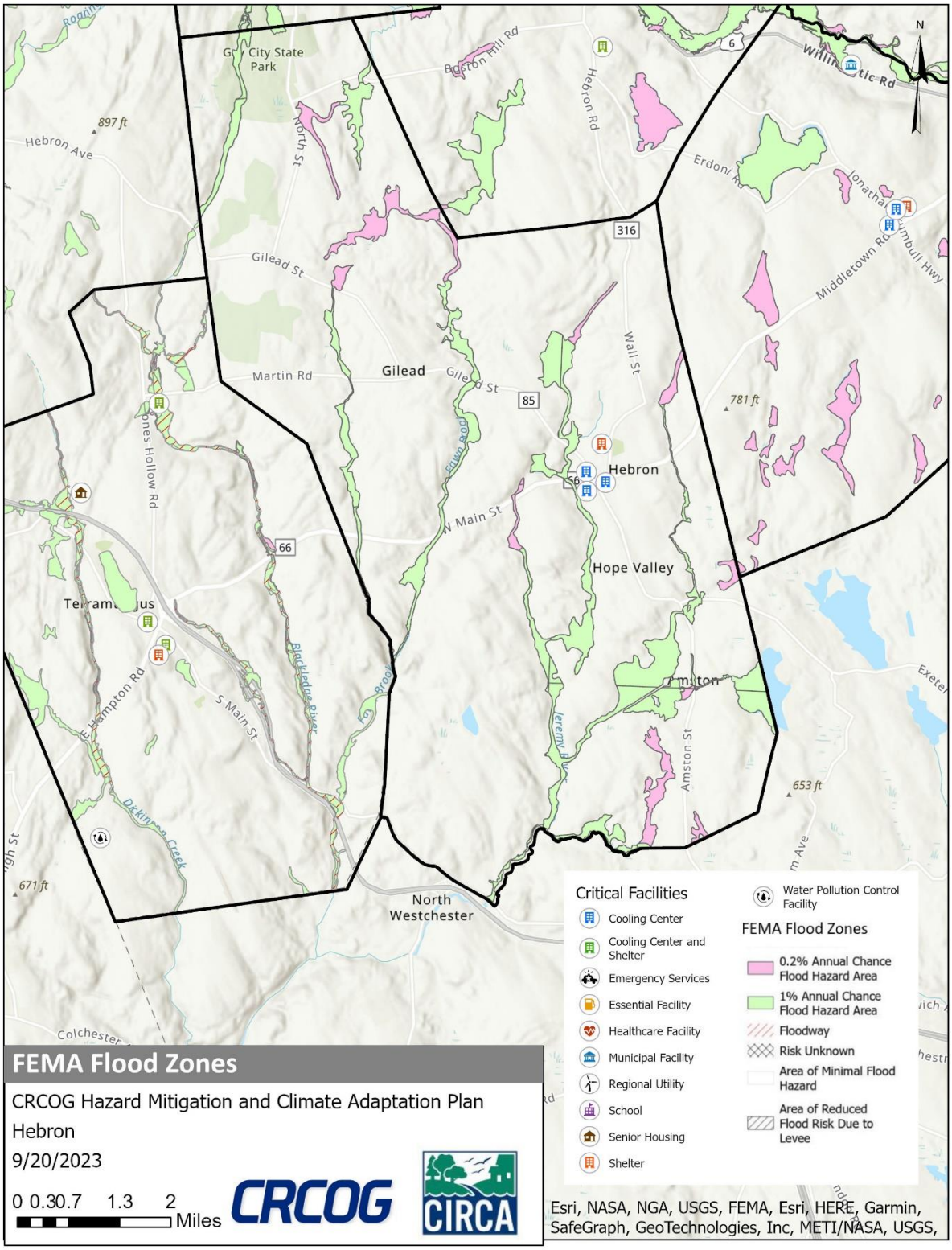


Figure 18-3: CIRCA Flood CCVI and Critical Facilities, Hebron

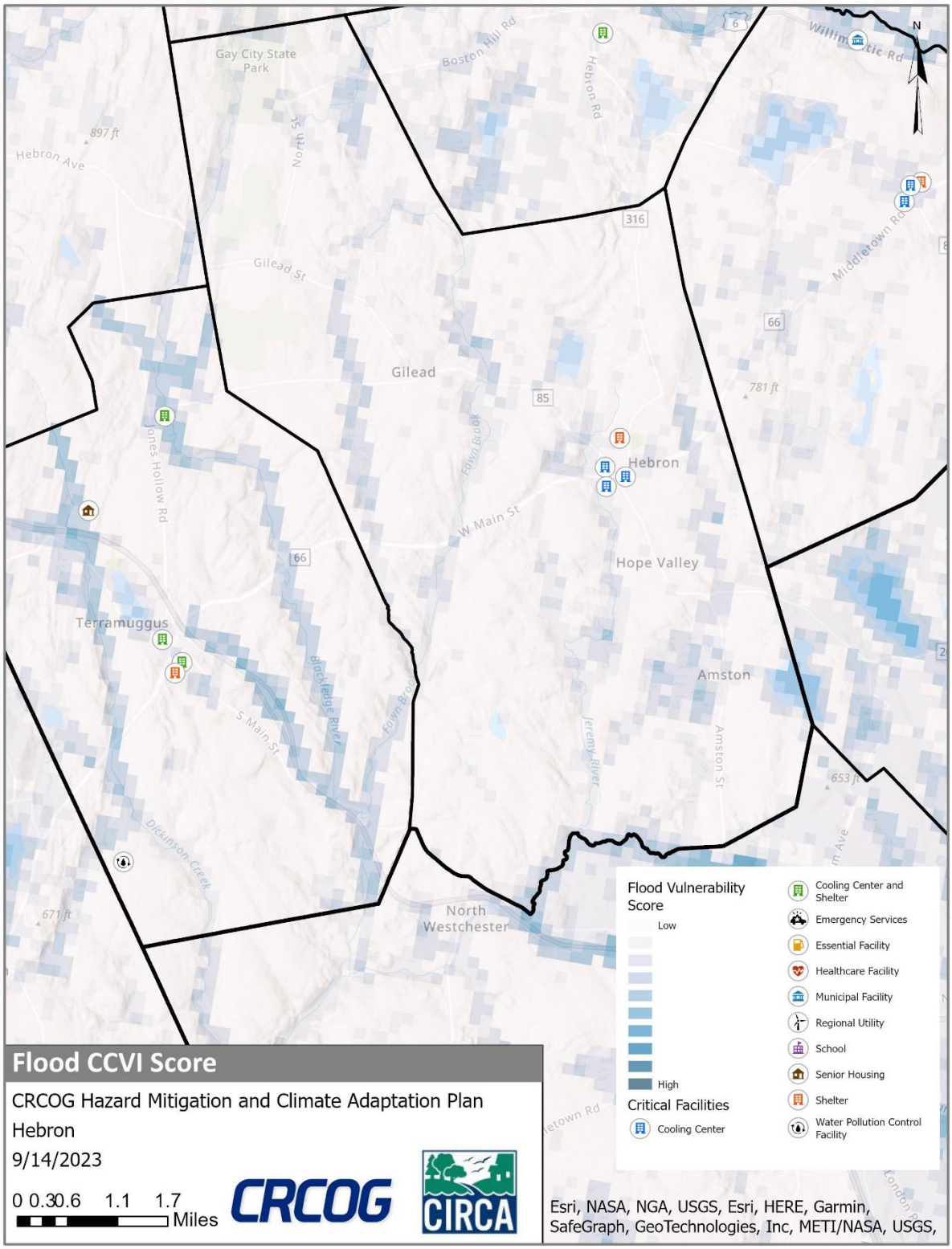
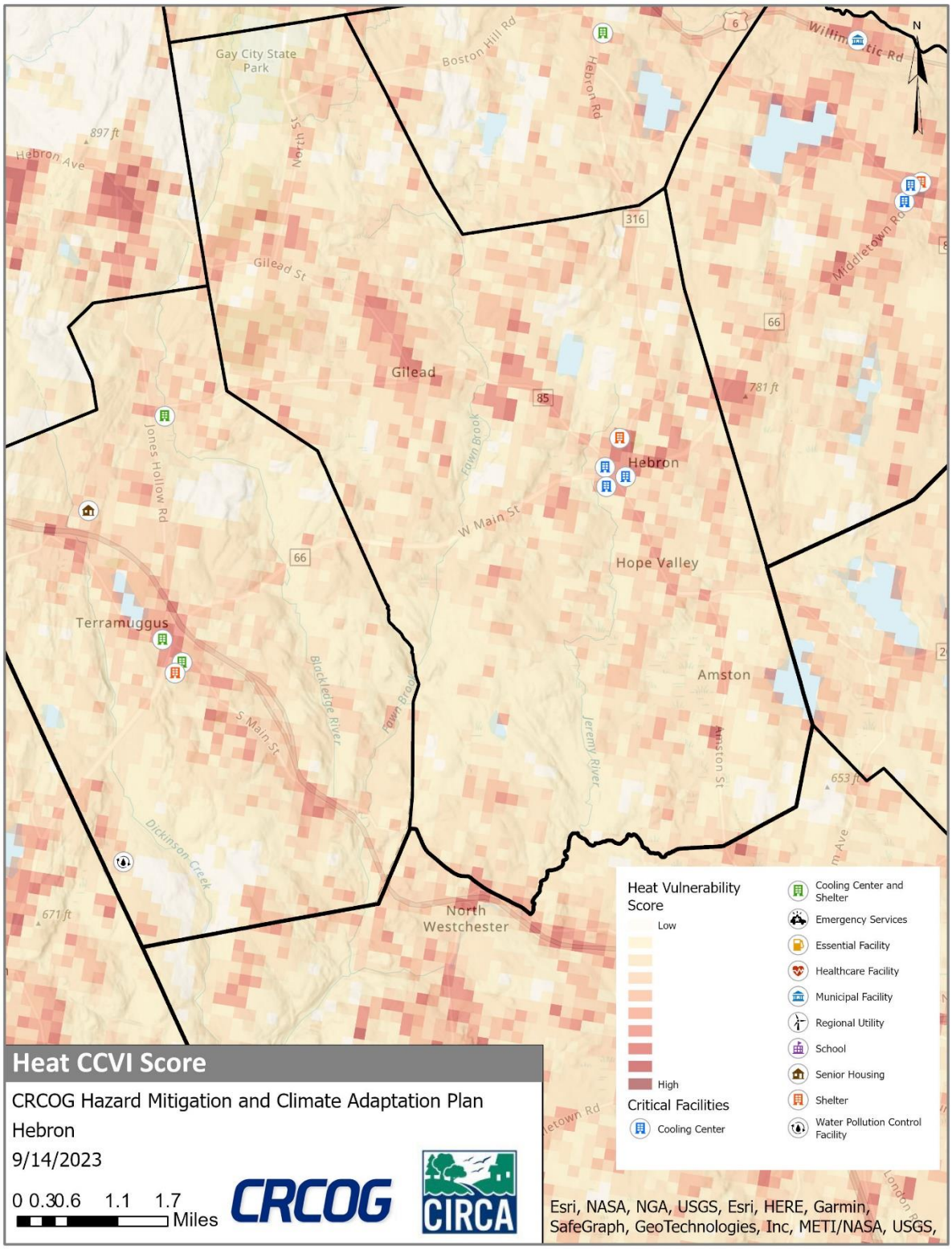


Figure 18-4: CIRCA Heat CCVI and Critical Facilities, Hebron



19 Manchester

Community Overview

Manchester is a fully suburban community of over 59,000 residents covering about 27.3 square miles. Elevation ranges from about 80 to 500 feet above sea level. Manchester's land area drains westward to the Connecticut River Major Basin, via either the Hockanum River Regional Basin or the Connecticut Main Stem Regional Basin. Major waterways in Manchester include: Hockanum River, Bigelow, Birch Mountain, Hop, Lydall and Porter Brooks. Regionally significant transportation routes in Manchester include Interstates 84, 384 and 291, as well as state routes 44/6 and 83. The top industries in Manchester are educational services; healthcare and social assistance; professional, scientific, and management, and administrative and waste management services; retail trade; and warehousing. Manchester is also home to one of the largest regional retail concentrations in New England. The Buckland Hills area provides over 3 million square feet of retail and services anchored by The Shoppes at Buckland Hills, offering a variety of restaurants, an 18 screen movie theater, and over 300 hotel rooms. Historic resources include the Cheney Brothers National Historic Landmark District and the Main Street Historic District.

Manchester experiences periodic development and has regulations in place to control the impact of development in sensitive areas. Under current regulations, development is not allowed in a floodplain without undergoing technical review verifying that the development results in zero loss of flood storage capacity.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In Manchester, these facilities are numerous and are each assigned a purpose. Several locations can act as emergency shelters or cooling centers, respectively.

Table 2-17: Critical Facilities, Manchester

Facility	Shelter	Cooling Center	Generator
Police Department		Lobby	X
Town Hall			
Senior Center	Backup	X	X
High School	X		X
Wastewater Treatment Plant			X
Facilities Management Building (EOC)			X
Department of Public Works Facility			X
Mary Cheney Library		X	
Whiton Branch Library		X	
Weiss Center		X	
Lincoln Center			
Fire Department #1			X
Fire Department #2			X
Fire Department #3			X
Fire Department #4			X
Fire Department #5			X
Fire Department #6			X
Fire Department #7			X

Facility	Shelter	Cooling Center	Generator
Public Works Fleet Garage			X
Police Maintenance Garage			X
Hillstown Rd Well House			
Dog Pound			
Fleet Five Bay Garage			X
Hillstown Rd Cemetery Storage			
Probate Court			
Sanitation Office			
2 Eversource Substations			

During extreme heat events, Mary Cheney Library, Whiton Branch Library, Manchester Senior Center, Manchester Police Department Lobby and Weiss Center can all be opened as public cooling centers. Many of the critical facilities have generators available for use on-site. The Manchester Senior Center is used as a backup shelter.

The town staff report that the facilities used for cooling centers and the facilities used for shelters are different, as these serve different needs. The town uses the shelters for when people have been displaced from their homes for a while, whereas cooling centers do not have people staying for prolonged periods of time.

Capabilities

Hazard mitigation is addressed specifically in Manchester's Plan of Conservation and Development.

Manchester owns and operates its own water company. The protection and management of significant forested watershed land and the multiple stratified-drift aquifers relied upon by the residents of Manchester are paramount. In addition, Manchester has significant open space with both active and passive recreation areas of regional importance.

Since 2008, Manchester Public Works has received Flood Plain Zone and Wetlands Permit approval for five projects including structural improvements to stormwater drainage infrastructure in Special Flood Hazard Areas (SFHA) that help mitigate flood risks. No new construction of primary residential or commercial structures has been permitted in the SFHA. The Planning and Zoning Commission and Inland Wetlands and Watercourses Agency have approved several minor structural renovations, installation of accessory structures, and site improvements in regulated areas in accordance with the flood hazard reduction and resource compensation standards outlined in the Zoning and Inland Wetlands and Watercourses Regulations. Manchester revised its Flood Plain Zone regulations in 2008 to meet National Flood Insurance Program standards. In accordance with these standards, encroachments in the floodway are prohibited and any reduction of water holding capacity in the SFHA caused by filling or construction must be compensated for elsewhere.

The Town addresses tree maintenance on an as-needed basis and does not currently have the capacity to proactively manage its trees. Eversource currently performs the majority of tree maintenance activities in Manchester, but only within their utility corridors.

Since the adoption of the 2019 HMP, Manchester has migrated to a new storm mix for road treatment that uses less sand and therefore reduces drainageway-clogging issues.

A previously breached dam has been removed in the last five years.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Require Elevation Certificates for all new development permits in or near floodplains and filing them both in the building department and with land records.
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Manchester has faced pressing flooding concerns, including the year-and-a-half recovery of Ambassador Drive after it was washed out. Smaller incidents affected shoulders and private properties. Additionally, Charter Oak Park suffered significant damage, resulting in the loss of ball fields.

Stormwater infrastructure is also a concern of the town.

The town staff report that there have been many power outages during many of the recent storms.

Town staff are aware that there are some people who are more susceptible to heat events than others.

Town staff are worried about tree canopy issues which are two-fold. The tree damage over the past years has gotten worse and the town would like to maintain tree canopy to decrease heat islands in the middle of town.

The wastewater treatment facility has limited access due to a stream crossing. The road floods and is a location that washed out during one of the 2021 storms.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Manchester. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was

downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 19-2: Average Annualized Losses, Manchester

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$153,452.17
	NRI	$2,517,695.71
	FEMA PA	$10,599.78
Tornados/High Winds	NCEI	$57,449.68
	NRI	$486,956.43
Winter Storms	NCEI	$45,510.42
	NRI	$36,870.75
	FEMA PA	$19,264.96
Flood	NCEI	$46,513.54
	NRI	$25,902.79
	NFIP	$2,461.25
Drought	NRI	$7,652.48
	USDA	$37,661.91
Extreme Heat	NRI	$67,956.13
Wildfire	NRI	$3,150.49
Earthquakes	NRI	$92,169.12
Dam Failure	HMP	$104.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Manchester 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.

- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- Town Staff wish to know the locations of repetitive loss properties.
- The town staff see a need to assess the town's stormwater infrastructure to identify choke points leading to flash flooding and so they can accommodate more of these intense storms and identify infrastructure improvements to address issues that have yet to be identified.
- The town should also identify general vulnerable areas regarding street flooding. Town staff note that there will likely be new areas flooding more in the future, not only the areas that have flooded in the past.
- The town has different watersheds and the storms hit the watersheds in different ways with different impacts. This should be reflected in the action related to road washouts. Potentially have watershed by watershed actions.
- The town should look at how to increase access to the Wastewater Treatment Facility to increase the resiliency of this site.
- The town should investigate providing pathways for people to manage their own trees on private properties.

Status of Previous Mitigation Strategies and Actions

The Town of Manchester reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Manchester

No.	Action	Notes	Status
1	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	Town staff said that Manchester is a part of SCT and was certified Silver in 2022. Manchester also received the Climate Leader Designation from SCT in 2023.	Complete/ Retire
2	Require Elevation Certificates for all new development permits in or near floodplains and filing them both in the building department and with land records.	Town staff said that if development is near a floodplain, the planning department is already doing this, Town staff believe this is a capability. CIRCA Staff previously noted that this is a requirement from FEMA.	Complete/ Retire

No.	Action	Notes	Status
3	Develop a prioritized list of flood prone roadways to be upgraded to reduce potential for access being blocked due to flooding.	Town staff would like to check in with Don Janelle on this who is the Deputy Emergency Manager. Town staff believe that this is in the Emergency Management plan. The town will check to see if this is complete. Town staff mentioned that the roads have been changing with the climate change impacts so more roads will need to be added to this list. If the town follow-up reveals that this list has already been developed, revise the action to "name" some roadways or keep this action as is since it's changing yearly.	Carry Forward with Revisions
4	Assess needs of the new EOC in the facilities management building to determine its resilience to natural hazards, and to identify needs to make it more resilient.	Town staff have worked on identifying needs in terms of facility and technology needed but have not done an assessment of the building proper. The town thinks this is still a need.	Carry Forward
5	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.	Town staff said the Deputy Emergency Manager has made a point to meet with business owners to prevent issues related to polluting. This is a capability.	Complete/ Retire
6	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.	Town staff have done this and are comfortable retiring this action.	Complete/ Retire
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff are attending/participating regularly in EM courses. This is a capability.	Complete/ Retire
8	Address easement issues being worked through with regards to a bridge upgrade, and complete construction.	The town staff are unaware of any easement issue they have had with any bridges in the town, and are not sure which bridge this action is referring to. The town has done a couple of small bridge projects in the last 5 years. Could be related to Center Springs but the town doesn't think this is the case since Center Spring Bridge is only a pedestrian Bridge. Could also be related to Hartford Rd Bridge, since the town needed an easement but only for the side walk. Both bridge projects mentioned as possibilities by the town have been completed. The town staff do not think this action is still needed.	No Longer Needed/R etire

No.	Action	Notes	Status
9	Implement an educational system for property owners, including appropriate materials and means for information dissemination. (Include information on importance of properly maintaining private trees).	Town staff think this is ongoing. They have an intern working on this. Tree damage has been increasing in the town and the impacts on trees in storms are mostly private trees falling in right of ways. Town staff report that tree damage and tree management is still an active need for the town. Rewrite to include that this is ongoing concern for the town.	Carry Forward with Revisions
10	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	CIRCA will check to see if Manchester has RLP. The town staff think this action should be kept in, as they believe there are some areas in town that are RLP and are more affected by climate change than others.	Carry Forward
11	Complete and add on to identification of private properties served by private wells and/or on-site septic systems located within known flood risk zones.	CIRCA has data on private wells if this has not been completed yet and could provide it to Manchester The town Health Department does have a list map of private wells but there is a data gap that prevents the data set from being comprehensive. The town staff would need to look at city water and sewer. They can do it through health department, but it might take a while. Manchester believes they have a list/map of private wells, but they have not done anything with it. Carry Forward with revisions to reflect some progress has happened but nothing has been done with the data yet.	Carry Forward with Revisions
12	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	CIRCA explained this is a top-down action and advised to revise “Acquire and review new SHPO layer and overlay with FEMA data.” Town staff agree that this revised action would be appropriate.	Carry Forward with Revisions

No.	Action	Notes	Status
13	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Town staff think that Don Janelle, Deputy Emergency Manager, was the lead on this. Goes hand in hand with the RLP action above. Town will follow- up on this. Likely carry forward with revision	Carry Forward with Revisions
14	Conduct outreach to owners of properties identified as being served by private wells and/or on-site septic systems located within known flood risk zones to educate them about strategies for protecting their properties. Include materials and recommendations for appropriate remediation of private utilities that have been subjected to flooding, for health protection and promotion.	Town staff will follow up with the Health Department to see if this action has been completed. Likely hasn't since action 11 has not, and action 11 seems to be prerequisite for this action. Could combine with action 11. Progress on Action 11 would facilitate progress on Action 14.	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.

Table 2-4: Active Mitigation Strategies and Actions, Manchester

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
MC1	Assess needs of the new EOC in the facilities management building to determine its resilience to natural hazards, and to identify needs to make it more resilient.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	DCRF; FEMA HMA; DEHMS and Other Preparedness Grants	07/2025 - 06/2026	Medium	All Hazards	Benefits an EJ tract	18	4	72
MC2	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA	7/2024-6/2025	High	All Hazards	Benefits an EJ tract	19	5	95
MC3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57
MC4	Consider options to increase access to the Waste Water Treatment Facility.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along	Water & Wastewater Utility Projects	Planning	$100,000 - $500,000	CWSRF; FEMA HMA	7/2025-6/2027	High	Riverine and Pluvial Floods	Serves an EJ tract	20	10	200

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		corridors is resilient over the long term.											
MC5	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	7/2024-6/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
MC6	Develop and update a prioritized list of flood prone roadways to be upgraded to reduce potential for access being blocked due to flooding.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$0-$10,000	LOTCIP; IIJA AOP, BIP; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	8	152
MC7	Execute the DEEP Climate Resilience Fund (Town wide Flood Resilience Plan) project and apply for funds to pursue the recommendations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Benefits an EJ tract	20	6	120
MC8	Assess the town's stormwater infrastructure to identify choke points that lead to flash flooding.	Reduce flood and erosion risks by reducing vulnerabilities and	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal	7/2025-6/2027	High	Riverine and Pluvial Floods	Benefits an EJ tract	20	6	120

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Pursue funding opportunities to address these areas.	consequences, even as climate change increases frequency and severity of floods.				CIP Budget							
MC9	Implement an educational system for property owners, including appropriate materials and means for information dissemination. (Include information on importance of properly maintaining private trees) as this is an ongoing concern for the town.	Reduce losses from other hazards.	Education and Awareness	Office of Communication	$0-$10,000	Municipal Operating Budget	7/2026-6/2027	High	Hurricanes and Tropical Storms/ Tornadoes and High Winds/ Severe Winter Storms	Benefits an EJ tract	19	7	133
MC10	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
MC11	Utilize existing mapping of private properties served by private wells (maintained by DPH) and/or on-site septic systems to characterize flood risks. Conduct	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	7/2026-6/2027	High	Riverine and Pluvial Floods	Benefits an EJ tract	20	8	160

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	outreach to owners of properties identified as being served by private wells and/or on-site septic systems located within known flood risk zones to educate them about strategies for protecting their properties.	and severity of floods.											
MC12	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	Benefits an EJ tract	19	5	95
MC13	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	Benefits an EJ tract	19	9	171
MC14	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	7/2026-6/2027	High	Riverine and Pluvial Floods	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	status of each listed property.	increases frequency and severity of floods.											
MC15	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Office of Communication	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Figure 19-16: CIRCA Environmental Justice Rank and Critical Facilities, Manchester

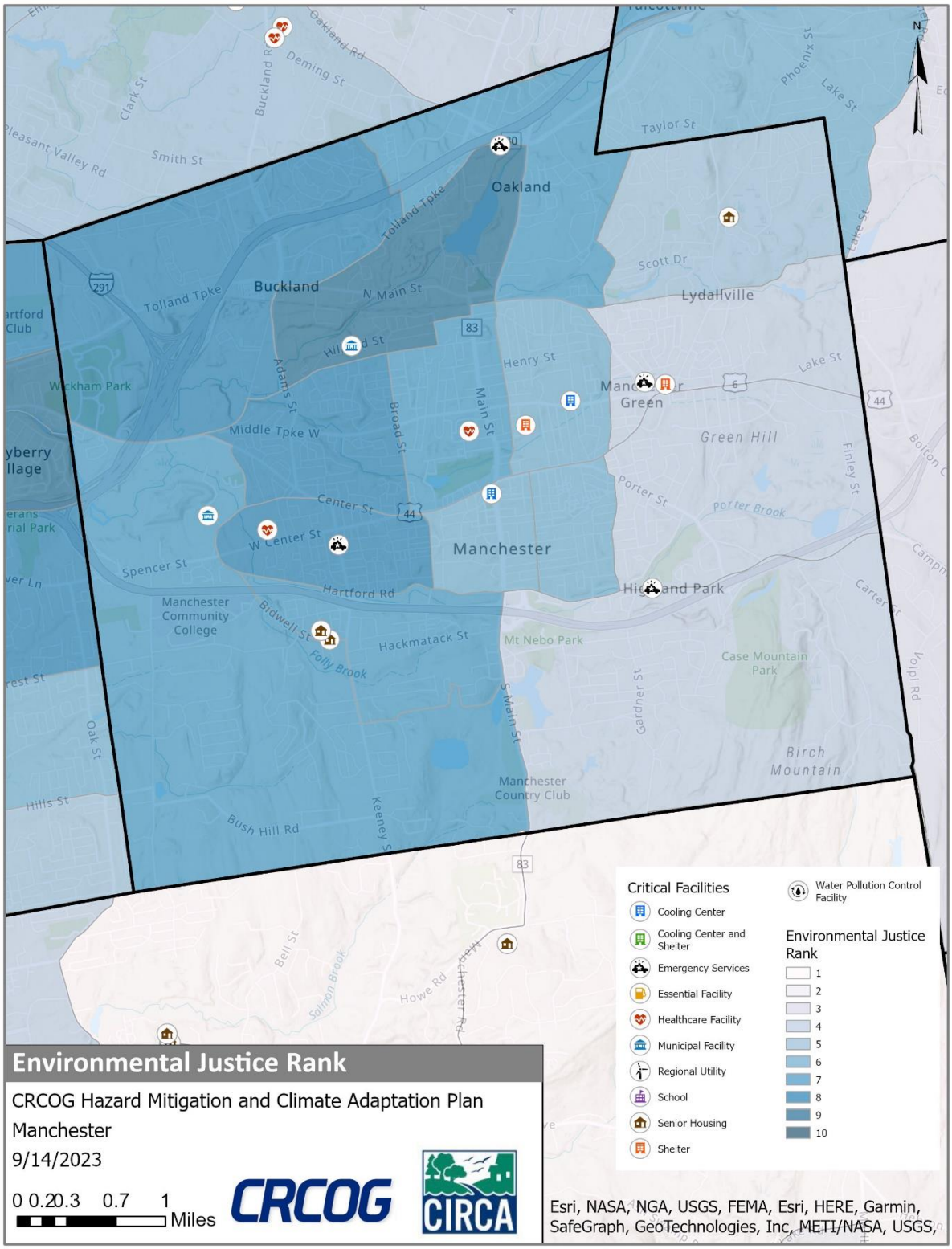


Figure 19-2: FEMA Flood Zones and Critical Facilities, Manchester

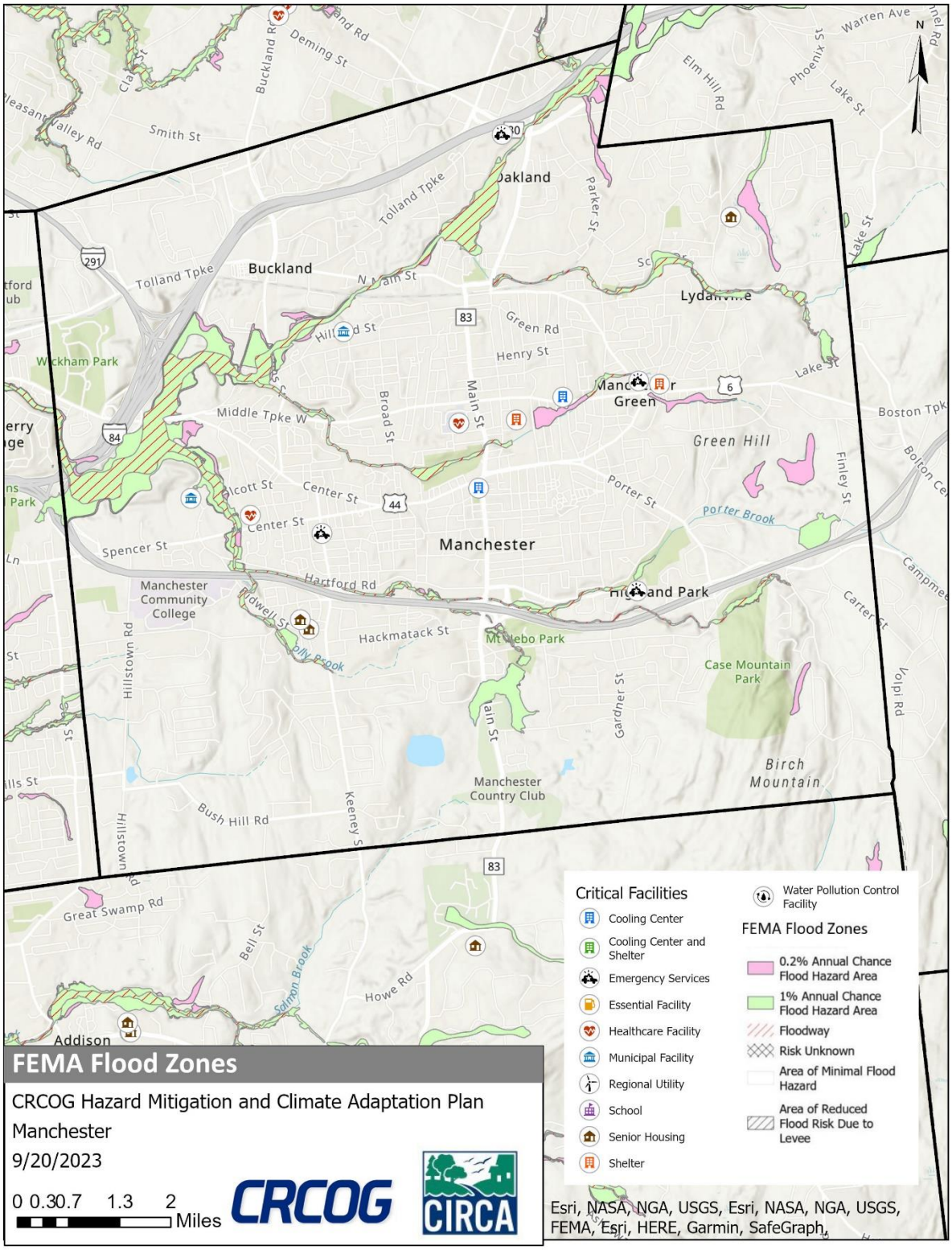


Figure 19-3: CIRCA Flood CCVI and Critical Facilities, Manchester

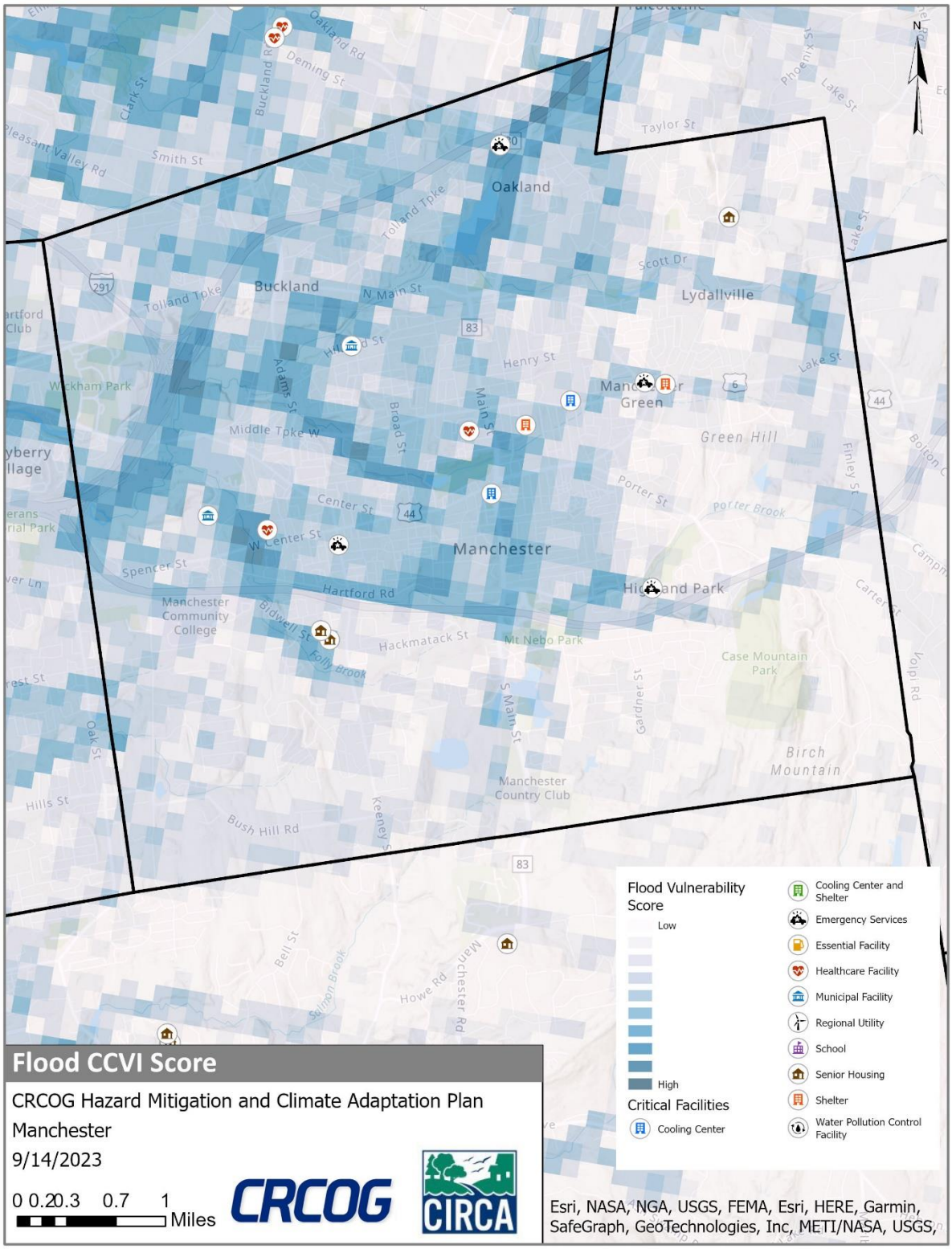


Figure 19-4: Dam Inundation Area and Critical Facilities, Manchester

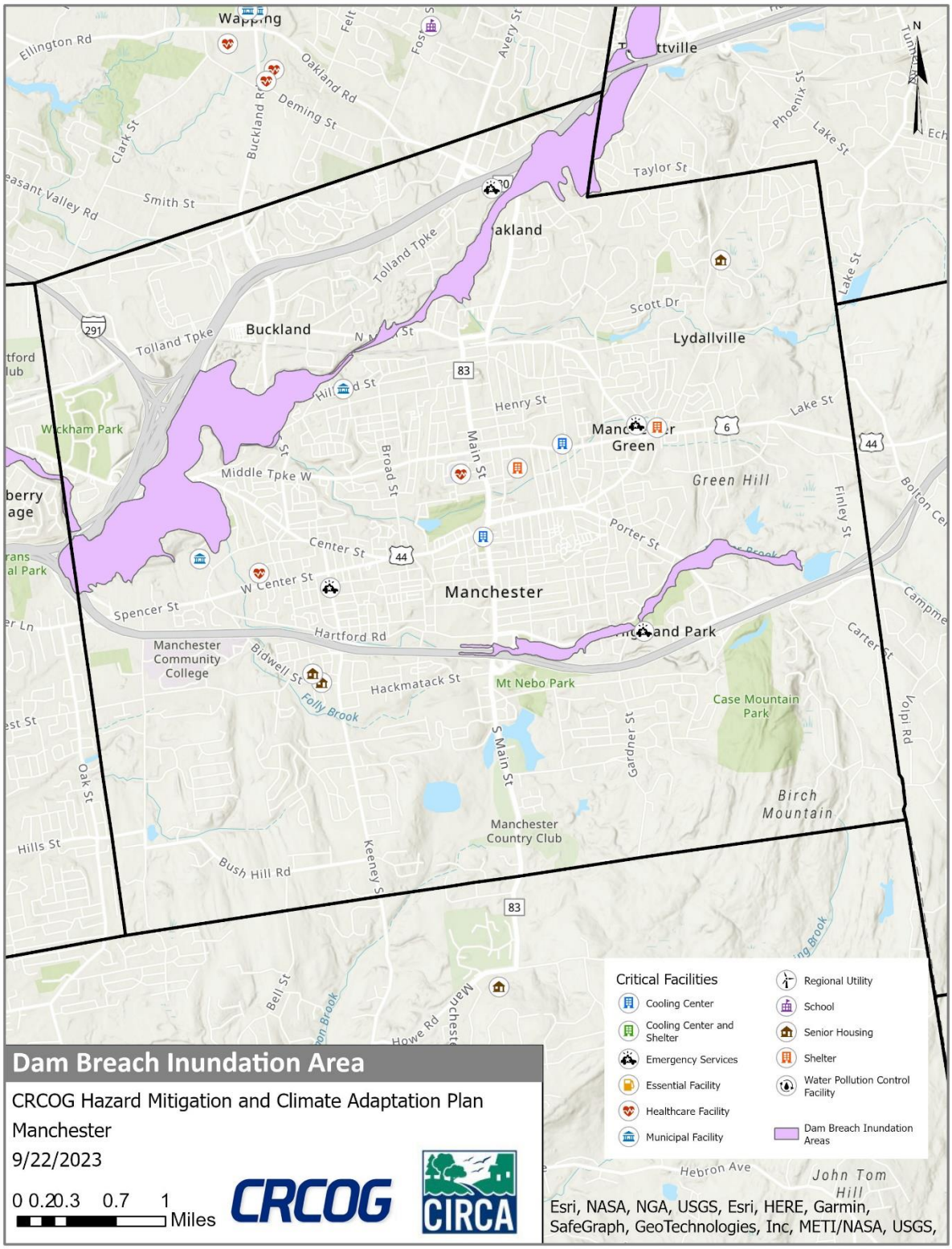
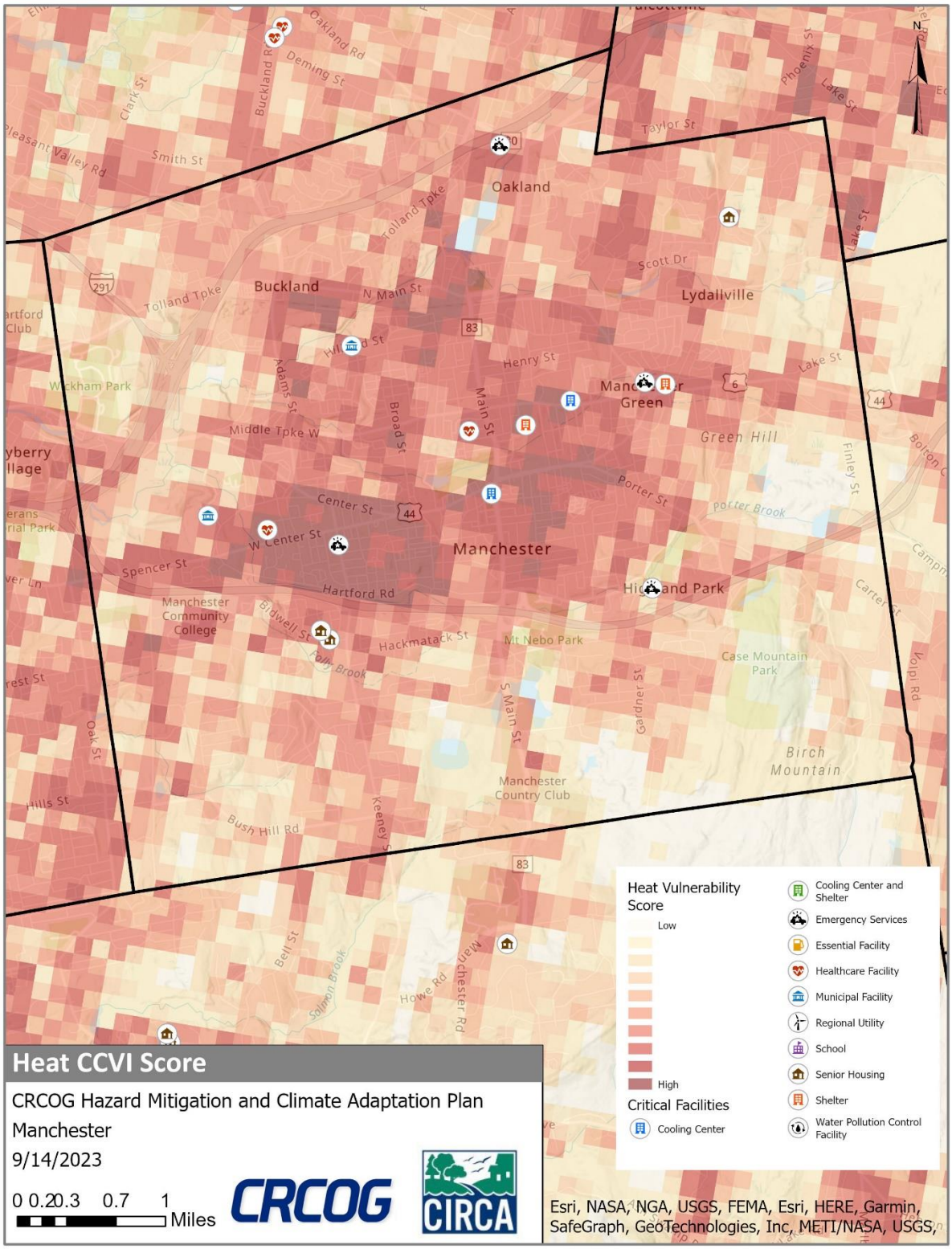


Figure 19-5: CIRCA Heat CCVI and Critical Facilities, Manchester



20 Mansfield

Community Overview

The Town of Mansfield is a collection of small villages and community neighborhoods nestled in a rolling landscape defined by forests, farmland, and rivers. Mansfield is a unique blend of rural and suburban living in a college-town setting. Mansfield covers 44.5 square miles and has a population of 25,892 (2020 Census). The University of Connecticut located in the village of Storrs covers approximately 5.7 square miles.

According to the University of Connecticut Center for Land Use Education & Research (UConn CLEAR, 2015) Mansfield is approximately 64% forested (including deciduous, coniferous, and wetland forest), and is mostly rural with some agriculture. Of the approximately 18,6756 acres of Mansfield's forest land, 5,000 acres are owned by public agencies, including the Town, the State, University of Connecticut, and US Army Corps of Engineers. Mansfield's extensive forests are integral to the overall health and function of the town's natural systems.

Approximately 3% of the Mansfield's land area is comprised of watercourses (rivers and their tributary streams) and water bodies (lakes and ponds). These form a complex network of connected features that drain into either the Willimantic River or the Natchaug River watersheds. Water bodies in the Town include: Chapins Pond, Dunham Pond, Eagleville Pond, Echo Lake, Hansens Pond, Knowlton Pond, Mansfield Hollow Lake and McLaughlin Pond. Mirror Lake, Swan Lake and the Mansfield Training Center ponds are on the UConn Campus.

Mansfield's elevation ranges from about 160 feet in the southeast corner of town at the Natchaug River to about 730 feet in the north/northwest section.

Urban densities of population are found in the village of Storrs (UConn main campus) and in southern Mansfield. The number of students living on-campus at UConn accounts for 44.3% of the Town's total population. While 19,388 undergraduates and 6,334 graduate students were enrolled in the Fall 2023 semester, UConn's housing facilities accommodate approximately 12,690 students while the university is in session. A new residence hall in South Campus opening in the Fall of 2024 will allow for an additional 650 students to live on campus. Approximately 7,000 UConn students live off campus in Mansfield and the surrounding communities.

Mansfield Tomorrow: Plan of Conservation and Development Town of Mansfield, Connecticut, October 8, 2015, sets the foundation for Mansfield's development, conservation, and land use. Regarding development, Mansfield is conducting a Facilities Master Plan, which will identify improvements and repurposing of municipal buildings in the next few years. The town actively tracks development projects, primarily featuring multi-family developments in non-high-risk areas. Below is a list of developments approved since 2020.

Approved Multi-Family Development Since 2020										
		Bedrooms					Affordable Housing			Status
	Units	Total BR	Studio	1 BR	2 BR	3 BR	Affordable (80% AMI)	Workforce (120% AMI)	Contribution to Affordable Housing Trust Fund	
Eagleville Green (located at the corner of S. Eagleville (Rte 275) and Maple Roads	42	73	0	18	17	7	34	0	$ -	approved & under construction, scheduled to open summer 2025
Standard at Four Corners- 1725 Storrs Road	392	891	31	52	119	190	35	17	$ 1,696,015	approved & under construction, scheduled to open summer 2025
The Villages at Four Corners 1659 Storrs Road and 625 Middle Turnpike	261	457	64	64	70	63	39	13	$ -	approved 9/5/2023
497 Middle Turnpike (not including 1 existing single family dwelling)	116	194	0	55	44	17	17	6	$ -	approved 9/18/2023
The HUB (King Hill and North Eagleville Roads) Group Dwelling, to be rented by the bedroom.	450	1165					0	0	$ 3,291,248	approved 10/16/2023
Total	**1,261**	**2,780**	**95**	**189**	**250**	**277**	**125**	**36**	**$ 4,987,263**	

The town maintains a Storymap of new development which can be found here: https://storymaps.arcgis.com/stories/89b1735a27444d54a409d9e04b99a51c.

For UConn-related developments, developments are regulated by the university itself and not the town.

It is unlikely that development/redevelopment is increasing risk to natural hazards.

Critical Facilities

Critical and important facilities and cultural resources in Mansfield include the Mansfield Fire Department, a private psychiatric and substance abuse hospital, the resident trooper office, nine primary and secondary level schools, six historic districts, historic buildings throughout town, two elderly concentrations consisting of five housing communities, three retail areas, a public telephone facility, two well fields and associated water treatment facilities, Holiday Hill camp, a reservoir and water treatment facility owned by Windham, four major manufactured home parks as well as a number of manufactured homes throughout town, numerous apartment buildings that house large populations, several other apartment buildings, three high hazard/potential loss dams, and Mansfield Community Center. Additional critical and important facilities on the UConn campus include the University Safety (Fire, Police & Emergency Communications), the wastewater treatment plant, reclaimed water plant, central utility plant, library, sports facilities, and other cultural and performing arts venues.

Table 2-18: Critical Facilities, Mansfield

Facility	Shelter	Cooling Center	Generator
3 Mansfield Fire Department Stations			
Psychiatric and Substance Abuse Hospital			
CT State Police Resident Trooper Office			
Primary and Secondary Schools: 2 Montessori Schools 1 Elementary Schools Middle School High School Reynolds School Natchaug Hospital School	E.O. Smith High School is a Regional Shelter split with the American Red Cross		
Historic Resources: Spring Hill District Mansfield Centre District Mansfield Hollow District Gurley Ville District UConn District Mansfield Training School District Old Town Hall Several buildings on UConn Campus Other Buildings Throughout Town			
Elderly Concentrations: Mansfield Center For Nursing And Rehabilitation Juniper Hill Elderly Housing Glen Ridge Residential Community Wright's Way Elderly Housing Rolling Hills Residential Community			
Shopping Areas: Downtown Storrs East Brook Mall Four Corners Shopping Area			
Telephone Facility			
Holiday Hill Camp			

Facility	Shelter	Cooling Center	Generator
Reservoir and Water Treatment Facility Owned by Windham			
Major Manufactured Home Parks: Rolling Hills Residential Community Valleyview Chaffeeville Road Park Burcamp Other Manufactured Homes Dispersed Throughout Town			
Large Population Apartment Buildings			
3 High Hazard/Potential Loss Dams			
Mansfield Community Center	X		
2 Eversource Substations			
Well Fields and Water Treatment Facilities: UConn Willimantic River Well Field UConn Fenton River Well Field UConn Water Storage Facility			
UConn Wastewater Treatment Plant			
UConn Reclaimed Water Plant			
UConn Central Utility Plant			
University Safety (Fire, Police, USEC)			
UConn EOC			

During extreme heat events, the town reported that any of their facilities could be used as cooling centers.

Capabilities

The Town updated its Plan of Conservation and Development (POCD), *Mansfield Tomorrow: Plan of Conservation and Development Town of Mansfield, Connecticut, October 8, 2015, that includes* goals, strategies, and actions related to mitigation of natural hazards and is integrated into decision making at multiple levels. Hazard mitigation is addressed in Chapter 2: Natural Systems, Section 9: Climate Adaptation and Natural Hazard Mitigation of the *Mansfield Tomorrow: Plan of Conservation and Development Town of Mansfield*. A detailed assessment of natural hazards and associated risks are provided in that document and references how this HMP provides the strategies to reduce the loss of life and property and economic consequences because of natural disasters. Authorities in the Town of Mansfield who play advisory, supervisory, or direct roles in hazard mitigation for the Town include:

Authorities	Role			Hazard Mitigated
	Advisory	Supervisory	Direct	
Agriculture Committee	X			Drought
Conservation Commission	X			Drought & Flood
Department of Building and Housing Inspection	X		X	All but drought
Department of Public Works	X	X	X	All but drought
Division of Fire and Emergency Services			X	Wildfire
Emergency Management Advisory Council	X			All
Department of Human Services	X		X	All but drought
Office of Emergency Management	X	X	X	All
Office of the Fire Marshal	X		X	Wildfire
Parks & Natural Resources Committee (Previously the Open Space Preservation Committee)	X			Flooding
Planning & Zoning Commission/Inland Wetland Agency	X		X	Flooding
Sustainability Committee	X			Drought & Flood
Town Council		X	X	All
Town Manager		X		All
Department of Planning and Development	X		X	All
Town / University Relations Committee	X			All
Zoning Board of Appeals			X	Flooding
Department of Parks & Recreation	X	X		All

The Town of Mansfield has consistently participated in the National Flood Insurance Program (NFIP) since January 2, 1981. The most recent Flood Insurance Rate Map (FIRM) was published on January 2, 1981. The current Town of Mansfield Flood Insurance Study (FIS) was published July 1980. The original FIS and FIRMs for flooding sources in the Town are based on work completed in March 1978. Many of the local flooding problems are consistent with the floodplains mapped by FEMA.

Mansfield's zoning regulations prohibit construction of new residential or commercial structures within designated flood hazard areas with the exception of agricultural and accessory structures. All proposed structures must meet elevation requirements and strict construction demands. Manufactured (mobile) homes have more stringent requirements. Proposed development in the 1% annual chance flood plain may not alter flood levels. As a result of the limitations imposed by Zoning Regulations no new development has occurred in the floodplain in recent years.

The Town performs monitoring at several bridges that are known to be scour prone (see Challenges section). The Stone Mill Road and Laurel Lane bridges were both replaced between 2011 and 2013, minimizing the potential for damage to those bridges during a flood.

Annual expenses to maintain town-owned dams are incorporated into the annual budget for parks and recreation and public works.

Mansfield follows water conservation orders when they are issued by any of the major utilities in town. UConn enacts significant voluntary and mandatory water conservation measures for its users when drought conditions occur, as referenced in its 2020 Wellfield Management Plan. Several town facilities are connected to the University's water system.

The Mansfield Fire Department consists of 3 fire stations to cover 45 square miles of mixed urban and rural developments. It employs employing 20+ full time and part time firefighter/EMT's and is supported

by an additional volunteer staff of men and women dedicated to serving their community. Public fire protection covers a significant percentage of the town's population, though the Fire Department relies on fire ponds and dry hydrants throughout most of the community. Any new public water supply expansion projects include installation of hydrants. The Fire Department maintains ten fire ponds. When a water source is not available near a fire, water is brought to the site by a pumper truck. Municipal water service has been extended to the Four-Corners area of Town, improving wildfire-response capabilities there. The Town has not found it necessary to require installation of any new cisterns or dry hydrants in the last few years. The Fire Department purchased a water tanker in early summer 2015 at a cost of approximately $475,000.

The UConn Fire Department provides fire protection and other critical University Safety services to the UConn community, which includes students, staff, faculty, visitors, and neighbors. All personnel are state certified in fire suppression operations, technician-level hazardous materials operations and are licensed Emergency Medical Technicians. Station 22 has two engines, a tower ladder, four BLS ambulances, a Special Hazards vehicle, and other support vehicles / trailers. UConn Fire provides mutual aid services to Mansfield and surrounding communities.

The Town provides plowing services through Public Works. The Town also requires locations for snow storage to be considered in the design of parking lots. Eversource, the Town's energy provider, works with the Town's tree warden to remove dangerous trees and branches along power lines. The Town has its own tree crew as well as a robust annual budget to hire a contractor to address tree issues. The local electrical utility performs scheduled intensive trimming near electrical lines.

The Town has implemented a reverse 9-1-1 program and notifies the public when a severe storm is approaching. The Town maintains shelter facilities and evaluates the need for supplies at least annually or following each event. The Town performs debris management through Public Works with the assistance of the local electrical utility when necessary. UConn maintains an alert and notification system (UConnALERT) for emergency notifications to the UConn community and their affiliates. UConnALERT is used to alert the community when incidents or events require immediate protective actions or result in impacts University operations.

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Historical and current flood maps for Mansfield can be accessed here FEMA Flood Map Service Center | Town of Mansfield.

Mansfield's land use regulations promote the protection and enhancement of natural systems. This includes utilizing Low Impact Development (LID) practices for stormwater management.

The Town has an EAP for the dam at Bicentennial Pond.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Conduct outreach efforts to educate and train residents on individual actions they can take to prepare for, survive, and recover from disaster events.

- Develop communication strategy to better inform public of parking restrictions during snow events. Use Facebook, Website and Code Red Reverse 911.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Falling trees and limbs during high wind events, are one of Mansfield's greatest hazards, along with the power outages they cause. The town had three small tornadoes (EF-1 July 2013, EF-0 October 2018, and EF-1 September 2019). There was minor damage to structures.

The town staff report that there are areas on Higgins Highway (Route 31) that continue to flood during large events.

Sources of flooding in Mansfield (as noted in the FIS) include Natchaug River, Willimantic River, Mount Hope River, Conantville Brook, Fenton River, Fishers Brook, Eagleville Brook, Cedar Swamp Brook, Nelson Brook and Sawmill Brook. Areas of particular concern include five homes on Thornbush Road that are isolated or inundated by the Willimantic River approximately once every five years during times of high water, and an area of Bassett Bridge Road in the vicinity of the State boat launch that is closed during times of high water. This latter area is a flood control area managed by the US Army Corps of Engineers and is designed to be flooded, however, traffic is disrupted during these times. Town staff identify Thornbush Road as the most at-risk of flooding area in Town. Inundation of the railroad that runs along the western town line is both an economic concern and, at times, a hazardous material concern.

The overall risk to Mansfield from dam failure is low. The failure of any of the three dams in Town classified as significant hazard (Class B), or the three dams classified as high hazard (Class C) could cause serious damage. The Class C dams are the Eagleville Lake, Mansfield Hollow, and Willimantic Reservoir Dams. McLaughlin Pond Dam (Class B) has the potential to damage an important travel route (State Route 89) near Mount Hope, and is a concern for the Town. Town staff indicate that there has not been any damage to municipal and private structures and infrastructure due to dam failure in recent memory.

UConn is the Owner/Operator of several dams on campus. Mansfield Training Dam No. 1 and Mansfield Training Dam No 2, located on Route 44 across from Depot Campus have been classified as Class B Significant Hazard Dams by the CT Department of Energy and Environmental Protection (DEEP). The Mirror Lake Dam located on the Storrs Campus southwest of the intersection of Route 195 (Storrs Road) and Willowbrook Road in Storrs is currently classified as a Class BB Significant Hazard Dam. Emergency Action Plans (EAP) for the Mirror Lake Dam and Mansfield Training Dam No 1 and No 2 are on file with UConn's Office of Emergency Management. Inundation areas for these dams do not impact residential areas but may cause road closures and detours.

The Sewer system is a concern for Mansfield staff. The town relies on the university in the Northern area of town and Windham in the Southern.

Windham Water Works (located in Mansfield) has a grant from FEMA to look at resilience issues related to the reservoir and dam.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Mansfield. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50-year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 20-2: Average Annualized Losses, Mansfield

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$66,538.00
	NRI	$1,648,249.26
	FEMA PA	$12,558.92
Tornados/High Winds	NCEI	$24,910.61
	NRI	$261,210.68
Winter Storms	NCEI	$19,733.66
	NRI	$133,206.68
	FEMA PA	$11,560.87
Flood	NCEI	$20,168.62
	NRI	$44,340.48
	NFIP	$14,759.99
Drought	NRI	$11,751.79
	USDA	$472.85
Extreme Heat	NRI	$4,374.74
Wildfire	NRI	$845.65
Earthquakes	NRI	$117,507.60
Dam Failure	HMP	$1,631.00

Other Hazard Costs

The Town estimates the cost to dredge and increase capacity of an individual fire pond to withstand drought conditions to range between $2,000 to over $10,000 depending on site-specific conditions. Town officials also note that economic losses due to a drought can be significant in Mansfield given the amount of agricultural land; this includes a local dairy farm and bottling plant that would be significantly impacted by a drought.

Town staff report that wildfires cost the Mansfield Fire Department approximately $2,000 per acre affected in terms of personnel, apparatus, and equipment.

The Town of Mansfield reports that the cost to respond to a downed branches incident could be several thousand dollars depending on the scale of the event. The Town of Mansfield reports that the cost to respond to the July 10, 2013 EF-1 tornado was $11,900.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Mansfield 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the Governor's Council on Climate Change (GC3). The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

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

- The town should consider a tree management plan to reduce losses from dead/dying trees.
- The town should consider an alert system for flooding to address concerns related to closed roads during storm events.
- The town should continue to work with Windham Water Works (located in Mansfield) on the grant from FEMA to look at resilience issues related to the reservoir and dam.
- The town should consider options for expanding their sewer system.

Status of Previous Mitigation Strategies and Actions

The Town of Mansfield reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Mansfield

No.	Action	Notes	Status
1	Encourage owners of private dams to develop EAPs and share with Town.	CIRCA Staff advised to not carry forward any actions about private dams because the Town does not have the ability to take specific actions related to private dams. Attendees explained that private owners need to understand their requirements to take care of dams, and explained that the town needs an education system. Need a list/contact info for private dams and guidance for what they can put together for education (mailer, door-to-door). State provides a list of when dam needs to be inspected. How much is town vs state responsibility. Rewrite new action. All of dams are mapped in POCD. Overall, the discuss centered on the concept that people need to be managing their dams appropriately.	Carry Forward with Revision
2	Encourage owners of private dams to implement recommendations resulting from dam inspections.	See above. Rewrite	Carry Forward with Revision
3	Establish protocols for evaluation of snow loads on Town buildings.	CIRCA Staff explained that actions about snow loads are typically related to lingering concerns from the February and October 2011 snowstorms. Attendees explained that anything that is built new is going to comply with CT state building code which considers drifting of snow. Town sends a standard communication if snow does start piling up. Complete/remove.	Complete/ Retire
4	Complete zoning regulation "clean up" to reflect hazard mitigation best practices. Address issues including potential cistern & dry hydrant requirements in new subdivisions, use of native species, and snow storage needs for streets.	Attendees noted a need to go through zoning regulations. Looking at native species. Have not updates subdivision regulations since 2011. The Town is planning for a full re-writeup of zoning regulations. Cistern and dry hydrants are in zoning regulations because they are not in fire planning codes. Largest issue is who maintains systems and waterways. Rewrite action.	Carry Forward with Revisions
5	Evaluate areas on Higgins Highway (Route 31) that have flooded during large events for possible mitigation actions.	CIRCA and the attendees will take a look at flood map to see if there is anything to be done here. Single family homes flooded in this area. Rewrite. Action about those structures and not the areas. General action about 31/32 area that is prone to flooding.	Carry Forward with Revisions

No.	Action	Notes	Status
6	Implement recommendations resulting from inspections of Town-owned dams.	How many town owned dams there are and if they have been inspected. CIRCA and the Town will need to check on this.	Likely Complete/ Retire
7	Improve north side of Bassetts Bridge Road west of the bridge crossing the Naubesatuck Lake; this section of road is frequently washed out in high water events.	Still floods. Continue.	Carry Forward
8	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.	The program at DEEP is over, there is no more funding. The Town believes the intent has been met through local outreach. Complete	No longer needed/R etire
9	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.	Complete. Town participates in MS4 and additional technical assistance is not needed from NEMO.	Complete/ Retire
10	Make available information on natural disasters and preparedness on the Town's website with links to state and federal resources.	In the next 6 months the town website will be re designed. Can improve the depth of information on what is needed here. Rewrite	Carry Forward with Revisions
11	Make available literature on natural disasters and preparedness at Town Hall and the Library.	Complete.	Complete/ Retire
12	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	The assistant director is planning on attending the silver jackets workshop in June 2023, and other workshops and training sessions as needed. Complete/Capability.	Complete/ Retire
13	Conduct outreach efforts to educate and train residents on individual actions they can take to prepare for, survive, and recover from disaster events.	More geared towards citizens. Town send out info on monthly/quarterly newsletters. Certain areas of the community there are annual meeting. Complete/Capability	Complete/ Retire
14	Install an emergency generator at the Public Library.	Complete.	Complete/ Retire
15	Develop a list of best practices with regard to sustainable and resilient design to be incorporated into town projects when feasible.	The Town has started to reimagine municipal buildings with new construction in the next 5-10 years. Keep this action to ensure that the effort remains consistent with potential grants.	Carry Forward
16	Develop communication strategy to better inform public of parking restrictions during snow events. Use Facebook, Website and Code Red Reverse 911.	Use code red/social media. Complete/Capability	Complete/ Retire

No.	Action	Notes	Status
17	Conduct a wildfire vulnerability and needs assessment to guide construction of additional dry hydrants and/or cisterns.	There will be a section in the plan about wildfires. A vulnerability assessment will be part of the plan update. Complete or replace with specific actions.	Carry Forward with Revisions
18	Complete preparation of EAPs for Town-owned and maintained dams, as well as private ones where applicable.	Only required for class C and B. Complete.	Complete/ Retire
19	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	These are properties that have flood insurance and made more than 2 claims in the last ten years. Mansfield does have a couple rep loss properties. Will check with CRCOG. Required if town has rep loss properties. Keep	Carry Forward
20	Monitor catch basins to determine whether switch away from sand has had an impact on basin filling.	This change has had an impact. Basins are cleaner/ easier to clean. Complete	Complete/ Retire
21	Seek Certification within the Sustainable CT program and make progress with the hazard mitigation goals associated with SustainableCT certified actions.	Certified Silver. Complete	Complete/ Retire
22	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Required by FEMA. Keep.	Carry Forward
23	Develop public education programming with regard to tree planting and maintenance on private property.	The Town may have never done this. Eversource conducts some education. Town does have a poster at town hall indicating tree species that should be planted near town hall. Rewrite to use trees species to manage extreme heat.	Carry Forward with Revisions
24	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Rewrite. Use mapping product to understand risk to historic structures. The Town would like to see the layer. CIRCA Staff noted that every year, there are a few more structures eligible due to the rolling lookback.	Carry Forward with Revision
25	Develop a public education program encouraging water conservation that utilizes UConn water usage alerts.	UConn tied into CT water. Messaging is out there. Complete.	Complete/ Retire

No.	Action	Notes	Status
26	Educate property owners on vegetation clearing techniques that will reduce water runoff and reduce the amount of combustible fuel.	Is always necessary. The Town questions how they get it out. When they update the website could get more information out. Keep	Carry Forward
27	Explore the feasibility of developing a microgrid that encompasses some or all of the following: Town Hall, Community Center, E.O. Smith High School, Library, Town Garage.	Microgrid is not happening. Generators at EO Smith, the Town Hall, and library. Rewrite to promote solar and batteries.	Carry Forward with Revisions
28	Improve and expand the Town's GIS system to assist town personnel in the event of an emergency of natural disaster.	GIS is set up well for this. Have a lot of layers for emergencies and natural disasters. Complete	Complete/ Retire

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.

Table 2-4: Active Mitigation Strategies and Actions, Mansfield

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
MF1	Explore the feasibility of solar panels and batteries at some or all of the following: Town Hall, Community Center, E.O. Smith High School, Library, Town Garage.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Chief Elected Official	$0-$10,000	DCRF; FEMA HMA	001/2025-12/2025	Medium	All Hazards	Yes - Distressed Municipality	18	7	126
MF2	Establish a 24 hr. cooling center	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	STEAP; Municipal CIP Budget; FEMA HMA	07/2024 - 06/2025	High	Extreme Heat	Yes - Distressed Municipality	19	4	76
MF3	Develop a comprehensive plan for the modernization and renovation of municipal buildings.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Planning	$50,000 - $100,000	Municipal CIP Budget	07/2024 - 06/2025	Medium	All Hazards	Yes - Distressed Municipality	18	4	72
MF4	Develop a list of best practices with regard to sustainable and resilient design to be incorporated into town projects when feasible.	More than one goal.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	001/2025-12/2025	Medium	All Hazards	Yes - Distressed Municipality	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
MF5	Pursue funding for mitigating flood losses at buildings in the area at Perkins Corner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	FEMA HMA; STEAP; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114
MF6	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	3	57
MF7	Address the maintenance of fire protection systems (cisterns and dry hydrants) through ordinances.	Reduce losses from other hazards.	Natural Resources Protection	Fire Department	$0-$10,000	Municipal Operating Budget	01/2026-12/2026	High	Wildfires	Yes - Distressed Municipality	20	9	180
MF8	Undertake a study of flood risks at the Perkins Corner Area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114
MF9	Improve north side of Bassetts Bridge Road west of the bridge crossing the Naubesatuck Lake; this section of road is frequently washed out in high water events.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is	Structural Project	Public Works	$500,000 - $1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
		resilient over the long term.											
MF10	Develop a list/contact info for private dam owners.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	001/2025-12/2025	Medium	Dam Failure	Yes - Distressed Municipality	19	7	133
MF11	Develop guidelines and educational material for private dam owners on the proper Maintenance requirements for dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2026-12/2026	High	Dam Failure	Yes - Distressed Municipality	19	7	133
MF12	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/ Drought	Yes - Distressed Municipality	20	10	200
MF13	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	Yes - Distressed Municipality	20	8	160
MF14	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
		frequency and severity of floods.											
MF15	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	Yes - Distressed Municipality	19	5	95
MF16	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	7	140
MF17	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026-12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	5	100
MF18	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverin	Yes - Distressed Municipality	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	here: https://conncris.ct.gov.	frequency and severity of floods.							e and Pluvial Floods				
MF19	Plant native tree species near the town hall to manage extreme heat.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Prevention	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	Low	Extreme Heat	Yes - Distressed Municipality	19	7	133
MF20	Educate property owners on vegetation clearing techniques that will reduce water runoff and reduce the amount of combustible fuel.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2027-12/2027	Low	Riverine and Pluvial Floods	Yes - Distressed Municipality	18	7	126
MF21	Conduct outreach to private property owners encouraging them to remove dangerous trees and branches on their property.	Reduce losses from other hazards.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	Hurricanes and Tropical Storms/ Tornadoes and High Winds/ Severe Winter Storms	Yes - Distressed Municipality	18	6	108
MF22	Increase the amount of information available on natural disasters and preparedness on the Town's website with links to state and federal resources.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	001/2025-12/2025	High	All Hazards	Yes - Distressed Municipality	19	7	133

Figure 20-17: CIRCA Environmental Justice Rank and Critical Facilities, Mansfield

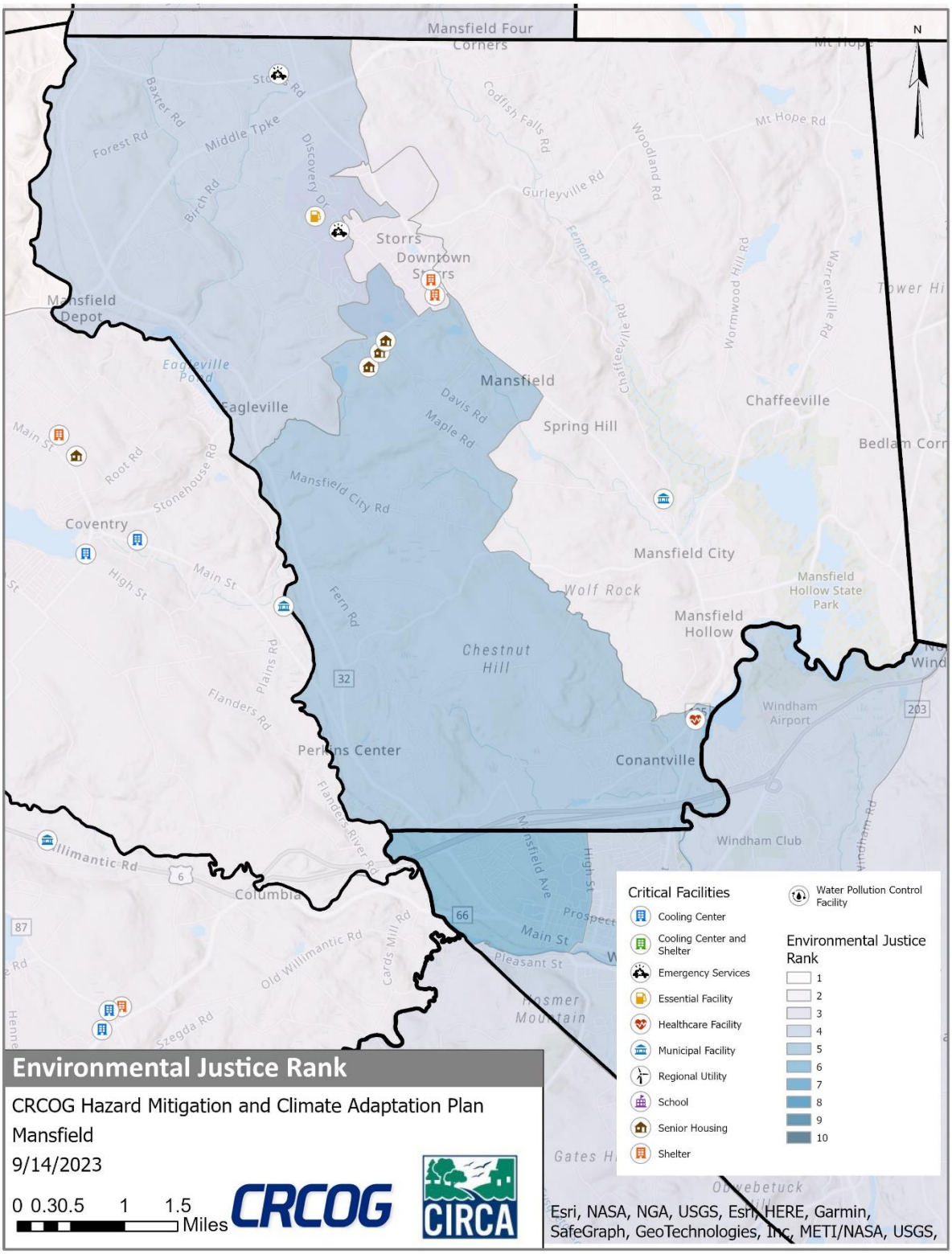


Figure 20-2: FEMA Flood Zones and Critical Facilities, Mansfield

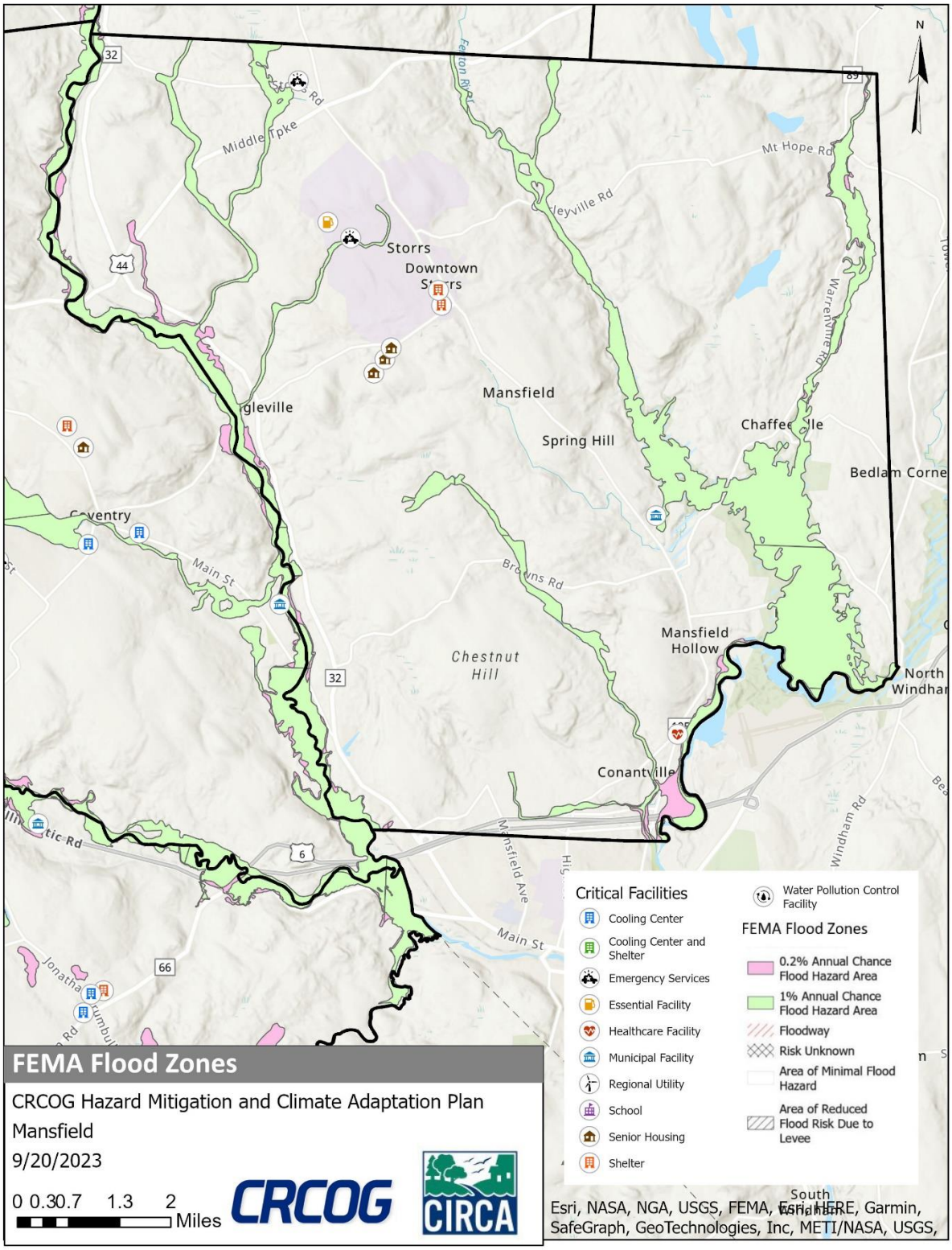


Figure 20-3: CIRCA Flood CCVI and Critical Facilities, Mansfield

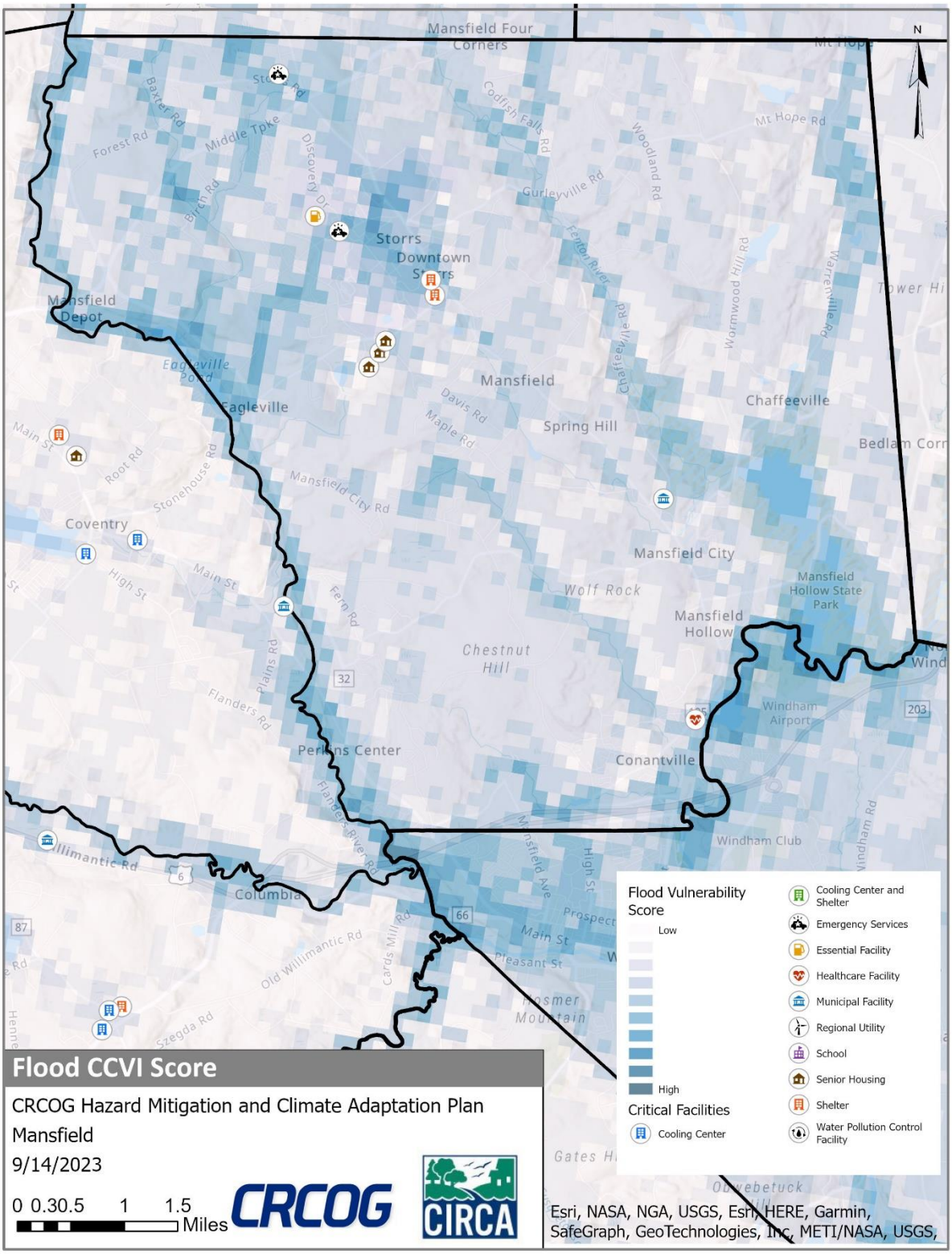


Figure 20-4: Dam Inundation Area and Critical Facilities, Mansfield

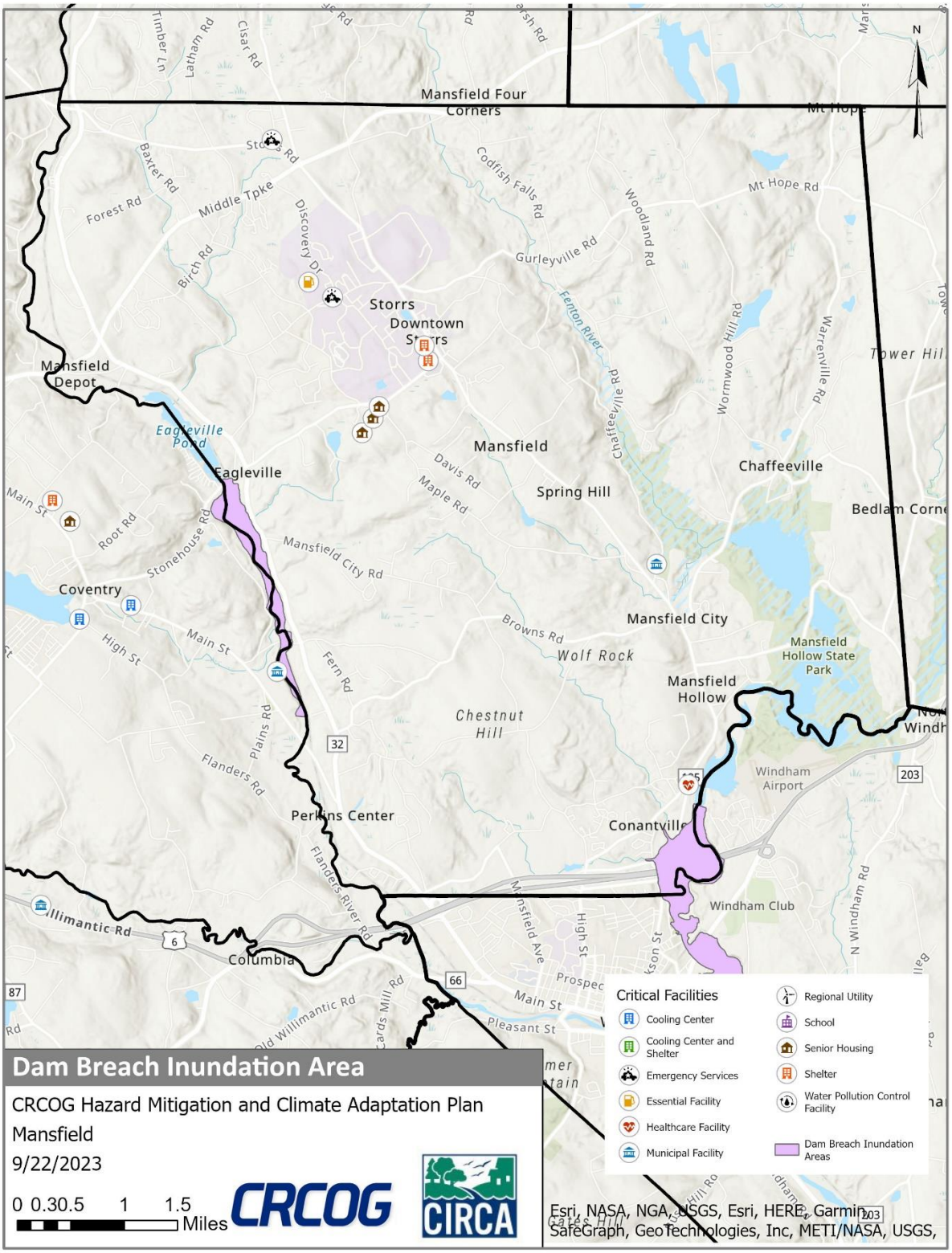
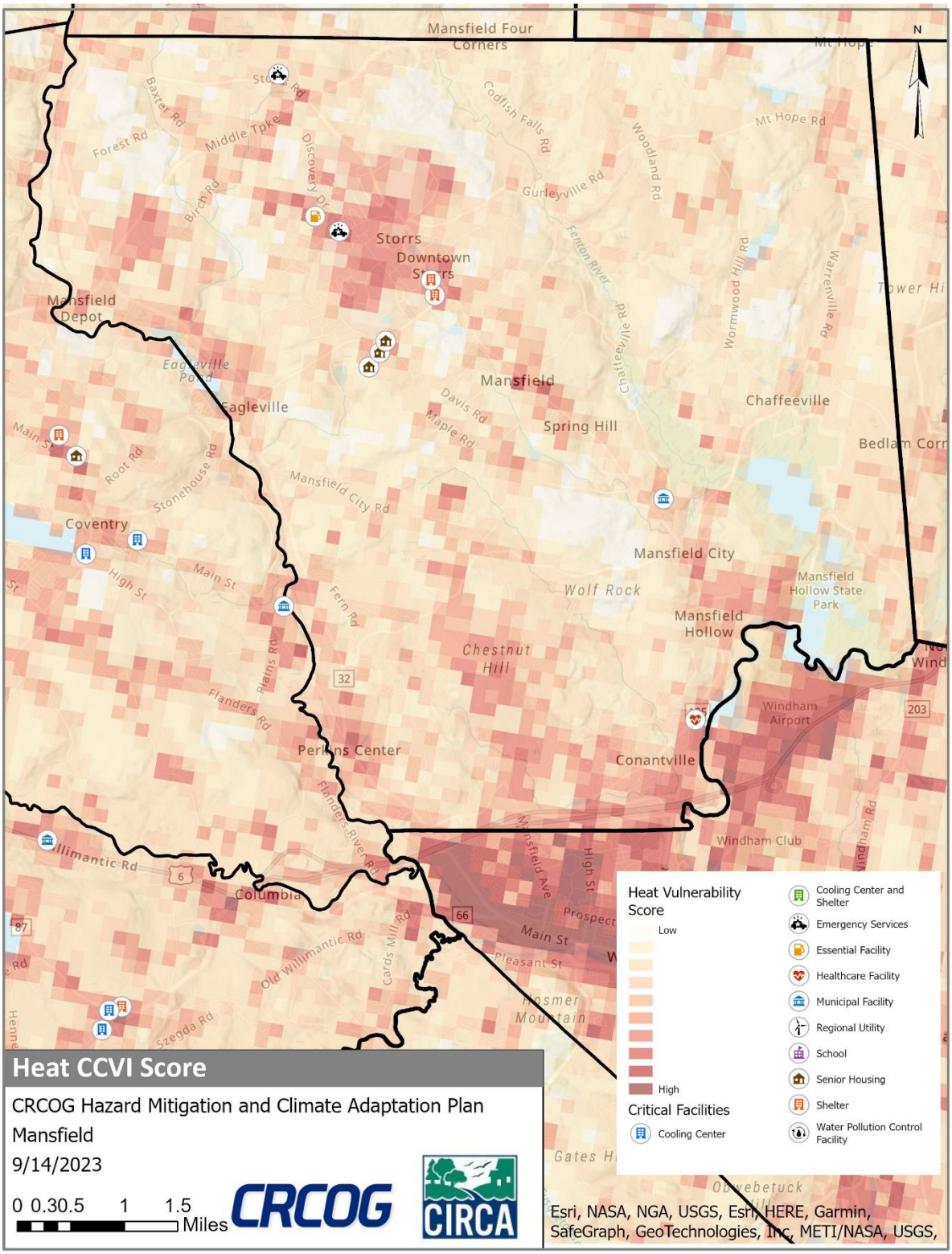


Figure 20-5: CIRCA Heat CCVI and Critical Facilities, Mansfield



21 Marlborough

Community Overview

Marlborough is a rural community in Hartford County covering a land area of 23.3 square miles and with an estimated population of 6,133 (2020 Census). Elevation ranges from about 160 to 800 feet. The Town is located in the Salmon River Watershed. The Blackledge River, Dickinson Creek, and Fawn and Lyman Brooks are the principal watercourses in Marlborough. The 83 acre spring fed Lake Terramuggus is located in the center of Town. State routes 2 and 66 intersect in Town. As a chiefly residential community, local businesses are the predominant industry. According to the Town's Plan of Conservation and Development, one-third of Marlborough's land area is protected forest land. Continued protection of the Town's natural resources is a focus of the Town's Plan.

Since adoption of the previous plan update, the town approved 2 apartment buildings with 92-units in total. The town does not have any new development in the flood plains. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Marlborough critical facilities include the Town hall Fire House #2, the senior center and the elementary school.

Table 2-19: Critical Facilities, Marlborough

Facility	Shelter	Cooling Center	Generator
Town Hall	X	X	X
Fire House #2	X	X	X
Senior Center	X	X	X
Elementary School	X	X	X

During extreme heat events, Marlborough Town Hall, Fire House #2, the Cafeteria and Community Room at the Elementary School and Marlborough Senior Center can be opened as public cooling centers. The emergency generator at the Town Hall was updated and an emergency generator was added to the senior center. Both facilities are used as shelters as well.

Marlborough currently uses Hebron's RHAM High School and Regional Health Districts as regional shelters

Capabilities

Hazard mitigation is incorporated into Marlborough's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards, including flood, wildfire, and erosion. Marlborough has Low Impact Development (LID) regulations designed to help minimize stormwater runoff. It is implementing new MS4 stormwater requirements.

There are about one dozen dry-hydrants throughout Town. Only the Town Center is served by public water, but no fire hydrants are included.

The Town's local budget for tree maintenance is now $100,000 per year. Due to devastation of Gypsy Moths and recent severe wind events, and tree infestations. Marlborough has spent $285,000 in tree removal since the 2019 HMP The Town anticipates spending $100,000 a year on tree removal each of the next five years. The Town and Eversource collaborate regularly and effectively on tree maintenance.

A culvert on an unnamed brook under South main Street has been upgraded since the 2014 HMP. Marlborough has replaced two culverts sets of twin 48-inch diameter corrugated metal culverts on Finley Hill Road at Flat Brook with twin 7- by 5-foot precast concrete box culverts and an unnamed brook with 4 x 8 -foot elliptic pipe. Also, the Town replaced twin 30" culverts on North Parker Road with an 8-by4-foot precast concrete box culvert.

Two bridges in Town have been improved since the 2019 HMP. The Jones Hollow Road Bridge, over the Blackledge River, and South Main Street Bridge, over the Fawn Brook construction were completed in 2021. The bridge decks of the North Main Street Bridge have recently been replaced.

The Marlborough Fire Department recently upgraded its Rescue vehicle and currently is replacing a Pumper Truck.

Marlborough has hired a new Emergency Management Director (EMD) and Deputy EMD. The Deputy EMD is responsible for developing a local Community Emergency Response Team (CERT). Both the EMD and Deputy EMD are attending a CT DEMHS sponsored CERT trainer course in September 2018. Marlborough is currently served by a regional CERT team covering Hebron, Andover, and Marlborough; this team includes Marlborough residents.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Replace one Public Works truck.
- Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Storm damage to trees resulting in road blockages, power outages and debris accumulation is a concern for the town.

The town has 5,000 acres of open space, much of which is state-owned. The state is timbering the State-owned land in town. The town owns about 500 acres and sometimes timbering on the town-owned land. However, dead/dying trees is a main concern for the town.

In Marlborough, concerns have arisen regarding the condition of culverts, particularly during storms. A culvert on South Buckboard Lane over Foot Sawmill Brook sustained damage during one storm, prompting a temporary repair. In June and July of 2021, the town faced culvert issues on South Rd, Hodge Rd, and South Buckboard Lane, resulting in the replacement of a few culverts, both temporarily and permanently. The Town spent $400,000 upgrading the street drainage system of Stony Brook Drive as a result of flooding in 2021. All culverts are being upsized and transitioning to box culverts. The primary worry is that the 12 existing metal culverts are deteriorating due to the increased frequency and intensity of storms, causing them to lose their metal bottoms as a result of heightened water flow and friction. Tree debris is not a significant concern in clogging the culverts.

With 18% of the population over 65, Marlborough lacks a clear heat plan for this vulnerable group.

Marlborough relies on bedrock wells for water, a concern during droughts. Furthermore, the town center's water system is privately owned, limiting the town's control over its water supply.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Marlborough. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 21-2: Average Annualized Losses, Marlborough

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$15,760.76
	NRI	$280,754.68
	FEMA PA	$7,502.93
Tornados/High Winds	NCEI	$5,900.54
	NRI	$53,123.19
Winter Storms	NCEI	$4,674.28
	NRI	$3,909.53
	FEMA PA	$3,782.93

Hazard	Source	Average Annualized Losses (AAL)
Flood	NCEI	$4,777.31
	NRI	$7,572.36
	NFIP	$1,890.63
Drought	NRI	$0.00
	USDA	$0.00
Extreme Heat	NRI	$6,999.52
Wildfire	NRI	$451.09
Earthquakes	NRI	$6,461.08
Dam Failure	HMP	$11.00

Losses Summary

A review of the above loss estimates demonstrates that the community 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should consider increasing their municipal budget and implement a tree management plan to address dead and dying trees on town-owned open space.
- The town should continue to enhance and monitor culvert infrastructure to withstand the increased frequency and intensity of storms.

- The part-time Emergency Management Director in Marlborough should determine if a heat plan exists and if it does not, the town should consider developing one to address the vulnerable and aging populations needs.

Status of Previous Mitigation Strategies and Actions

The Town of Marlborough reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Marlborough

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff said Marlborough registered with SCT in 2020 and the Town achieved Bronze status this summer and will continue to move forward with other certifications.	Complete/ Retire
2	Develop prioritized list of needed culvert and bridge replacements and upgrades and apply for funding to pursue that work.	Town staff said that they had an engineer evaluate culverts in 2014-2015 and 2021. The town has metal culverts that don't last a long time. They get a list and rating from the engineer every 5 years and make improvements. The town would need $1.5 million -$2 million to replace each culvert and they have about 5-6 that need immediate attention and another 7 to 8 metal culverts that will need replacing in the future. The town is upsizing from 48 to 7x14 box culverts. The list of the culverts that they are experiencing issues with: 1. Quinn road over Cattle Lot Brook, 2. South Buckboard Lane over Foot Sawmill Brook 3. Johnson Rd with Lyman Brook, 4. 254 South Main Street with unnamed brook, 5. Hodge Road culvert with a wetland system 6. South Main St bridge over Blackledge River.	Carry Forward with Revisions to include specific locations and that the culverts are being upsized.
3	Replace one Public Works truck.	Town staff is continuing to replace trucks. Ongoing capability.	Complete/ Retire
4	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.	Town staff said they would like to revise this action to have staff watch the final DEEP training/webinar and continue education.	Carry Forward with Revisions
5	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.	Town staff said they are in compliance with MS4. This is a capability.	Complete/ Retire
6	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they would like to keep this action to have staff continue education.	Carry Forward

No.	Action	Notes	Status
7	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	Town staff said that they have achieved this and is a capability.	Complete/ Retire
8	Increase Public Works staff numbers.	Town staff said they have not been able to increase staff, but this is still a goal that can be kept in the text of the plan, although perhaps not needed as a table action (as FEMA will not fund this goal).	No longer a (table) need /Retire
9	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff believes that they do not have any RLP. CIRCA will check with CRCOG. If the town does have RLP, share this information with Peter and keep/ revise the action.	Likely Complete or No Longer a Need /Retire
10	Coordinate with CT SHPO to conduct historic resource surveys to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Revise to say “Acquire and review SHPO GIS data point file”.	Carry Forward with Revisions
11	Prepare a forest fire suppression study.	Town staff said this has not been completed yet, but this is still an interest.	Carry Forward

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.

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
MB1	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
MB2	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
MB3	Apply for funding to pursue upsizing the following culverts: .1. Quinn road over Cattle Lot Brook, 2. South Buckboard Lane over Foot Sawmill Brook 3. Johnson Rd with Lyman Brook, 4. 254 South Main Street with unnamed brook, 5. Hodge Road	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2028	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	culvert with a wetland system 6. South Main St bridge over Blackledge River.												
MB4	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
MB5	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Selectmen	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
MB6	Develop more water supply sources and interconnections as needed	More than one goal.	Water & Wastewater Utility Projects	Planning & Selectmen	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
MB7	Prepare a forest fire suppression study.	Reduce losses from other hazards.	Prevention	Fire Department	$10,000 - $50,000	FEMA HMA	07/2025 - 06/2026	Medium	Wildfires	No	18	5	90
MB8	Develop a comprehensive tree management plan that addresses the growing concern of dead and dying trees within the town.	Reduce losses from other hazards.	Natural Resources Protection	Planning & Public Works	$10,000 - $50,000	Municipal Operating Budget	07/2025 - 06/2026	High	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
MB9	Develop a town wide heat Management plan for vulnerable populations including senior citizens.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Municipal Operating Budget	01/2025 - 12/2025	High	Extreme Heat	No	18	6	108
MB10	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
MB11	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	No	17	6	102
MB12	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
MB13	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning & Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 21-18: CIRCA Environmental Justice Rank and Critical Facilities, Marlborough

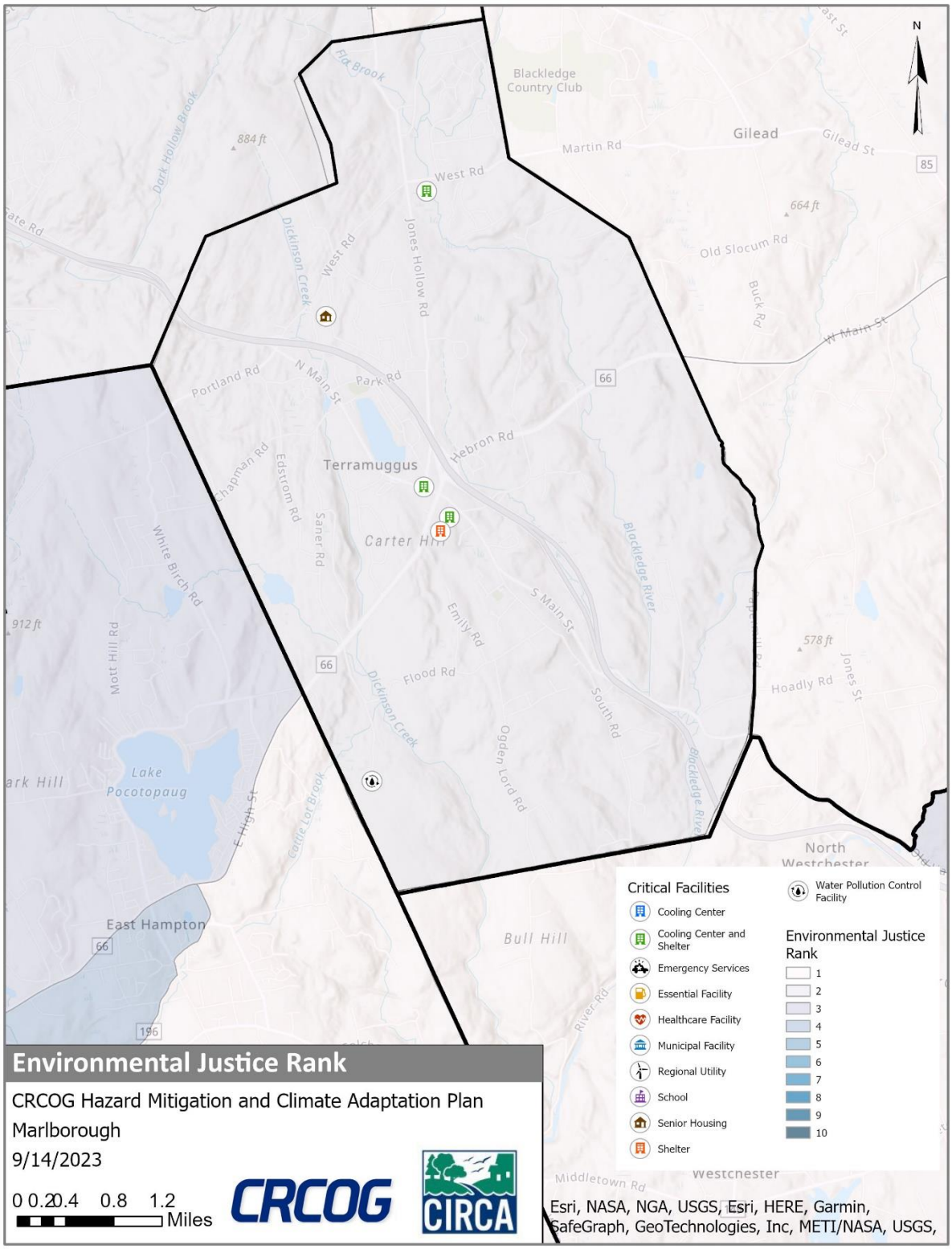


Figure 21-2: FEMA Flood Zones and Critical Facilities, Marlborough

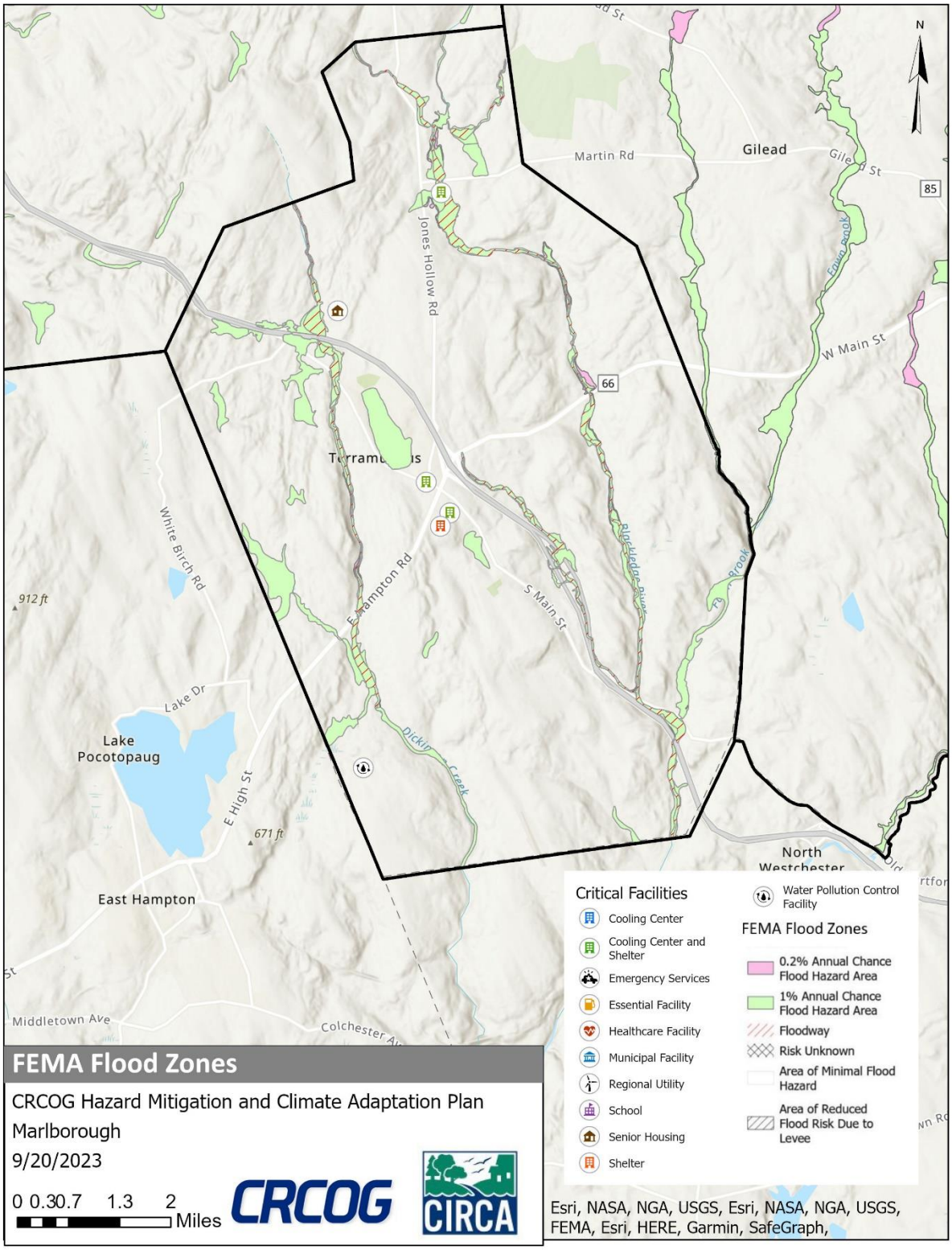


Figure 21-3: CIRCA Flood CCVI and Critical Facilities, Marlborough

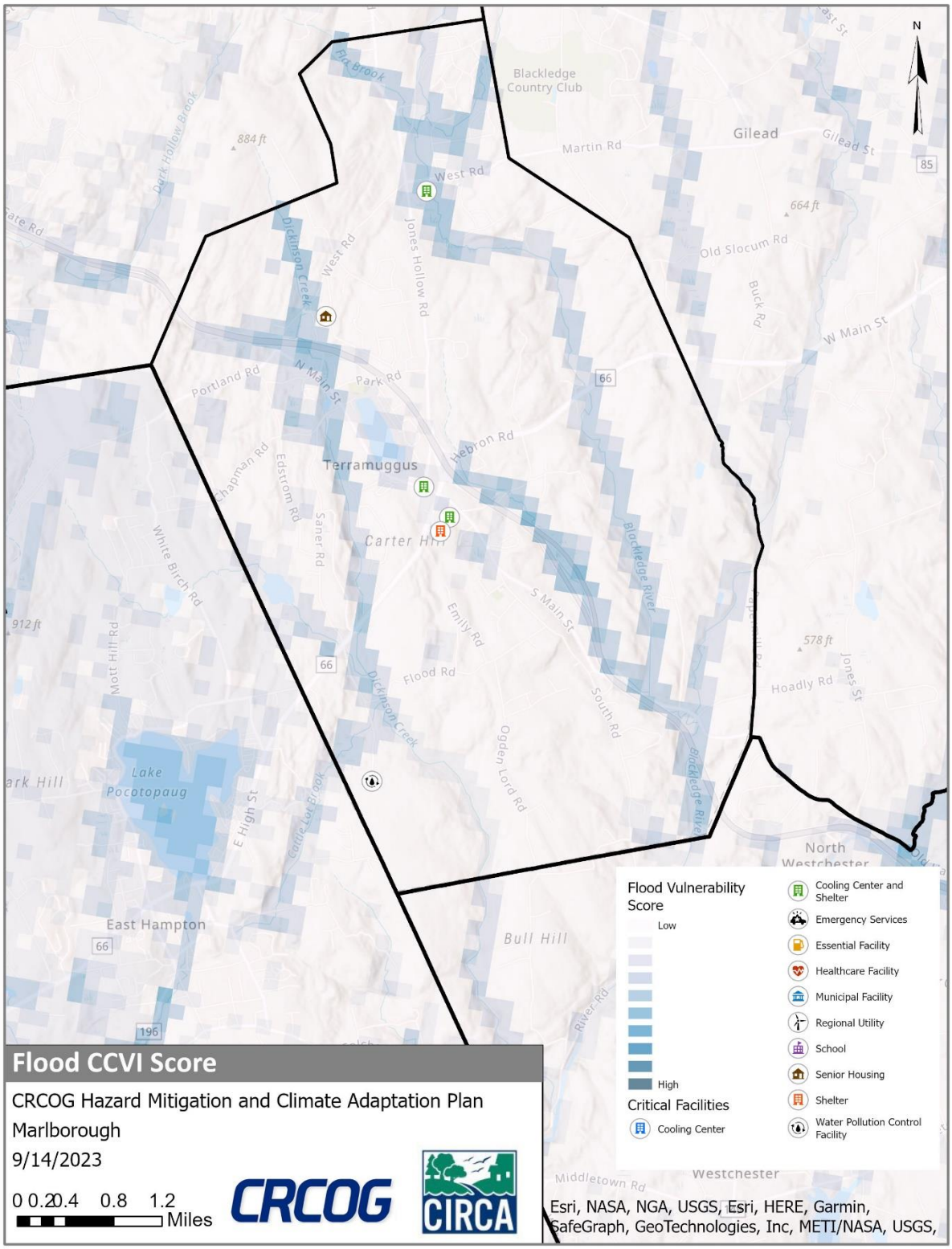
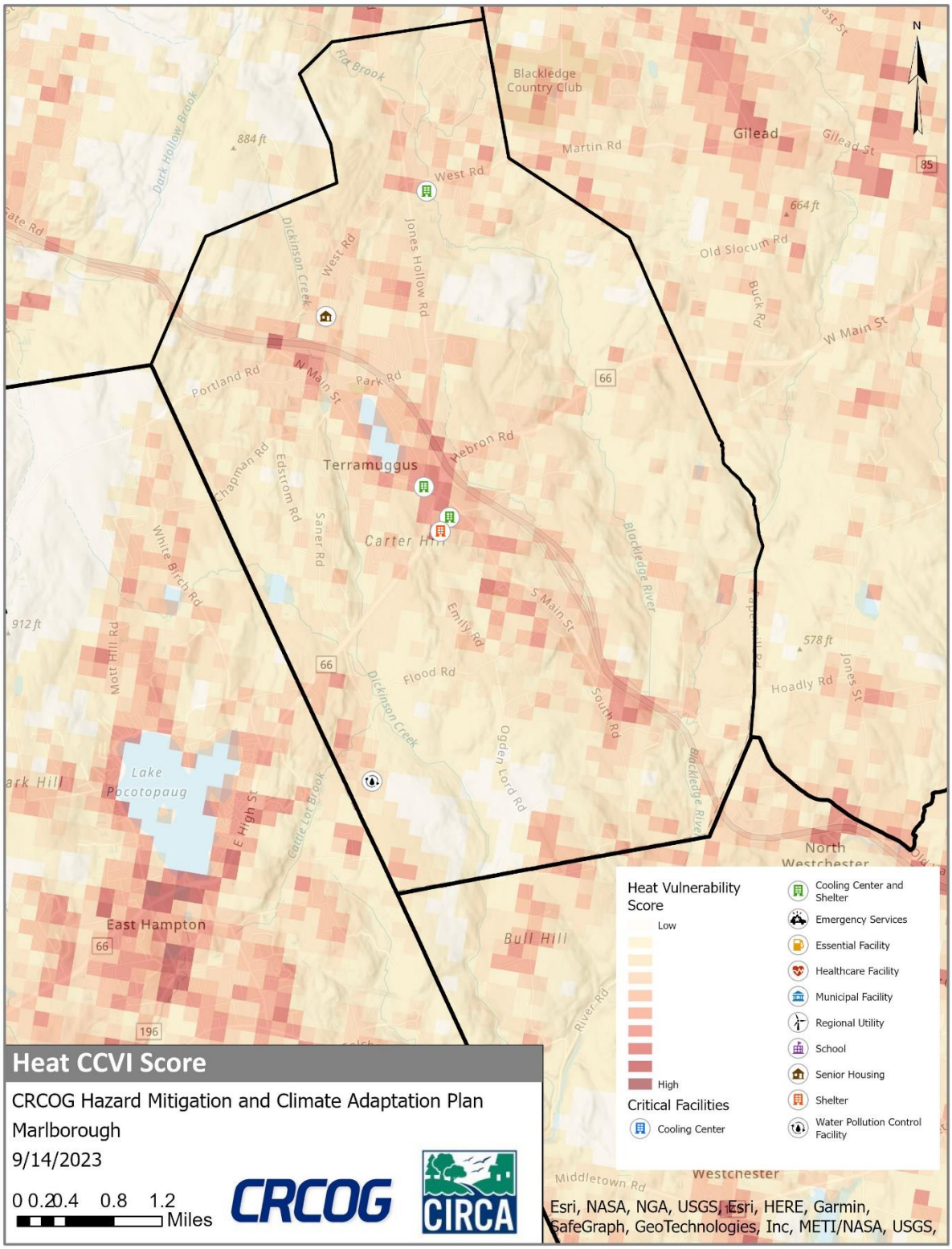


Figure 21-4: CIRCA Heat CCVI and Critical Facilities, Marlborough



22 New Britain

Community Overview

The City of New Britain encompasses 13.3 square miles of land area and is home to 74,135 residents as of the 2020 census.

Elevation in New Britain ranges from approximately 60 to 430 feet. The central and northern sections of the City drain to the Bass Brook, the western portion drains to the Quinnipiac River, and the southern portion drains to the Mattabesset River. Significant waterways other include the Quinnipiac River, Bass Brook, Piper Brook, Willow Brook, and Webster Brook.

New Britain is located at the junction of Interstate 84, Route 72, and Route 9. Its major businesses and industries include health care, State government, city government (including schools), and manufacturing. An active segment of the Hartford, Providence and Fishkill Railroad is operated by CSX Transportation (formerly Pan Am Southern) for freight between New Britain and Waterbury. CT*fastrak*, a regional Bus Rapid Transit System, has stations in New Britain.

Development over the past five years has occurred in downtown New Britain. Developments include affordable housing, multi-story and mixed-use buildings (residential/commercial), throughout the downtown area. However, city staff don't believe any of these developments are in high-risk areas thus, development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In New Britain critical facilities include the Police Department (EOC), City Hall (Backup EOC), six Fire Stations, High School, EMS facility, 4 Eversource substations, 1 Eversource Area Work Center and sewage pumping stations.

Table 22-1: Critical Facilities, New Britain

Facility	Shelter	Cooling Center	Generator
POLICE DEPARTMENT		X – Community Room	
GRANDVIEW REHABILITATION AND HEALTHCARE CENTER			
JEROME HOME			
MONSIGNOR BOJNOWSKI MANOR, INC			
AUTUMN LAKE HEALTHCARE AT NEW BRITAIN			
CASSENA CARE AT NEW BRITAIN			
NEW BRITAIN GENERAL HOSPITAL			
HOSPITAL FOR SPECIAL CARE			
NEW BRITAIN PUBLIC SAFETY			
NEW BRITAN POLICE DETECTIVES			
NEW BRITAIN HIGH SCHOOL	X		

Facility	Shelter	Cooling Center	Generator
VANCE SCHOOL			
ST FRANCIS OF ASSISI MIDDLE SC			
HOLY CROSS SCHOOL			
ST MATTHEWS LUTHERAN SCHOOL			
CENTER FOR EDUCATION/FAM CTRS			
SACRED HEART SCHOOL			
SMALLEY ACADEMY			
CHAMBERLAIN SCHOOL			
LINCOLN SCHOOL			
SLADE MIDDLE SCHOOL			
NEW BRITAIN CENTER FOR SCHOOL READINESS			
GAFFNEY SCHOOL			
E. C. GOODWIN TECHNICAL HIGH SCHOOL			
DILORETO MAGNET SCHOOL			
JEFFERSON SCHOOL			
HOLMES SCHOOL			
PULASKI MIDDLE SCHOOL			
ROOSEVELT MIDDLE SCHOOL			
SMITH SCHOOL			
NORTHEND SCHOOL			
NEW BRITAIN FIRE DEPARTMENT			
NEW BRITAIN EMERGENCY MEDICAL SERVICES (NBEMS)			
FIRE STATION 1			
FIRE STATION 2			
FIRE STATION 4			
FIRE STATION 5			
FIRE STATION 7			
FIRE STATION 8			
4 EVERSOURCE SUBSTATIONS			
1 EVERSOURCE AREA WORK CENTER			
LIBRARY		X	
SENIOR CENTER		X	

All critical facilities in the city have generators. The majority of these generators are relatively dated, including the generators on the following list:

- Two of the Fire Stations have generators that are more than 45 years old, two have generators that are 30 years old, two have generators that are between 10 and 30 years old, and the two newest fire station generators are both around 10 years.
- The Police Department generator is relatively new, but the EMS generator is closer to 10 years in age.

A new fuel cell has been installed at the High School, creating a local microgrid that is independent of Eversource Power and not vulnerable to regional power outages. The High School now has sufficient backup power capabilities to serve as an emergency shelter and the City is in the process of outfitting it as such. High School has become the City's primary shelter within the past five years.

The City is in the process of building a new public works operation center that will be open in the upcoming winter. This will be at a new location.

During extreme heat events, New Britain Library, Senior Center and the Community Room at the Police Department can all be opened as public cooling centers. All three facilities have generators.

Capabilities

New Britain has many emergency operation procedures in place to respond to the effects of natural hazards. In addition to maintaining an Emergency Operations Plan (updated annually) and an Emergency Operations Center, the City maintains shelters, has identified warming and charging stations, and has identified a variety of resources to assist with natural hazard event response. The City also maintains a training program for its emergency personnel. The City makes regular use of the statewide CT Alerts emergency notification system when residents need to be informed about a hazard event. The City has recently revamped its website and intends to add more information about preparedness and mitigation in the coming years. The City utilizes a radio system that allows for intra-department communication. The New Britain Fire Department also provides fire prevention training in school each year. Hazard mitigation is incorporated into the community's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

New Britain continually coordinates with Charter Oak State College and Central Connecticut State University regarding emergency procedures. Both schools have sheltering facilities that are utilized (primarily for their students) during emergencies.

City regulations limit any activities on floodplains that would increase flood heights and velocities or reduce or alter naturally occurring floodplains and catchment areas. The New Britain Flood and Erosion Control ordinance generally requires all new construction to locate its lowest floor at least two feet above Base Flood Elevation. All new culvert and bridge construction is designed using the most recent NRCC rainfall return periods in accordance with December 2014 CT DOT guidance.

New Britain pays close attention to its most vulnerable citizens, including people living under the poverty line, people with limited or no English proficiency, minorities, and people who are dependent on transit.

Removal of the ice and snow for city-owned roads is handled by the City's Public Works Department. The City pre-treats streets with salt prior to snow and ice storms, and the City has 18 snow routes based on primary streets, designated areas of the City, and dead-end streets. The City has an informal program to review snow accumulation on city-owned roofs each winter, with clearing occurring when depths are sufficiently deep or wet.

The Greater New Britain Chamber of Commerce recommends that businesses prepare backup systems and have procedures for reaching out to their employees if they cannot access their place of work. After recent storms, many businesses have sought to become entirely self-sufficient so they do not need to

rely on anyone else to get them up and running; many have purchased their own plows and backup generators. Following the recent storms, Eversource has increased their outreach to businesses as well as to the City.

Tree maintenance occurs on a daily basis. The City's Arborist is in charge of municipal trimming, has a full tree crew, and hires contractors for larger jobs. Much of the trimming near power lines is conducted by Eversource. City staff are currently working on a tree ordinance that, among other goals, will limit the amount of pruning Eversource performs. Staff have observed Eversource trimming trees "from sky to ground" in a method that is damaging the trees.

The City maintains mutual aid agreements with all surrounding communities for fire protection. The City does not maintain any dry hydrants or cisterns; public water system is available in nearly the entire city and is generally relied upon to provide fire protection. Tanker trucks are used when water is not immediately available. If necessary, the City can draft water from surface water sources. Section 8-36 of the municipal code bans open burning without a permit except for the use of outdoor wood-burning stoves. Three Open Burning Officials have been certified by the Connecticut DEEP Open Burning Program and oversee the local permit program.

The City of New Britain owns one Class C (high hazard) and one Class B (significant hazard) dam. Many lower-hazard dams in the City are City-owned, and the Water Department owns several water supply dams outside of city limits. The Water Department will drawdown the water level behind its dams in anticipation of a heavy rainfall event if necessary. The City has copies of Emergency Action Plans (EAPs) prepared for other dams whose failure could affect New Britain; this information is maintained by the Emergency Management Director.

Since adoption of the 2016-2021 Hazard Mitigation Plan for the Former Central Connecticut Region ("2016 HMP"), FEMA added a new Quinnipiac River flood zone and the City officially adopted this zone in April 2017.

A study of the West Canal has identified two potential solutions to nuisance flooding alongside that feature, which primarily is sourced from groundwater. The first is to relocated a pipeline feeding the canal, and the second is to line the canal with a geo-textile fabric to stop any flow that may be coming from the canal and exacerbating the groundwater flooding. The former option is estimated to cost $700,000 and the latter around $200,000.

The City has replaced road drainage systems as part of road re-construction. Improvements undertaken in recent years include Hart Street from Corban Avenue to Lynwood Street, and Broad Street from Horace to Burritt Street. Both of these systems were old and undersized, as are several other stormwater drainage systems in the City. The City has put in bonding requests to fund upsizing of sanitary sewers in the area of Allen Street and Stewart street, but has yet to receive sufficient funds.

A new fuel cell has been installed at the High School, moving it towards designation as an emergency shelter.

New Britain previously had a Community Emergency Response Team (CERT) that assisted city personnel, supported emergency response functions, staffed the emergency shelter, and engaged with the community about disaster preparedness; however the CERT has been dissolved due to a lack of training capacity.

The City is in the process of instituting a vehicle tracking program which will allow emergency managers to track response vehicles in the field and be able to accurately plot downed trees, fires, and plowing conditions. This system will assist with data tracking and archiving information for future retrieval.

The City has implemented a See-Click-Fix program to track resident complaints. The City also has a dispatch area where complaints are received and then dispatched to various agencies such as public works, utility division, and engineering.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Use targeted mailings to particularly vulnerable areas, such as special flood hazard areas and dam failure inundation areas, to encourage signups for the CT Alerts emergency notification system.
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The top natural hazards present to New Britain is flooding.

City staff report that Willow Brook and West Canal create frequent and severe flooding problems. Areas of the city in or adjacent to flood zones tend to be heavily populated. Willow Brook in the southern section of the city generally causes the most severe flood damage; overflow from the brook floods a neighborhood where 60-80 properties are affected, as well as the New Britain stadium. The City has performed several projects along Willow Brook related to flood conveyance and bank protection. City staff indicate that there are not any good engineering solutions to the flooding along Willow Brook, and flooding is primarily caused by the volume of storm drainage. City staff reported that the town received a resiliency grant from DEEP to address the flooding in this area.

West Canal is another source of frequent flooding in the city, although it is undocumented on FEMA's Flood Insurance Rate Maps (FIRMs) due to its high elevation. The West Canal directs water to Shuttle Meadow Reservoir. It is an open channel which includes a piped section. Homeowners have occasionally been affected by flooding when the canal overtops, and have observed water apparently leaking from the canal onto their properties. A study was performed showing that most of this apparent leakage was in-fact coming from groundwater. The 1992 storm caused the canal (built in 1908) to breach; flooding washed out nearby streets and inundated homes.

Allen Street is an area outside of the floodplain that regularly floods due to undersized storm drains with design issues. Temporary sidewalks are in place. City staff have reported having submitted a number of grant applications to address flooding concerns on Allen Street including a Protect Grant to USDOT in

September of 2023, and two Hazard Mitigation Grants Programs applications to the State of CT DEMS in November of 2022 and February of 2023. Each grants would fund upsizing the stormwater drainage system on Allen Street along with other incidental improvements, and the City has final design plans prepared for this project. The City reported that flooding on Allen Street is occurring more regularly than had previously, and reported that in 2023 Allen Street, and the surrounding area, experienced significant flooding on five different occasions.

City staff have also reported flooding along the back of the properties rather than the road itself of John Downing Drive.

City staff have identified flooding concerns on Overlook Avenue and propose adding an action item related to the completion of a drainage improvement project in that area. A FEMA Hazard Mitigation Grant was submitted to the State Department of Emergency Management in July of 2021. The City recently allocated $2.0 Mil in ARPA towards the construction of this project, and is scheduled to address these flooding concerns Similar to Allen Street, the City also reported that flooding on Overlook Avenue is occurring more regularly than had previously, and reported that in 2023 Allen

The city is addressing the susceptibility of Fire Station at 253 Beaver Street to flooding by working on flood-proofing measures. An elementary school has also experienced recent flooding, potentially linked to stormwater management system design issues. City staff are monitoring the situation, and it is not currently deemed a necessary action.

Drainage infrastructure and water and sewer lines throughout the City are in need of major upgrades. The majority of the infrastructure was constructed in or around 1872 and was not designed to support the level of development the city has seen. Undersized pipes result in flooding, sewer backups, system leaks, and other problems.

During Isaias, the town experienced tree limbs down, tree damage with power outages, but nothing too substantial. The power was out for 2-3 days in some areas.

New Britain does not typically experience wildfires as the city is extensively developed. Less developed areas in New Britain highest risk for a wildfire, particularly the open lands near Interstate 84 and undeveloped lands in the southwestern corner of the city near Shuttle Meadow Reservoir.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact New Britain. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was

downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 22-2: Average Annualized Losses, New Britain

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$190,514.24
	NRI	$1,865,572.87
	FEMA PA	$18,642.07
Tornados/High Winds	NCEI	$71,325.04
	NRI	$563,738.79
Winter Storms	NCEI	$56,502.19
	NRI	$36,892.09
	FEMA PA	$28,990.68
Flood	NCEI	$57,747.58
	NRI	$59,378.02
	NFIP	$12,354.99
Drought	NRI	$0.00
	USDA	$0.00
Extreme Heat	NRI	$83,640.49
Wildfire	NRI	$835.20
Earthquakes	NRI	$159,136.95
Dam Failure	HMP	$131.00

Other Hazard Costs

A storm from June 1992 caused widespread damage in the city totaling approximately $650,000.

Following the breach of the West Canal during the 1992 storm, the City paid out $30,000 in damages to homeowners who were not eligible for reimbursements under the NFIP.

Losses Summary

A review of the above loss estimates demonstrates that the City of New Britain 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.

- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The city should develop a prioritized list of needed acquisitions, upgrades, and maintenance of critical facility generators.
- Upsizing of sanitary sewers in the area of Allen Street and Stewart street is necessary.
- A permanent generator at the Steele Street pump station, if there isn't already one, would help maintain fire protection during power outages. An engineering consultant has already been consulted on this project.
- New Britain has a prioritized list of stormwater projects. The Town will pursue these projects in priority order. The top two projects are as follows:
  2. Allen Street between Oak Street and Beacon Street
  3. McKinley Drive between

Status of Previous Mitigation Strategies and Actions

The City of New Britain reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, New Britain

No.	Action	Notes	Status
3	Address the section of Willow Brook bank near the soccer fields that is washed out.	City staff reported that the town got a resiliency grant from DEEP to address the flooding in this area.	Carry Forward with Revisions to reflect DEEP grant
4	Address damaged retaining walls along the brook at Stanley Quarter Park.	City staff reported that one of the damaged retaining walls in this area washed out during the storms of July 2023. The City has also completed some dredging in this area and has installed rip-rap. The City has made progress on this but more work needs to be done so the town staff would like this carried forward.	Carry Forward

No.	Action	Notes	Status
5	Implement dam repairs at Stanley Quarter Park.	City staff reported this is complete.	Complete/Retire
6	Upsize storm drains in Allen street to increase capacity. Designs are in place, implementation is grant dependent.	City staff reported that they submitted a FEMA BRIC grant application this past week to fund implementation.	Carry Forward with revisions that the BRIC grant has been applied for
22	Dredge pond at Stanley Quarter Park.	City staff reported that this has been completed.	Complete/Retire
12	Implement plan to line west canal with geo-textile fabric to mitigate flooding from that source. Monitor the effectiveness of this measure and determine whether additional studies need to be performed to address flooding from groundwater.	City staff reported this project hasn't yet been completed but is still on the town's potential project list. Currently there is not a source of funding for this project.	Carry Forward
2	Acquire a permanent generator at the Steele Street Pump Station to maintain fire protection in that area.	City staff reported that they are unsure if they have a generator. Will need to follow up.	Carry Forward
13	Acquire a portable generator for sewer pumping stations.	City staff reported that they do have a portable generator.	Complete/Retire
8	Develop a prioritized list of needed acquisitions, upgrades, and maintenance of critical facility generators.	City staff reported that this is ongoing. They are still developing this list and working with Eversource. Town staff would like to keep this as an action.	Carry Forward
16	Develop an emergency preparedness pamphlet for residents in English, Polish, and Spanish, distribute to residents, and post on City website.	City staff reported that they have a preparedness pamphlet, but are not sure whether it has been translated Will need to follow up about the translation question. City Capability	Retire
21	Use targeted mailings to particularly vulnerable areas, such as special flood hazard areas and dam failure inundation areas, to encourage signups for the CT Alerts emergency notification system.	City staff reported that the town does encourage participation in CT Alerts	Capability/ Retire
15	Add information about preparedness, mitigation, and City capabilities to the City website.	Town staff are unsure whether this has been done, will need to double check on this. City Capability.	Retire
11	Incorporate natural hazard mitigation planning into the 2020 POCD update.	City staff reported that the 2020 POCD updated included a goal related to hazard mitigation and a recommendation that the HMP actions should be implemented.	Complete / Retire

No.	Action	Notes	Status
14	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	City reported that they are unsure if a direct letter has happened but there is education on the website, etc. The town does sent letters to residents on a case-by-case basis when flooding occurs but are unsure if these are the RLP. The town would like to request the list of RLP – CIRCA Staff noted this list can be requested from FEMA or CRCOG. This action will be carried forward per FEMA requirements.	Carry Forward
19	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	City staff reported that they haven't validated the list yet. Carry Forward per FEMA requirements.	Carry Forward
9	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.	City staff reported that they are reasonably compliant with MS4. The town has made proactive steps with stormwater management, including starting a stormwater utility. This is a capability.	Capability/ Remove
7	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.	City staff reported that the intent of this is complete, and there is no need to keep this action.	Intent is complete/Remove
10	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	City staff reported that they have participated in regular trainings.	Complete/Retire
18	Identify and send the City Tree Warden to relevant training opportunities. Contact the UConn Extension for assistance.	City staff reported that this is complete.	Complete/Remove
20	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	City staff reported that they are unsure whether they have coordinated with SHPO on this (New Britain does have historic districts), but City staff do not see the need for additional surveys. CIRCA staff suggested to revise this action to "Acquire and review the SHPO historic resources inventory layer and overlay flood zones." Town staff agreed with this revision.	Carry Forward with Revisions

No.	Action	Notes	Status
17	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	City staff would like this action to be combined with action above.	Consolidate with above
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	City staff reported they are active with SCT and have Climate Leader Designation	Complete/Retire

Active Mitigation Strategies and Actions

The City 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.

Table 2-4: Active Mitigation Strategies and Actions, New Britain

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
NB1	Acquire a permanent generator at the Steele Street Pump Station to maintain fire protection in that area.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2024 - 06/2025	High	All Hazards	Yes - Distressed Municipality	19	5	95
NB2	Develop a prioritized list of needed acquisitions, upgrades, and maintenance of critical facility generators.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; Municipal Operating Budget; Municipal CIP Budget	01/2026 - 12/2026	High	All Hazards	Yes - Distressed Municipality	19	5	95
NB3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Yes - Distressed Municipality	19	3	57
NB4	Execute the DEEP Climate Resilience Fund (Willow Brook Watershed) project and apply for funds to pursue the recommendations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	DCRF	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	6	120
NB5	Address damaged retaining walls along the brook at Stanley Quarter Park.	Reduce flood and erosion risks by reducing	Structural Project	Public Works	$500,000 - $1M	Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and	Yes - Distressed	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
		vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods	Municipality			
NB6	Upsize storm drains in Allen street to increase capacity. Designs are in place, implementation is BRIC grant dependent.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
NB7	Implement plan to line west canal with geo-textile fabric to mitigate flooding from that source. Monitor the effectiveness of this measure and determine whether additional studies need to be performed to address flooding from groundwater.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
NB8	Complete the drainage improvement project in the Overlook Avenue area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	FEMA HMA; Municipal CIP Budget	07/2026 - 06/2027	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
NB9	Conduct a city-wide assessment of stream crossings to identify vulnerabilities and develop	Reduce flood and erosion risks by reducing vulnerabilities and consequences,	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	Yes - Distressed Municipality	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	a priority list for maintenance and upsizing.	even as climate change increases frequency and severity of floods.											
NB10	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	High	Riverine and Pluvial Floods/ Extreme Heat	Yes - Distressed Municipality	20	5	100
NB11	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	4	80
NB12	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	High	Riverine and Pluvial Floods	Yes - Distressed Municipality	20	5	100
NB13	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/	Yes - Distressed Municipality	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	areas of hazard risks found here: https://conncris.ct.gov.	change increases frequency and severity of floods.							Riverine and Pluvial Floods				
NB14	Update the city website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Yes - Distressed Municipality	18	7	126

Figure 22-19: CIRCA Environmental Justice Rank and Critical Facilities, New Britain

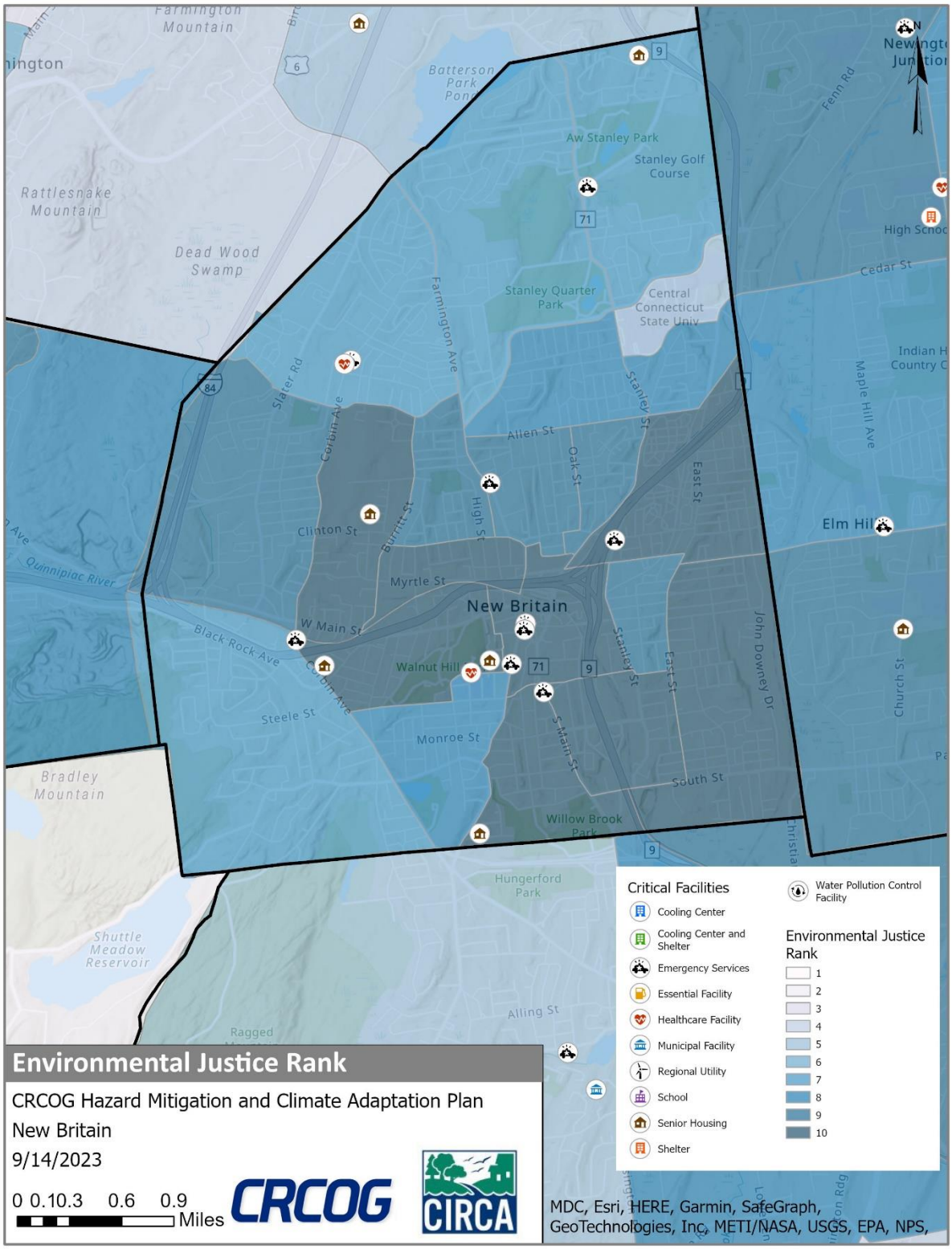


Figure 22-2: FEMA Flood Zones and Critical Facilities, New Britain

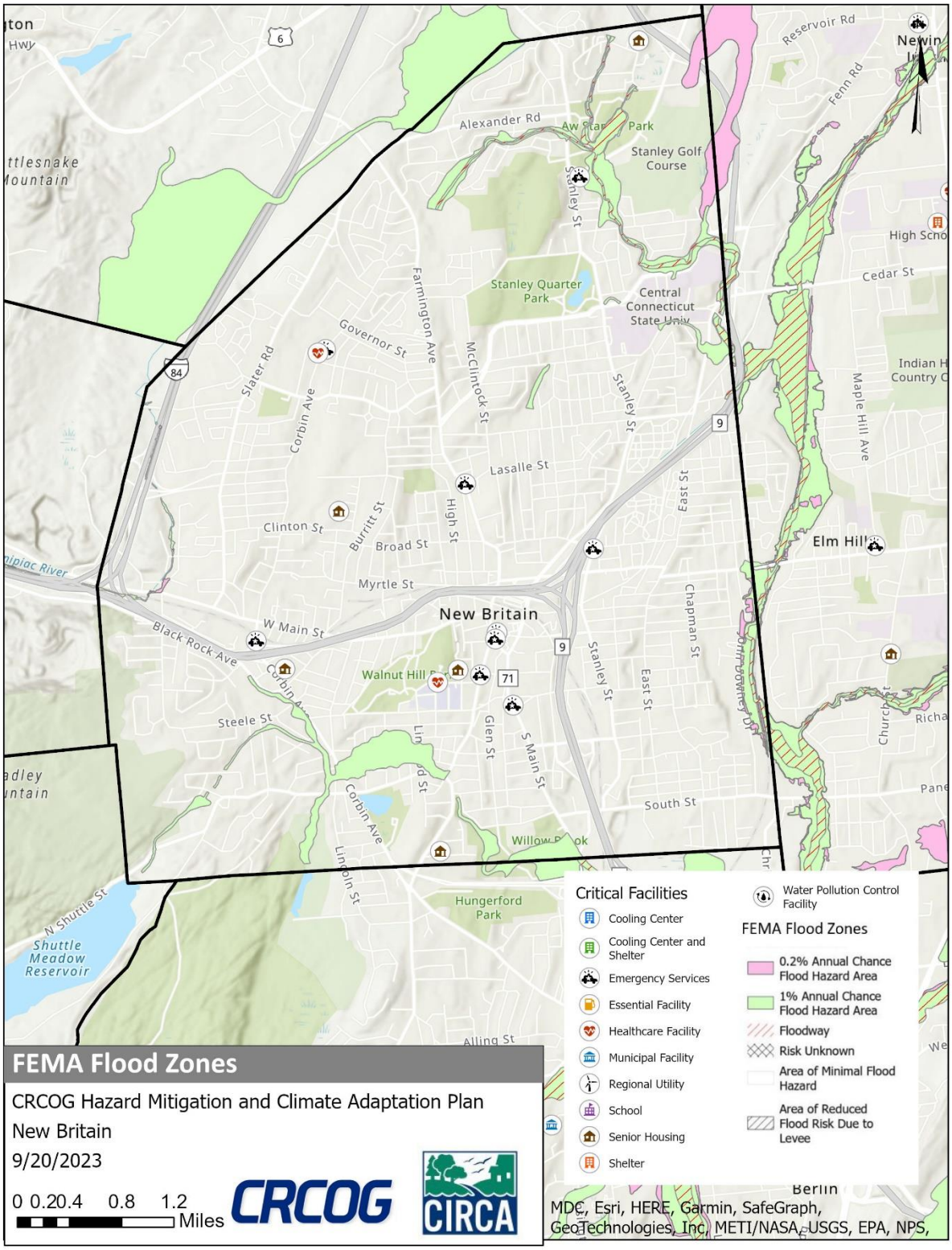


Figure 22-3: CIRCA Flood CCVI and Critical Facilities, New Britain

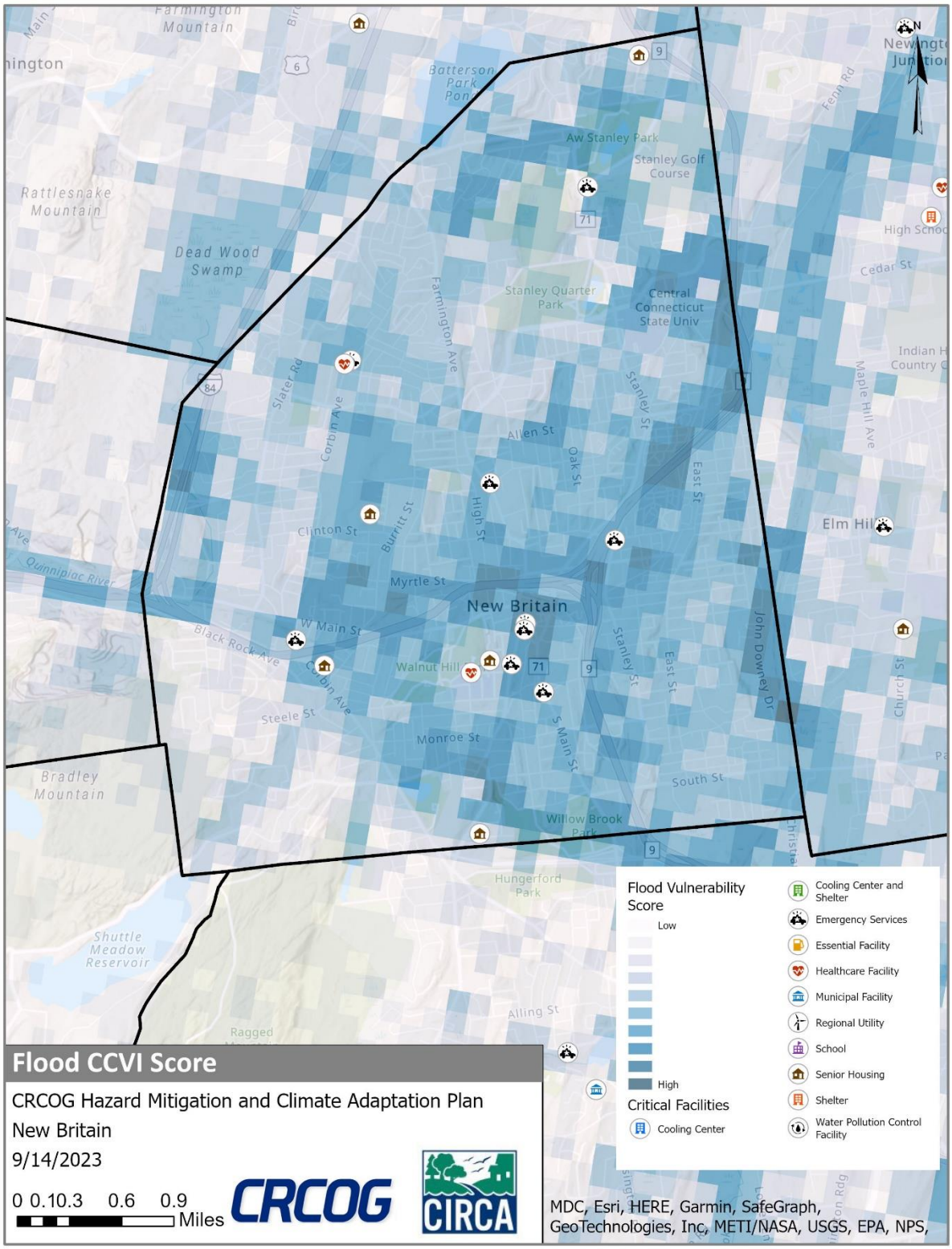


Figure 22-4: Dam Inundation Area and Critical Facilities, New Britain

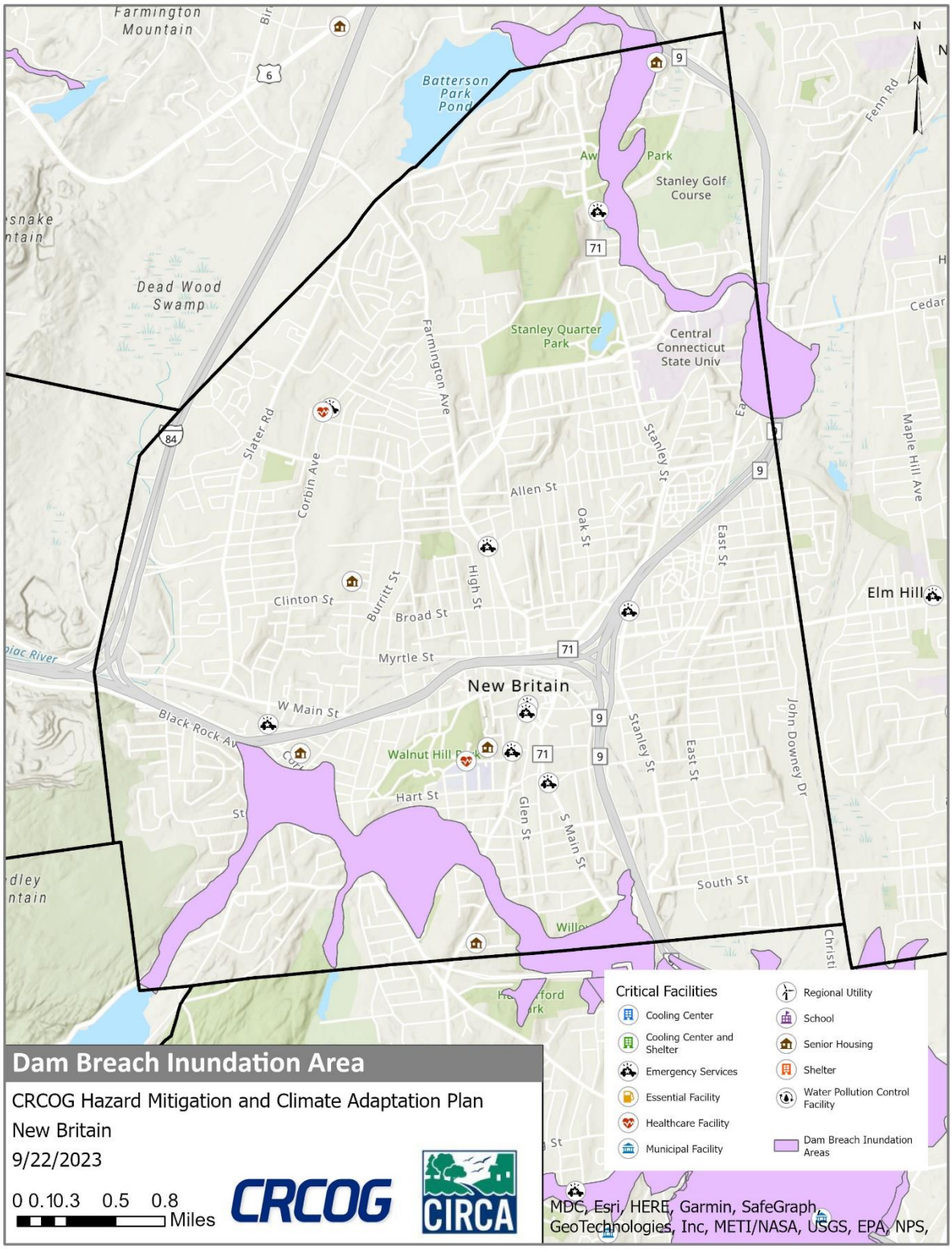
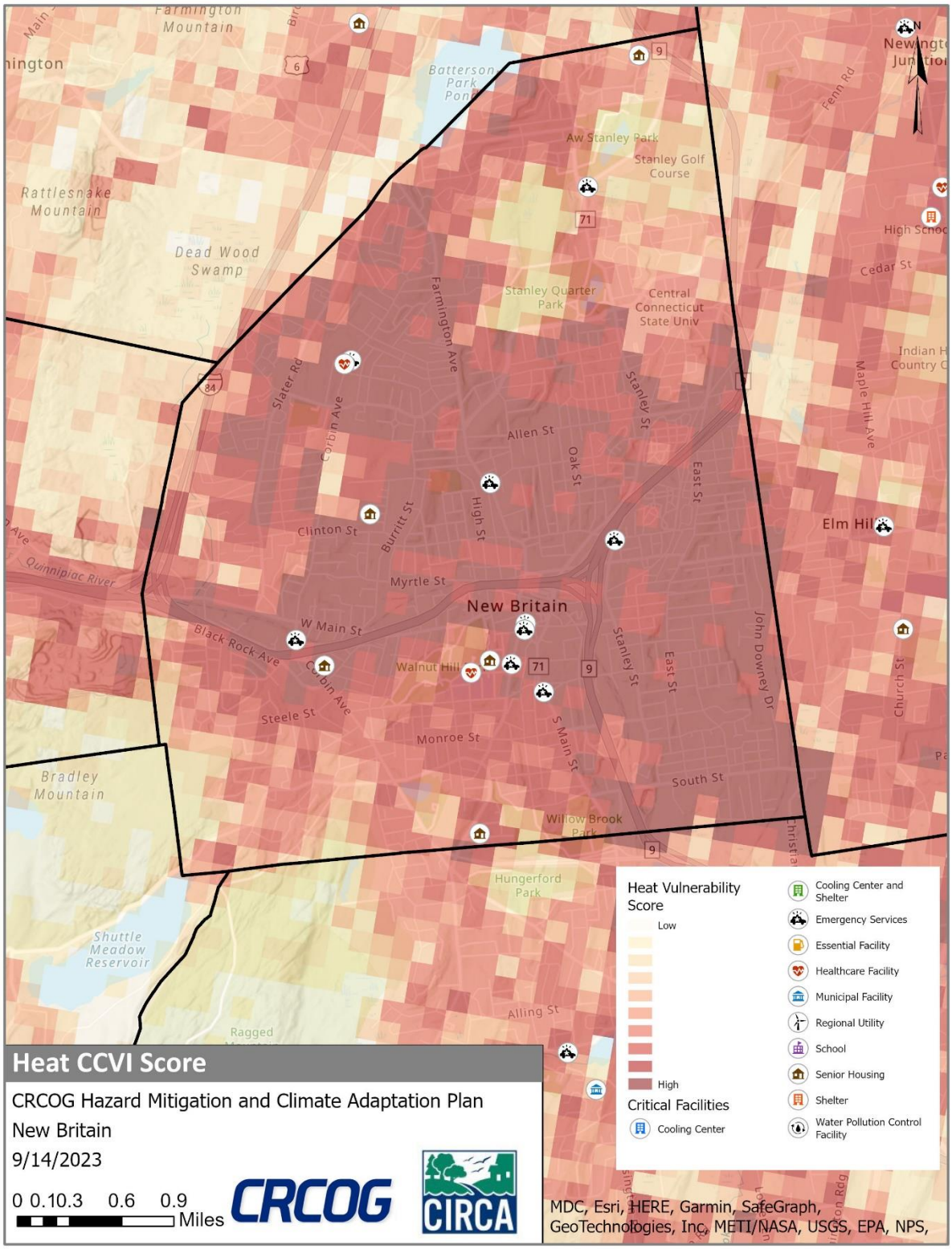


Figure 22-5: CIRCA Heat CCVI and Critical Facilities, New Britain



23 Newington

Community Overview

Newington is a fully suburban town with a population of about 30,536 encompassing 13.2 square miles and ranging in elevation from 40 to 350 feet above sea level. The northern section of Newington lies in the Park River Watershed, while the southern section is within the Mattabesset River watershed. Principal watercourses in Town include the Mill, Piper, Rockhole and Webster Brooks. Many state highways run through Newington, including the limited access Route 9 and the Berlin Turnpike (Routes 5/15). CT*fastrak*, a regional Bus Rapid Transit System, has stations in Newington, and it is expected that in the future the Hartford Line commuter rail will add a stop in Town.

Major industries in Newington include manufacturing of airplane parts, dyes, gauges, tools, and plumbing supplies. There is significant retail space along the Berlin Turnpike. The Town houses the Veterans Administration Connecticut Healthcare System's Primary Care Facility, the Connecticut Department of Transportation, and the Connecticut International Skating Center. Major residential complexes include Newington Ridge, Waverley Drive, and Woodland Estates.

In Newington, approximately 1,000 residential units that have gained approval over the past few years, predominantly in the form of multi-family developments. These developments are not located in flood plains, although a few are adjacent to wetlands, primarily along Berlin Turnpike and Cedar Street. While a significant portion of the approved units remains unconstructed, many are currently in the construction phase. In addition to multi-family developments, there have been two recent single-family subdivisions. Additionally, the Cedar Street area appears susceptible to heat exposure due to the prevalence of asphalt surfaces, warranting attention to mitigate potential heat-related challenges. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In Newington these include the Fire House, Newington High School, the Senior Center, Kellogg Middle School, Wallace Middle School, Police Headquarters (EOC), and the Police Training Facility (Backup EOC).

Table 2-20: Critical Facilities, Newington

Facility	Shelter	Cooling Center	Generator
Newington High School	Primary		X
Senior Center	Secondary, Pets	X	X
Kellogg Middle School	Backup		
Wallace Middle School	Backup		
Police Headquarters (EOC)			X
Police Training Facility (Backup EOC)			
Four (4) Fire stations			
Town Hall		X	X
Town Library		X	
4 Eversource Substations			

During extreme heat events, Newington Senior Center, Town Hall and Library can all be opened as public cooling centers. None of these facilities are official cooling centers. The Town Hall and Senior Center currently have generators, but the Library does not.

The Town Hall was rebuilt in the past five years.

Capabilities

Hazard mitigation is incorporated into Newington's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

Newington has an Emergency Management Team, as well as a Community Emergency Response Team (CERT). FEMA Emergency Management Performance Grant (EMPG) funds have been used to support those teams, as well as other local emergency management efforts.

The Town generally does not permit any new structures in the 1-percent annual-chance flood zone. A local radio station has recently been granted a permit to construct a non-occupied utility building in a flood zone; this is not expected to increase vulnerability. Flooding complaints are tracked through the Highway Department and Engineering Department. Newington last updated its floodplain regulations in 2008.

The Natural Resources Conservation Service (NRCS), under contract by Newington, conducted a study in 2004 of flooding and flood reduction alternatives for the Stamm Road area. The existing FEMA FIS did not factor in the impacts of railroad embankment failure, which occurs relatively frequently; therefore, further study was needed. The NRCS study recommends removing the railroad spur line culvert, replacing existing culverts along the rail line with box culverts sized to the 100-year flow level, and installing various flood proofing measures for eight buildings on Stamm Road and Liberty Street. The Town has approached Amtrak to discuss this study, but Amtrak has not agreed to implement the recommendations, creating a setback to lowering flood risk in the Stamm Road area.

Newington maps evacuation routes and updates them on an ongoing basis. These routes are not posted to the public. The Town has a suite of plowing routes to guide road clearing efforts following winter storms. The Highway Department is responsible for road clearing, while the Parks Department takes care of sidewalks in front of town buildings, fire houses, and along Main Street.

New developments in Newington are required to install utilities below ground. Redevelopment projects greater than 30- to 40-percent of a parcel value often trigger utility retrofit requirements. The Town developed a Low Impact Development (LID) and Stormwater Manual in 2013. The Tree Warden is responsible for clearing downed trees on Town property; the Town reports that the budget for this is sufficient.

The Newington Fire Department has 110 volunteer members, with 28 on call at all times. The department has good response times, as well as mutual aid agreements with neighboring communities. Most of the Town is served by public water, and therefore hydrants are available to fight brush fires that may break out.

The town utilizes the Everbridge Notification System, providing the ability to send emergency alerts to all residents, as well as to target selected areas.

The Majority of municipal buildings, as well as health care and assisted living facilities, have standby power.

The Amtrak and CT*fastrak* railroad and busway bridge has been replaced in the last five years. A bridge over Piper Brook was also replaced. . The Town has installed a trash rack at Main Street and Dowd Street to help prevent debris from disrupting drainage.

The Town has purchased a snow blower and a loader to assist with snow clearing efforts. The Town has also obtained a new salt shed on Milk Lane that has the capacity to hold 2,000 tons of salt. Following the 2011 winter storms, standby power generators were installed at the majority of municipal buildings, as well as health care and assisted living facilities.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Explore possibility of increasing annual budgets for waterway maintenance, snow removal, and tree maintenance.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is a major concern for Newington. The Stamm Road area, which encompasses an industrial area and the Amtrak rail line, frequently experiences flooding; a study of flood reduction alternatives for the area is described in the "Capabilities" section, above. Minor flooding continues to be a problem at Pheasant Run and Vivian Street as the waterway is level with the roadway in this area. The town has dredged in the past. Furthermore, in the vicinity of Willard Avenue and Garfield Street, the rear section of the farm stand is prone to flooding. This issue may be attributed more to maintenance concerns rather than necessitating the installation of an additional detention basin. The town has also seen flooding on Timber Lane.

The Town is also concerned with hurricanes and wind events. Downed trees and wires are among the most significant impacts of storm. There were six roads blocked during Isais due to downed trees and downed wires.

While the municipal water system makes firefighting water available throughout Town, two low pressure areas exist due to high elevation; these are on Lamp Lighter Lane and Webster Street. Hydrants exist at these locations, but the low pressure could affect firefighting capacity.

The town reports having concerns about vunerable populations living in motels and hotels.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Newington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 23-2: Average Annualized Losses, Newington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$78,472.29
	NRI	$947,019.54
	FEMA PA	$31,843.38
Tornados/High Winds	NCEI	$29,378.59
	NRI	$268,837.92
Winter Storms	NCEI	$23,273.09
	NRI	$16,425.02
	FEMA PA	$17,007.01
Flood	NCEI	$23,786.07
	NRI	$20,488.91
	NFIP	$13,250.36
Drought	NRI	$0.00
	USDA	$0.00
Extreme Heat	NRI	$34,685.73
Wildfire	NRI	$993.63
Earthquakes	NRI	$88,743.23
Dam Failure	HMP	$55.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Newington has experienced significant expenses as a result of natural hazards, and is at risk for additional losses if some 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During the course of this Plan development, multiple hazard mitigation needs of Newington were noted. These are discussed here.

- Implementation of the 2014 NRCS flood reduction recommendations for the Stamm Road area is a top priority for the Town due in large part to planned activity in this area, including the CT*fastrak* (Hartford-New Britain Busway), The Harford Line (New Haven-Springfield commuter rail service) and plans for the Central CT State University campus. Implementation of the NRCS recommendations will require the cooperation of multiple agencies (Town, State, and Federal), other regulating authorities and neighboring towns, as well as from Amtrak, as rail service would have to be suspended while tracks are removed and replaced.
- Town staff should assess existing flood detention areas for ease of access and maintenance.
- Acquire generators for critical facilities including the EOC and backup shelters.
- Conduct an evaluation of assets situated in flood-prone areas, particularly along Connecticut Avenue/Brentwood. The town should consider redesigning the town-owned detention basin that was not constructed to current standards, featuring a single inlet that functions as both an inlet and an outlet. Enhancing its drainage capacity can be achieved in-house through the addition of a new inlet structure and converting the existing inlet-outlet into a dedicated outlet with a weir structure. This modification is expected to be a cost-effective solution. At the second location, Badger Field outlet, which discharges onto Timber Lane at Audubon Ave, previous work has been undertaken on the detention basin. However, to expedite downstream drainage, the project requires the installation of a "sister pipe" alongside the existing one. This project is more substantial and costly due to the need for additional linear footage to replace the catch basin with a double catch basin.
- Newington should consider conducting a count of individuals residing in hotels and motels, ensuring the town possesses the necessary capacity and resources to provide shelter during emergencies or hazardous situations.
- Newington should consider implementing a tree forestry plan to address dead/dying trees that block roadways and cause power outages.

Status of Previous Mitigation Strategies and Action

The Town of Newington reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 2-3: Status of Previous Mitigation Strategies and Actions, Newington

No.	Action	Notes	Status
3	Identify cost-effective ways to mitigate or reduce flooding in the Stamm Road area, which includes Repetitive Loss properties, especially those that do not require working with Amtrak.	Still an issue. The town staff have previously been contacted by a state rep related to cross-boundary flooding in the New Britain side of this road and a nearby brewery. This is reportedly a multijurisdictional challenge that affects New Britain, Berlin, and Cromwell. Amtrak's participation is critical to enact a larger solution, because of the need to participate in expanding the culverts in at least two locations.	Carry forward – maybe with revisions to indicate the importance of getting Amtrak on board.
8	Perform an assessment of assets located in flood-prone areas.	This is still a need. Flood problems are definitely common in the town, and likely increasing. Town staff report that they are "chasing" flood problems, and lots of complaints came in during the storms of July 2023. The town is actively pursuing grant money to address two specific flooding concerns: • 1st location: Connecticut Avenue / Brentwood. Redesign detention basin that is town-owned, but was not constructed to current standards. It has one inlet that is the same as the outlet. By adding an inlet structure and turning the current inlet-outlet into an outlet with a weir structure, this will improve capacity of drainage. This can be done in house, and may be relatively inexpensive. 2nd location: Badger Field outlet, which drains onto Timber Lane at Audubon Ave. Town has done previous work on detention basin. Need to add a "sister pipe" along the existing one. This will allow the downstream system to drain faster. This is a more expensive project, as more linear feet is needed to replace catch basin with double catch basin.	Carry forward the action about assessment, plus add two actions for the two projects mentioned.
4	Equip the Backup EOC (Police Training Facility) with a generator and communication equipment	Still needs to be done.	Carry forward

No.	Action	Notes	Status
10	Equip backup shelters (Kellog and Wallace Middle Schools) with emergency generators	These are unofficial shelters since they don't have backup power. Looking at ARPA funding to install a transfer switch at Wallace. Keep this action.	Carry forward
11	Upgrade equipment related to waterway maintenance, snow removal, and tree maintenance. Include, specifically, adding the purchase of a large-tree bucket-truck for the Parks and Grounds Department to the Town's long-range plans.	Have purchased 2 pieces of equipment. Bucket truck was purchased. Retire the action, as the intent has been met.	Complete / Retire
2	Explore possibility of increasing annual budgets for waterway maintenance, snow removal, and tree maintenance.	Town staff note in the meeting that this would be a question for the Parks Department. After the meeting, Rob provided an update by email: "I spoke with Clay from the town's park dept. They have doubled their tree maintenance budget in the past few years to about $50,000.".	Complete/ Capability / Retire
12	Pursue opportunities to bury utilities in appropriate locations and scenarios, such as during a road reconstruction.	Keep this on as continuing item.	Carry forward
9	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	MDC provides water and sewer service in Newington, but doesn't have many facilities in Newington (except maybe some small pump stations and water tank). CIRCA will reach out to MDC directly to see if they have any concerns related to Newington. If not, can retire this action.	Retire
6	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.	Coming into compliance with MS4. The Town is in the process of entering into an agreement with a firm to provide MS4 sampling and reporting. Action should remain.	Carry forward with revisions to update to current types of resources
5	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.	There are a few businesses for which this would be relevant. These facilities provide above and beyond Tier II inventories, but no outreach about flooding. Town staff would like to keep this action, but it will likely come to a staffing issue or grant possibility.	Carry forward
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff would like to keep this action. Leave as it is.	Carry forward

No.	Action	Notes	Status
13	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	. Keep this action to assess historic resources with a focus on flood vulnerability. Obtain and review the new SPHO layer.	Revise to use the new SHPO layer
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Newington is not yet part of Sustainable CT. Sustainable CT has not been integrated into grant opportunities. Internal discussion needed to decide on whether to keep or drop.	Wait for an update

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.

Table 2-4: Active Mitigation Strategies and Actions, Newington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
NW1	Equip the Backup EOC (Police Training Facility) with a generator and communication equipment	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
NW2	Equip backup shelters (Kellog and Wallace Middle Schools) with emergency generators	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2025 - 06/2026	High	All Hazards	Benefits an EJ tract	19	5	95
NW3	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
NW4	Pursue opportunities to bury utilities in appropriate locations and scenarios, such as during a road reconstruction.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Works	>$1M	STEAP; Municipal CIP Budget	07/2024 - 06/2026	Medium	All Hazards	Benefits an EJ tract	18	2	36
NW5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		interact with other hazards.											
NW6	Work with Amtrak, DOT, and CIRCA to identify cost-effective ways to mitigate or reduce flooding in the Stamm Road area, and the surrounding Resilient CT Opportunity Area (ROAR) which includes Repetitive Loss properties.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	CT DOT; CIRCA: LOTCIP; DCRF; FEMA HMA	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Benefits an EJ tract	20	2	40
NW7	Perform an assessment of assets located in flood-prone areas.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Economic Development	$50,000 - $100,000	DCRF; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
NW8	Redesign the detention basin on Connecticut Avenue / Brentwood that is town-owned, but was not constructed to current standards. This basin has one inlet that is the same as the outlet. Add an inlet structure and turn the current inlet-outlet into an outlet with a weir	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	>$1M	DCRF; FEMA HMA	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	structure to improve drainage.												
NW9	Add a "sister pipe" along the existing pipe at the Badger Field outlet, which drains onto Timber Lane at Audubon Ave. This will allow the downstream system to drain faster.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	STEAP; Municipal CIP Budget	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
NW10	Evaluate ways to mitigate or reduce flooding in the Pheasant Run and Vivian Street area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
NW11	Conduct an assessment of the flooding issue at the back side of the farm stand on Willard Avenue and Garfield Street, with a focus on maintenance practices and potential improvements.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
NW12	Assess existing flood detention areas for ease of access and maintenance.	Reduce flood and erosion risks by reducing vulnerabilities and	Natural Resources Protection	Public Works	$10,000 - $50,000	Municipal Operating Budget	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		consequences, even as climate change increases frequency and severity of floods.											
NW13	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
NW14	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	Benefits an EJ tract	19	5	95
NW15	Coordinate with CLEAR/NEMO to share resources and gain technical support for hazard mitigation actions involving stormwater management and public outreach, which have parallel benefits related to	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	MS4 stormwater permit compliance.												
NW16	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.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Economic Development	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Low	Riverine and Pluvial Floods	Benefits an EJ tract	18	7	126
NW17	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	Benefits an EJ tract	18	6	108
NW18	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Economic Development	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	Benefits an EJ tract	19	9	171
NW19	Update town website to include hazard mitigation and emergency preparedness tips for	More than one goal.	Education and Awareness	Economic Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	town residents, including sections corresponding to each hazard considered in this Plan Update.												

Figure 23-20: CIRCA Environmental Justice Rank and Critical Facilities, Newington

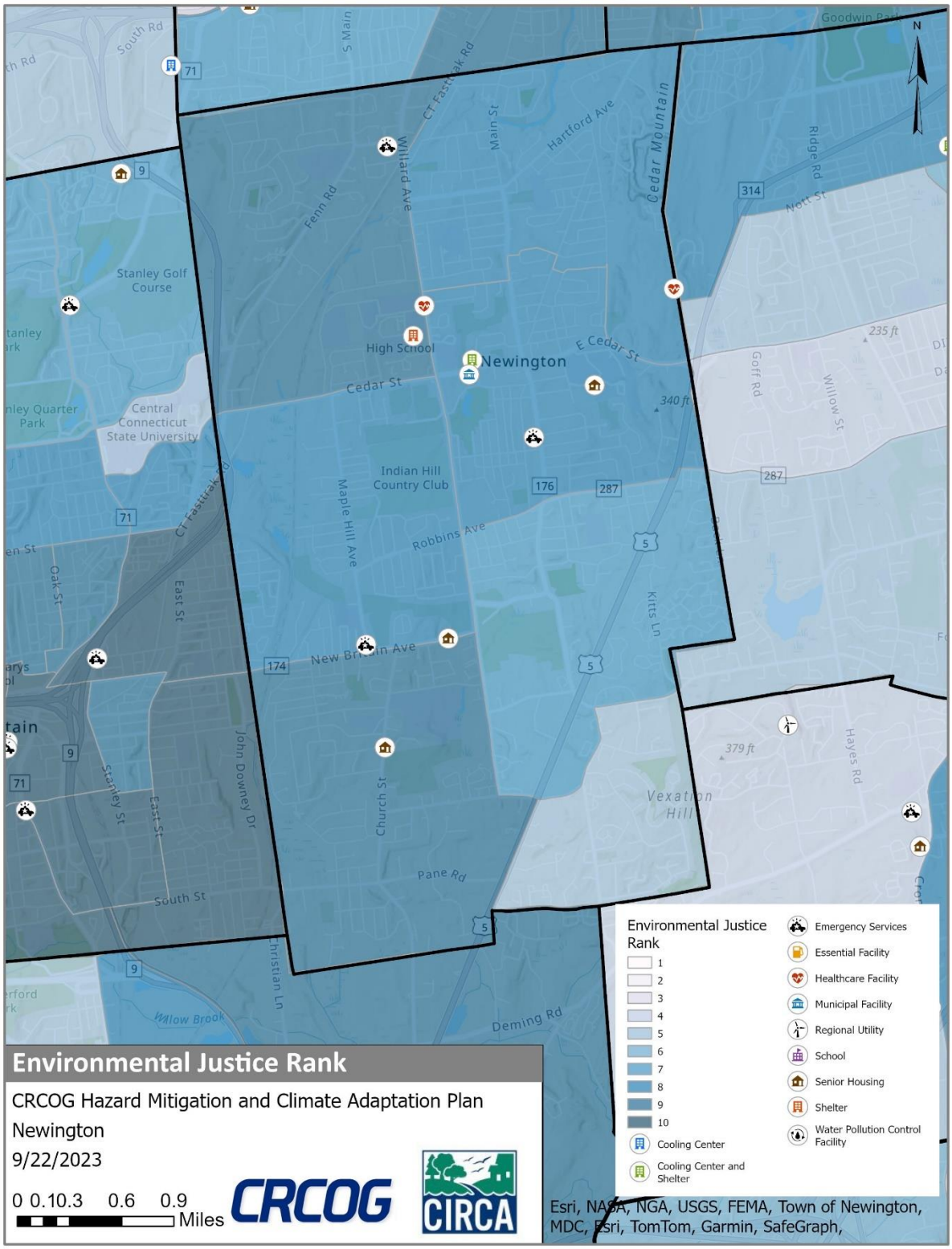


Figure 23-2: FEMA Flood Zones and Critical Facilities, Newington

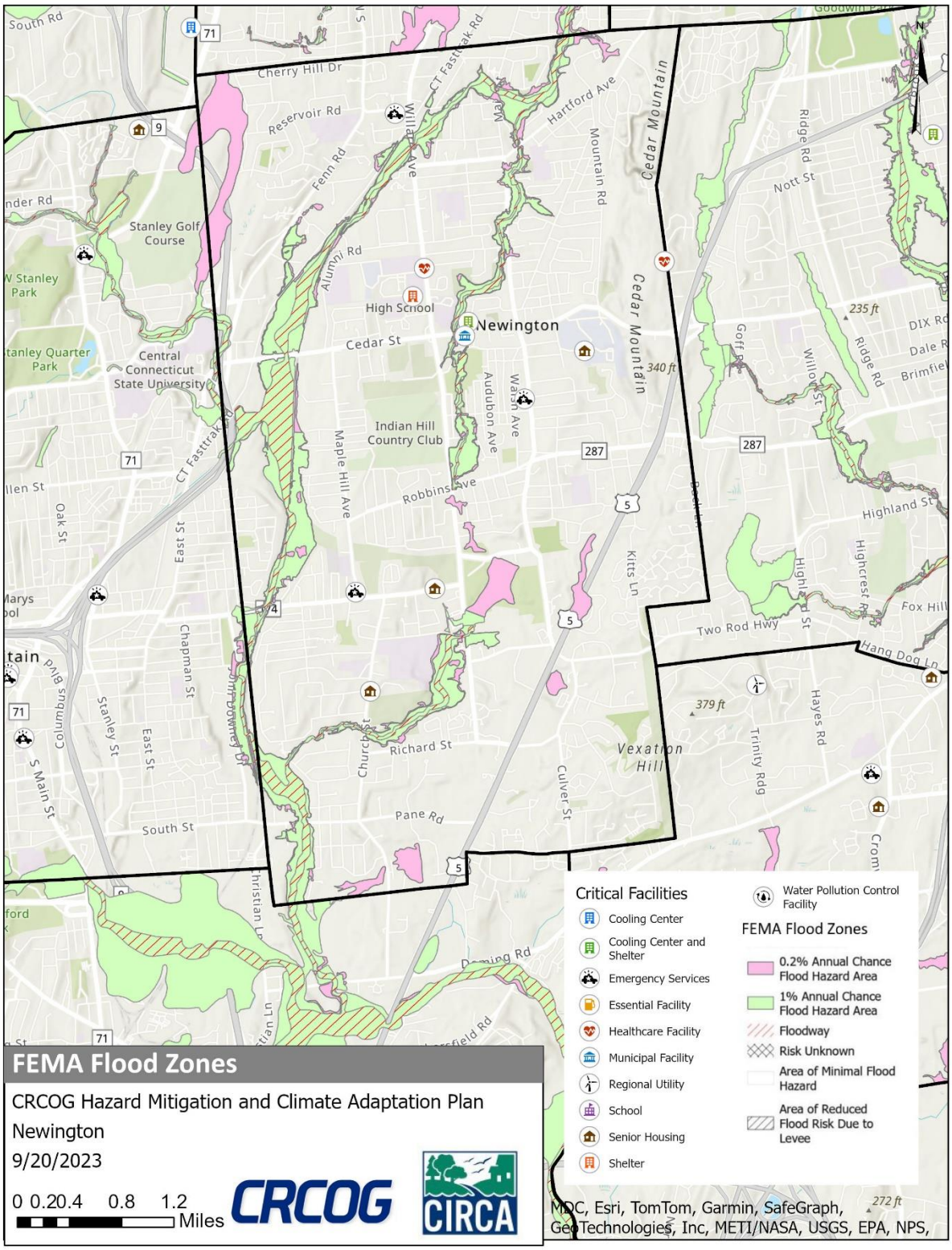


Figure 23-3: CIRCA Flood CCVI and Critical Facilities, Newington

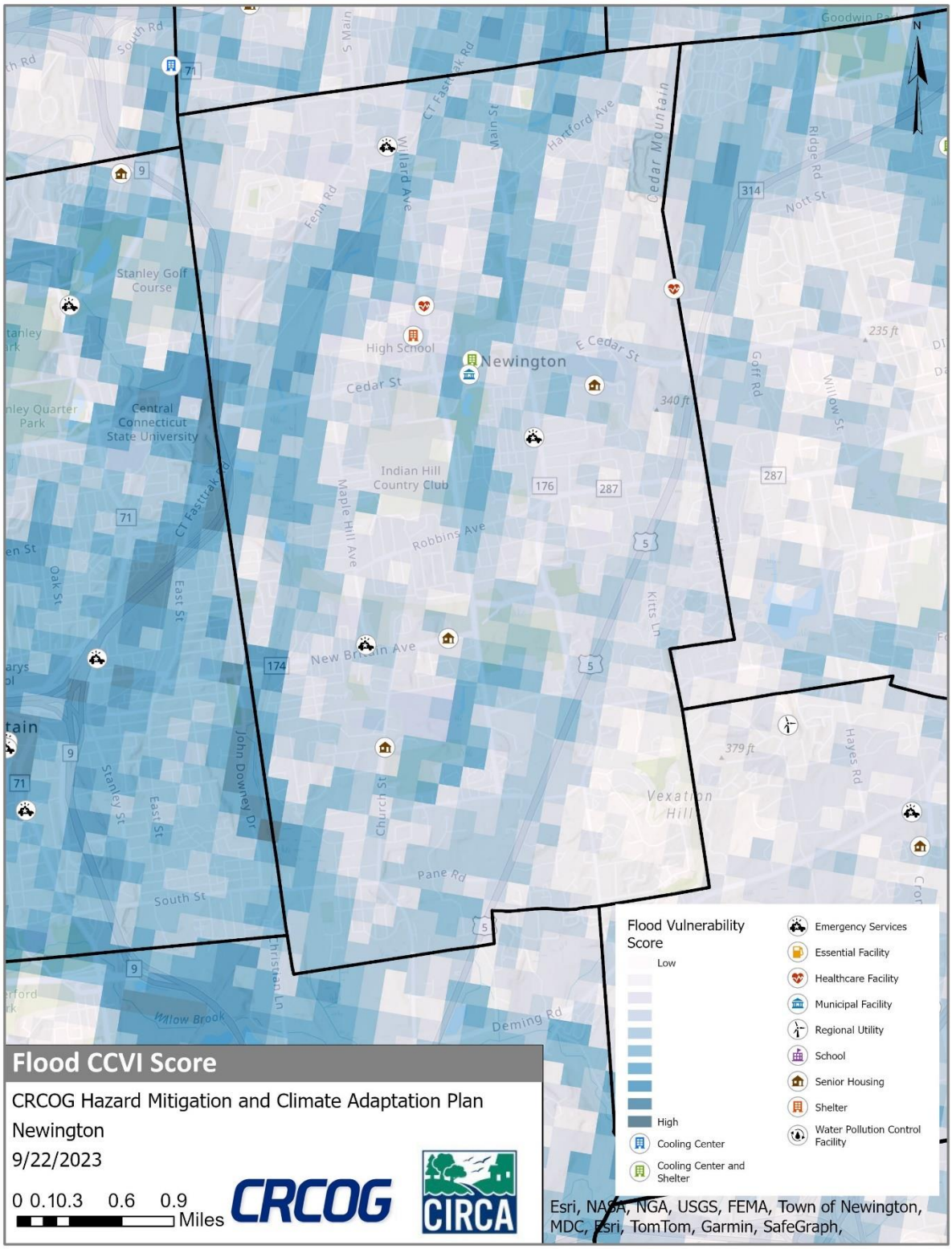


Figure 23-4: Dam Inundation Area and Critical Facilities, Newington

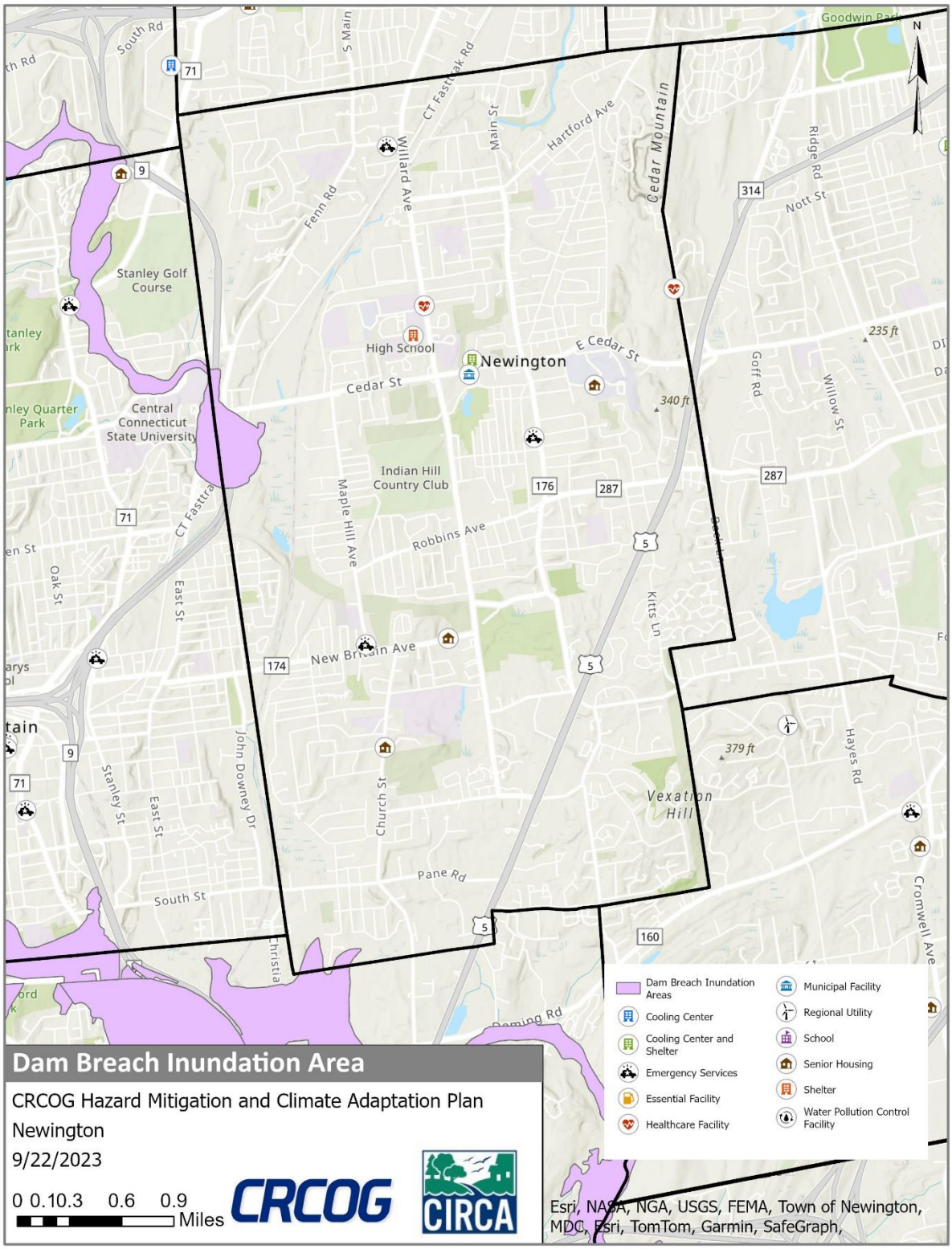
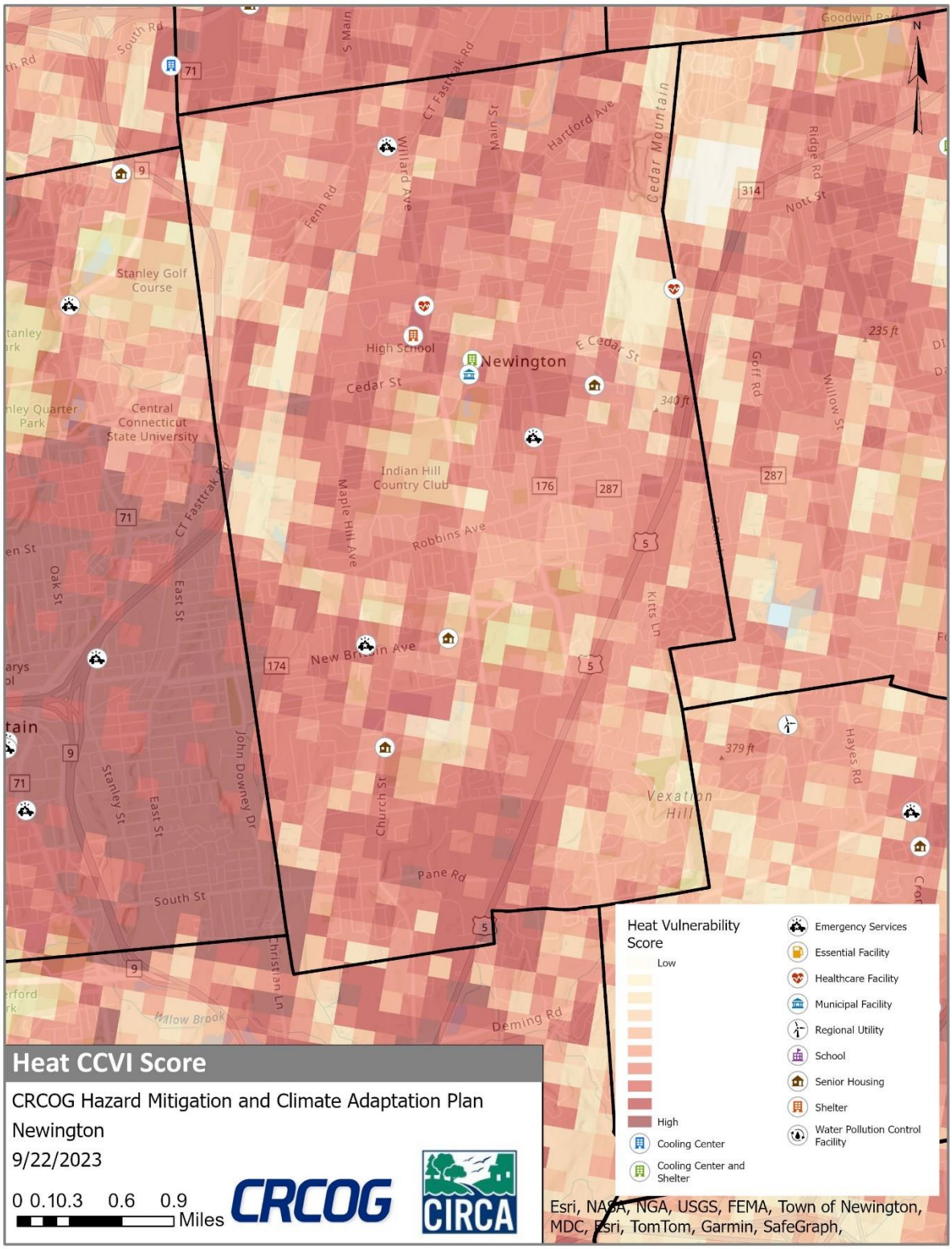


Figure 23-5: CIRCA Heat CCVI and Critical Facilities, Newington



24 Plainville

Community Overview

Plainville encompasses 9.7 square miles of land and is home to 17,525 residents (2020 census); a population density of 1,806 people per square mile. Plainville has suburban and rural areas as well as urban elements. Development is concentrated in the west-central region of Town. New residential development has continued slowly in recent years, and redevelopment of commercial and industrial properties has also occurred. Approximately 120 acres are available for industrial development, and approximately 1,000 acres are available for residential development; much of this is constrained by shallow bedrock such that the actual acreage may be less.

Elevation ranges from 170 to 660 feet. Most of the land drains to the Quinnipiac River or the Pequabuck River; small portions of the northeast corner and southeast corners of town drain to Bass Brook and Willow Brook, respectively. Another notable stream in Plainville is Trout Brook. Major transportation routes through Town include Interstate 84 and Routes 72, 10, 177, and 372. The town lies at the intersection of two freight rail lines, one running north from New Haven and the other running east-west between Waterbury and New Britain. Plainville is home to Robertson Airport, owned by the Town. Major businesses and industries include manufacturing, construction, retail trade, and health care and social assistance. Plainville has two industrial parks: Strawberry Fields and Farmington Valley Corporate.

In Plainville, development patterns prioritize minimizing impact on existing green and undeveloped areas through a strong focus on redevelopment. While some parcels of open space in private hands may be developed, the town mandates the application of Low Impact Development (LID) standards to ensure sustainable practices. Notably, a recent development project incorporated rain gardens and a larger detention area to manage stormwater. Furthermore, Plainville has established policies for acquiring open space and land within floodways and has set aside over 150 acres of land within the Quinnipiac and Pequabuck River floodplain, and riparian zones. The town strives to ensure that development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Plainville critical facilities include the Fire Department, Police Department (EOC), Municipal Center/Town Hall, Senior Center, Water Pollution Control facility, Belle Marie Assisted Living, Public Works Department, Plainville Senior High School (regional emergency shelter), Plainville Buildings and Grounds Department, three Senior Housing facilities, the Wheeler Elementary School, the Wheeler Clinic / Northwest Village School, an Apple Rehab long-term care facility, the Middle School of Plainville, Toffolon School, Linden Street School, Great Beginnings, Great Beginnings II, Plainville Public Library, Congregational Church / Plainville Early Learning Center, ten pumping stations.

Table 24-1: Critical Facilities, Plainville

Facility	Shelter	Cooling Center	Generator
Fire Department			X
Police Department (EOC)		X	X
Municipal Center/Town Hall			Limited
Senior Center	Backup		Limited
Water Pollution Control Facility			X
Belle Marie Assisted Living			
Public Works Department			
Plainville Senior High School	X	X	X
Plainville Buildings and Grounds			
3 Senior Housing			
Wheeler Elementary School			X
Wheeler Clinic / Northwest Village School			
Apple Rehab Long-term Care Facility			
Middle School of Plainville			X
Toffolon School			X
Linden Street School			
Great Beginnings			
Great Beginnings II			
Plainville Public Library		X	
Congregational Church / Plainville Early Learning Center			
10 wastewater pumping stations			X

During extreme heat events Plainville High School, Plainville Public Library and Plainville Police Department can all be opened as public cooling centers. The high school and police department currently have generators, but the library does not. The high school is also used as the primary shelter in town.

The High School is the community's primary shelter and acts as a regional shelter. It has a sufficient emergency generator. The Senior Center is a backup shelter but has limited backup power capabilities. The Town acquires shelter supplies whenever possible, and all shelters have been recently restocked with cots and blankets.

The wastewater treatment plant and pumping stations have backup power, as does the Fire Department. The Municipal Center has a generator that can only power part of the building. Town staff desire to upgrade the Municipal Center generator to be able to run all necessary computers and servers during an extended power outage. Wheeler Elementary School is currently undergoing a renovation that includes installation of an updated emergency generator and steam heating system.

Previously, the Police Station and EOC, and Municipal Center, are located very near the 0.2% annual chance floodplain. The Fire Station lies within the 0.2% annual chance floodplain. However, the locations of these have shifted as a result of FEMA remapping efforts in the past 5-7 years.

Capabilities

Plainville maintains an Emergency Operations Plan, Emergency Operations Center, shelters, and warming/charging stations. The Town maintains a training program for its emergency personnel. The Town utilizes the statewide CT Alerts emergency notification system when residents need to be informed about a hazard event, and may also utilize local media, and notices left at at-risk houses when needed. The Town posts extensive hazard preparedness information on its website and has pamphlets available at the Municipal Center, the Public Library, and the Senior Center. Hazard mitigation is incorporated into the community's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards. The wastewater treatment plant has preparation, response, and recovery procedures in place in case of flooding, tropical storms and hurricanes, earthquakes, and other natural hazards. Sandbags are available for emergency flood protection. No major hazard mitigation projects are planned for the site.

Plainville has very strong floodplain regulations that prohibit any residential or commercial land use, or any use requiring a "substantial investment in structure or permanent equipment that could be damaged by flooding," to occur in the floodplain. Basic agricultural and recreational uses are permitted, as well as several industrial uses with restrictions.

The Town's 2009 Plan of Conservation and Development (POCD, 2009) emphasizes conservation of its limited open space and recommends a management plan to protect open space and land conservation beyond the 182 acres (only 2.9% of the Town of Plainville's total land area) already designated. Approximately 20 additional acres within the floodplain and floodway are subject of a purchase and sales agreement; the Town hopes to close on that property by June of 2024.

The Town adopted a Low-Impact Development ordinance in 2010 and developed a manual in 2011 that details a technical framework of methods of stormwater management that can lead to improvements in stormwater quality as well as a reduction in stormwater runoff.

All new bridge and culvert construction is designed using the most recent Northeast Regional Climate Center (NRCC) rainfall return periods in accordance with December 2014 CT DOT guidance. The Town has not evaluated all existing culverts in the community based on the new rainfall return periods but have addressed two crossing the Quinnipiac River on Stillwell Drive and Tomlinson Avenue in the past 10 years. Drainage and flooding complaints are routed to either the Fire Department or Public Works.

Removal of the ice and snow for Plainville's town-owned roads is handled by town workers and contractors; the town handles debris removal. Plowing routes prioritize access to critical facilities. Most tree trimming near power lines is conducted by Eversource Energy. The Town's Superintendent of Roadways is also the Tree Warden. The Town removes dead or dangerous trees on Town property after consulting an arborist. The Town does not typically cut trees on

private property. The tree maintenance budget is part of the roadway budget and is considered sufficient at this time.

Subdivision regulations require utilities in new residential developments to be installed underground, except in areas at risk of flooding; only about 10% of all utilities in town are buried at this point.

Plainville maintains mutual aid agreements with all surrounding communities for fire protection. The Town does not have any dry hydrants or cisterns, but hydrants served by public water supply exist throughout Town. Open Burning Regulations (adopted November 6, 2006) require applicants to apply to the local Open Burning Official for approval a minimum of 48 hours prior to the proposed burn. The Town has one Open Burning Official certified by the Connecticut DEEP.

The Town primarily relies on regional and statewide measures for mitigating the impacts of drought, such as the Connecticut Drought Management Plan. The local water company (Aquarion Water Company) maintains an Emergency Contingency Plan that outlines drought response procedures. The company can implement water use restrictions during a drought, though this has not occurred over the last 30 years. Aquarion Water Company is a member of the Water Utility Coordinating Committee (although the Town of Plainville is not).

The Town does not currently have copies of EAPs for dams whose failure could affect the community. The Town participates in dam failure training exercises for the MDC dams. The risk due to failure of the remaining dams is believed to be relatively minor.

Plainville adopted updated floodplain regulations in March, 2018.

The recently completed Pequabuck River Flooding Study was commissioned by Plainville in partnership with Bristol and Plymouth and made possible by a $200,000 grant from the Economic Development Administration. The study included major revisions to the hydrology and hydraulics originally used to generate the special flood hazard area for the river and identified measures to reduce the impact of flooding. Specific recommendations from the study have been incorporated into the Hazard Mitigation Plan (HMP). Plainville has not used the results of the study to apply to FEMA for map revisions.

FEMA completed remapping of the Pequabuck River flood zones in 2017 and has recently completed updated mapping of Quinnipiac River flood zones. This has led to changes in the flood risk status of many properties. The Town has worked with affected members of the community and with banks to help them interpret changes and understand the impacts.

Thirteen properties at risk of flooding on Robert Street Extension and Forestville Avenue have been acquired and demolished since adoption of the 2016-2021 Hazard Mitigation Plan for the Former Central Connecticut Region (“2016 HMP”), bringing the total number to 26 since 2011. Two residential homes and one structure, owned by the Town, remains.

The Town POCD was updated in 2019.

The Town has improved its GIS capabilities to assist with emergency response and preparedness.

Plainville Planning Office undertook a Town-wide awareness effort following the most recent update of the FEMA Flood Insurance Rate Maps. The Planning and Zoning Commission also added lot coverage restrictions to the zoning regulations in 2020.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Adopt regulations to promote conservation subdivisions in R-40 residential areas with no sanitary sewer service.
- Work with internet providers to help ensure internet remains available after storm events.
- Create lists of local resources for residents and business owners and supply that information prior to forecast hazard events.
- Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.
- Expand emergency communication and notification methods to a variety of media, including radio, television, social media, and the Town Website.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The top three natural hazards that present a high risk to Plainville are flooding, and high intensity/short duration thunderstorms.

A number of structures are within the Pequabuck River floodplain in the downtown area, in the vicinity of Robert Street Extension, the wastewater treatment facility, West Main Street, Forestville Avenue (Route 372), Cronk Road, and Norton Place Extension. The wastewater treatment facility is subject to flooding under extreme conditions; it is a gravity-operated plant built in the 1940s. There is concern that a major flood event on the Pequabuck River could wash out an essential bridge, isolating one side of Plainville from the other.

The Quinnipiac River floods frequently as well. Flooding due to insufficient drainage is a problem in some areas near the Quinnipiac; even slight flooding of the Quinnipiac can cause backups in the sewer and storm water systems.

The primary problem from tropical storms and hurricanes and high intensity/short duration thunderstorms is downed trees that interrupt power supply and hinder egress through neighborhoods. Secondary impacts are generally caused by heavy rainfall accompanying the storm.

Wildfires in Plainville are very rare. They have typically occurred along the ridgelines near the edge of Plainville along former logging cuts. The greatest areas of concern are those that do not have public water service and have limited access; these are located near Bradley Mountain on the southeast side of Plainville, and the northeast corner of town from the ridgeline with Pinnacle Rock east to Interstate 84. One to two acre fires have occurred near Pinnacle Rock. Approximately 10 dams could affect the Town of Plainville with their failure. Two class C dams are located in Town; although several other Class C dams are located upstream in Bristol and Plymouth, the failure of these dams are not expected to cause inundation that would significantly affect Plainville. The two Class C dams in Plainville are listed in the table below. During the 2021 storms, town staff reported that there was some minor basement flooding, but nothing significant.

Table 24-2: Summary of Dams Whose Failure Could Significantly Impact Plainville.

Dam Name	Hazard Class	Dam Use	Dam Condition	Owner	Downstream Watercourse
Hogback (Goodwin) Dam	C	Hydropower	Satisfactory	Metropolitan District Commission	West Branch Farmington River
Saville Dam (Barkhamsted Reservoir)	C	Water Supply	Good	Metropolitan District Commission	East Branch Farmington River

Municipal officials note that numerous dams in the CT DEEP geospatial database appear to be inaccurately located or no longer in existence. The Fleetwood Arms Dam impoundment has been filled and retains a limited amount of water in wetlands adjacent to the channel. Hamlin Pond dam is located about a quarter mile downstream of where the CT DEEP map places it. The Norton Park Dam was previously associated with a swimming pond located within Norton Park; the pond has been replaced with a modern swimming pool that is no longer connected to the stream, and that dam no longer exists[1].

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Plainville. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 24-3: Average Annualized Losses, Plainville

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$45,036.25
	NRI	$666,662.70
	FEMA PA	$14,684.85
Tornados/High Winds	NCEI	$16,860.75
	NRI	$179,196.50
Winter Storms	NCEI	$13,356.73
	NRI	$10,226.82
	FEMA PA	$9,499.76
Flood	NCEI	$13,651.13
	NRI	$31,561.05
	NFIP	$17,920.70
Drought	NRI	$1,153.96
	USDA	$0.00
Extreme Heat	NRI	$19,909.21
Wildfire	NRI	$489.64
Earthquakes	NRI	$23,930.70
Dam Failure	HMP	$32.00

Other Hazard Costs

The table below considers the impact of Severe Winter Storms on the Town of Plainville based on Winter Storm Alfred in late October 2011. Debris removal was the biggest impact, with the total municipal cost to clean up after the storm totaling nearly a half-million dollars.

Table 24-4: October 2011 Severe Winter Storm Losses for Plainville.

Impact	Estimated Losses
Number of Electrical Customers Served (2013)	9,328
Maximum Outages During Severe Winter Storm (2011)	9,278
Maximum Outages Percentage of Customers (2011)	99.46%
Number of Businesses Experiencing Outages	>100
Total Lost Wages (Daily)	$2,012.09
Average Lost Wages (Weekly)	$48,775.00
Miles of Local Roads Plowed by Town of Plainville	84.36
Municipal Cost (Plowing, Road Treatment, Debris Removal)	$495,400.17

Source: Eversource, CCRPA Internal Analysis

Losses Summary

A review of the above loss estimates demonstrates that the Town of Plainville 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted.

- There is concern about potential washout of an essential bridge on the Pequabuck River. The cost of setting up satellite emergency response facilities or elevating the bridge may be prohibitive, so the Town is interested in pursuing agreements with neighboring communities to respond in case of isolation.

- Pursue permitting to remove sediment from the Pequabuck River channel upstream of the railroad crossing and west of Neal Court.
- The Town is interested in identifying a new location for an EOC.
- The town could consider implementing a forestry management plan to address downed trees and power outages during storms.
- The town would like to upgrade generators at critical facilities.
- Reconstruct the Woodford Avenue Bridge over the Quinnipiac River at a higher elevation to allow larger flows and debris to pass through unimpeded.

Status of Previous Mitigation Strategies and Actions

The Town of Plainville reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 24-5: Status of Previous Mitigation Strategies and Actions, Plainville

No.	Action	Notes	Status
1	Encourage residents to register for emergency alerts to their cell phones through the Everbridge Reverse 911 system. Include links and information on the Town website and Facebook page.	Town staff isn't sure how much progress has happened with Everbridge, but the town staff does have the ability for dispatch to send messages to anyone in a particular area. The program they use is Code Red. The intention of this action is complete.	Complete/ Retire
2	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	The town has not entered Sustainable CT. This was an internal resource-based decision. The town is challenged to fill the commissions that are required by statute, so this would be an additional strain on staff resources.	No Longer needed/R etire
3	Work with upstream communities, dam owners, and CT DEEP to develop a coordinated plan to mitigate peak flows from dam releases on the Pequabuck River.	Town staff is not aware of progress on this action. There was a release in Bristol during the flood of Irene from one of the reservoirs, which affected the Coppermine Brook. Plainville had conversations with Bristol after that, but is not aware of whether Bristol has changed their operations. CIRCA Staff suggests revising this action to make it more achievable.	Retired in favor of other actions about the river
4	Designate a Town floodplain administrator.	John Bossi, Town Engineer, is the floodplain administrator.	Complete/ Retire
5	Pursue permitting to remove sediment from the Pequabuck River channel upstream of the railroad crossing and west of Neal Court.	The town has not done this. The estimate from AECOM was approx. $300,000 and would involve dredging the Pequabuck at the horseshoe bend. The town has not found the funding for this. Town staff suggest keeping this action in and seeking funding.	Carry Forward
6	Incorporate new Hazard Mitigation priorities, based on this Plan, in the 2019/2020 update to the POCD.	Completed with the latest POCD update.	Complete/ Retire
7	Upgrade the generator at the Town Hall to provide full backup power to the building.	This has not yet happened but is still an interest. Keep this action.	Carry Forward

No.	Action	Notes	Status
8	Identify unusable properties on which it would be appropriate to create detention ponds.	This action came from an AECOM suggestion after their Pequabuck River study. The original goal was for the town to acquire properties to develop detention ponds. Town staff note that Plainville has a 200-page guide for LID that they provide to developers, and has stormwater guidance that requires no net increase in runoff, thus meeting the intent of this action. In addition, the Town has taken a proactive stance regarding procurement of land in and around the various floodplains to control the land and remove any development pressure, thus preserving the areas for flood retention.	Complete/ Retire
9	Provide for periodic survey of waterways to remove obstructions.	This is regularly accomplished by staff and is therefore a capability.	Complete/ Retire
10	Acquire emergency generators for the Police and Fire Departments.	The Police Dept generator is fairly new and capable of running the entire building. Town staff doesn't know about the Fire Dept.	Carry Forward with Revisions
11	Adopt stormwater retention regulations.	Complete – see #8	Complete/ Retire
12	Complete renovation of Wheeler Elementary School with a generator and steam heat.	The renovation is complete, although the town staff don't believe this included a generator.	Likely remove
13	Purchase a tanker for the fire department to bring water to underserved areas on outskirts of town.	The fire department acquired a tank (although not a tanker). The intention of this action has been achieved.	Intent is complete/ Retire
14	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.	Plainville does this periodically when FEMA updates flood mapping.	Complete/ Retire
15	Adopt regulations to promote conservation subdivisions in R-40 residential areas with no sanitary sewer service.	The POCD calls for this as a recommendation, but it is not reflected in the regulations. The intent has been completed because the POCD incorporated the recommendation.	Complete/ Capability
16	Assign a municipal staff-member to be a utility liaison responsible for maintaining contact with utility representatives.	This is complete	Complete/ Retire
17	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.	Plainville is in the monitoring phase of MS4, is in compliance.	Complete/ Retire

No.	Action	Notes	Status
18	Identify specific potential uses for GIS in emergency planning and pursue development of those capabilities.	There is a GIS platform available town-wide, although there are not many town-specific layers. The only hazard layer included is floodplains. The intent of this action has been met.	Intent is complete/ Retire
19	Work with internet providers to help ensure internet remains available after storm events.	The town tries to do this.	Capability/ Retire
20	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	One town staff member attended a flood-training last week (Fire Marshal Dievert). CIRCA staff remember seeing Mark at other flood events over the years. This can be considered a capability/complete.	Complete/ Retire
21	Create lists of local resources for residents and business owners and supply that information prior to forecast hazard events.	The town does this on a case-by-case basis through the town website. The intention of this action has been achieved.	Capability/ Retire
22	Initiate a study to evaluate the effects of climate change on natural hazards in Plainville.	CIRCA is doing this right now with the Resilient CT program. No other planning initiative on this topic is under way.	Will be completed with this HMCAP.
23	Create an informational pamphlet to provide to potential floodplain developers about regulations and codes, and their reasons, relevant to developing in floodplain.	This is accomplished without a pamphlet, and the need is no longer present.	Complete/ Retire
24	Create a Plainville Community Emergency Response Team (CERT).	The town does not have CERT. The town doesn't think they would see any actual reduction in insurance rates, would have minimal impact. This can be retired, no longer a need.	No Longer Needed/Retire
25	Adopt a regulation requiring installation of cisterns or dry hydrants in new developments where public water service will not be provided.	Nothing has happened here. Town can do this on a case-by-case basis when development applications come in. The intent of this action is complete.	Complete/ Retire
26	Expand emergency communication and notification methods to a variety of media, including radio, television, social media, and the Town Website.	This is a capability.	Complete/ Retire
27	Delete the floodplain overlay zone from zoning regulations and replace with an "open space preservation" overlay zone that can be applied to areas outside flood zones to limit development.	This has not happened. Because of the statutory requirements for re-zoning, doing this would be extremely cumbersome. There is a floodplain zoning layer that is shown on the zoning layer, and regulations have been revised to get at this idea without actually re-zoning. The intent of this action is complete.	Intent is complete/ Retire
28	Perform an assessment of in-stream structures (such as small dams) to identify and prioritize those that can be removed.	This has not been done. Plainville does not have many dams. There is one weir in town that can be manually raised and lowered if needed.	No Longer Needed/Retire

No.	Action	Notes	Status
29	Develop a plan for making the wastewater treatment plant more resilient to flooding. The Pequabuck River Study determined that small-scale floodproofing projects should be considered; this plan should determine which such measures should be implemented. (Examples include structural floodproofing and elevation of the walls of the open tanks).	There have been several construction projects at the WWTP since the last HMP. Town staff aren't sure whether walls have been elevated. There is ongoing attention to make this building less vulnerable to flooding, but it is still somewhat vulnerable, especially for larger floods. Town staff note that some vulnerability is inevitable given the location and purpose of this facility. This action was specifically about developing a plan. Town staff agree that this action can be revised to something like "ensure that whenever renovations are made to the WWTP, consideration is given to reducing flood vulnerability."	Carry Forward with Revisions
30	Perform a town-wide drainage study to identify and prioritize culverts that need to be upsized.	This has not been done.	Carry Forward
31	Construct a new EOC.	This has not happened yet. There have been some thoughts and plans, but nothing concrete/approved. Revise to be more achievable – something like "identify a location for a new EOC".	Carry Forward with Revisions
32	Reconstruct the Woodford Avenue Bridge over the Quinnipiac River at a higher elevation to allow larger flows and debris to pass through unimpeded.	This is a state road. The town has a grant application for a multi-use trail going down Woodford Avenue (CRCOG is involved with this grant application as well), and the town would like to push for the reconstruction of this bridge. The town would like Woodford Avenunue to be returned to the town, but would not want to accept the bridge as it currently is.	Carry Forward
33	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas, including property acquisition. This should be accomplished with a letter directly mailed to each property owner.	Town staff asked specifically about the letter mailing piece of this action. Town says they'll be notifying people ahead of storms, not with letters. Some RL properties have been bought out and removed. There are two remaining RL homes. These homeowners lived through the last several floods but declined the buyout. Keep this action. The town is interested in seeing the RL list when it is available.	
34	Have Town staff attend a FEMA or State training in basic GIS use, and/or in the use of GIS in emergency planning.	The floodplain layer is the only emergency-related GIS layer that the town platform has, and town staff know how to use it. This is complete.	Complete/ Retire
35	Develop formal agreements with neighboring communities to provide emergency assistance in case bridges are washed out by flooding and areas become isolated.	Town staff is not aware of any formal agreements. This happens on a case-by-case basis, which seems to be working. The intent of this action has been achieved.	No Longer Needed/Retire

No.	Action	Notes	Status
36	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	The town needs a copy of the list in order to do this.	Carry Forward
37	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Nothing has been done on this. There is one area and one home on the National Register of Historic Places. Some of the buildings in the town might be considered of limited architectural interest. The town knows how to contact SHPO when they need them, and has had SHPO come out to a site in the past. This can be considered a capability or complete.	Complete/ Retire
38	Develop a set of informational resources to which commercial and industrial property owners interested in floodproofing can be directed. Have hard copies of the resources available at Town Hall and electronic links on the Town website.	These resources exist, although town staff aren't sure whether they're on the website. The intent of this action can be considered complete.	Complete/ Retire

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.

Table 24-6: Active Mitigation Strategies and Actions, Plainville

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
PV1	Upgrade the generator at the Town Hall to provide full backup power to the building.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2025 - 06/2026	High	All Hazards	Benefits an EJ tract	19	5	95
PV2	Acquire emergency generators for the Fire Departments.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	4	76
PV3	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
PV4	Identify locations for a new EOC.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	001/2025-12/2025	Medium	All Hazards	Benefits an EJ tract	18	6	108
PV5	Ensure that renovations to the wastewater treatment plant consider reducing flood vulnerability. The Pequabuck River Study determined that small-scale floodproofing projects should be	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Water & Wastewater Utility Projects	Public Works	>$1M	CWSRF; FEMA HMA; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Serves an EJ tract	20	7	140

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	considered. (Examples include structural floodproofing and elevation of the walls of the open tanks).												
PV6	Explore the feasibility and potential benefits of establishing a microgrid within the town.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Chief Elected Official	$0-$10,000	DCRF; FEMA HMA	07/2024 - 06/2025	Medium	All Hazards	Benefits an EJ tract	18	6	108
PV7	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57
PV8	Pursue permitting to remove sediment from the Pequabuck River channel upstream of the railroad crossing and west of Neal Court.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$10,000 - $50,000	Municipal Operating Budget	07/2025 - 06/2027	Low	Riverine and Pluvial Floods	Yes - EJ Tract	19	6	114
PV9	Perform a town-wide drainage study to identify and prioritize culverts that need to be upsized.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
PV10	Reconstruct the Woodford Avenue Bridge over the Quinnipiac River at a higher elevation to allow larger flows and debris to pass through unimpeded.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	Yes - EJ Tract	20	4	80

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
PV11	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
PV12	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	Benefits an EJ tract	19	5	95
PV13	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Figure 24-1: CIRCA Environmental Justice Rank and Critical Facilities, Plainville

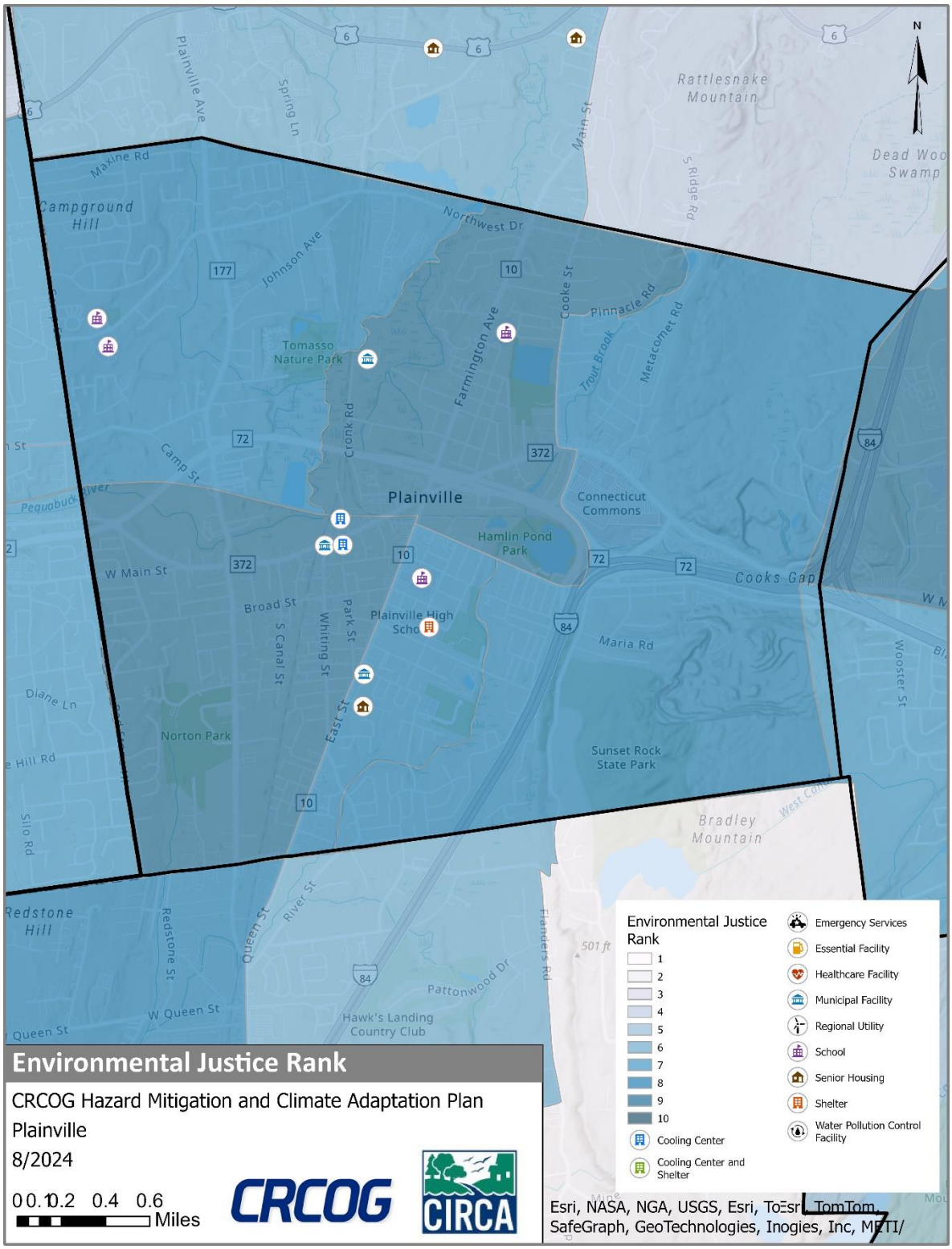


Figure 24-2: FEMA Flood Zones and Critical Facilities, Plainville

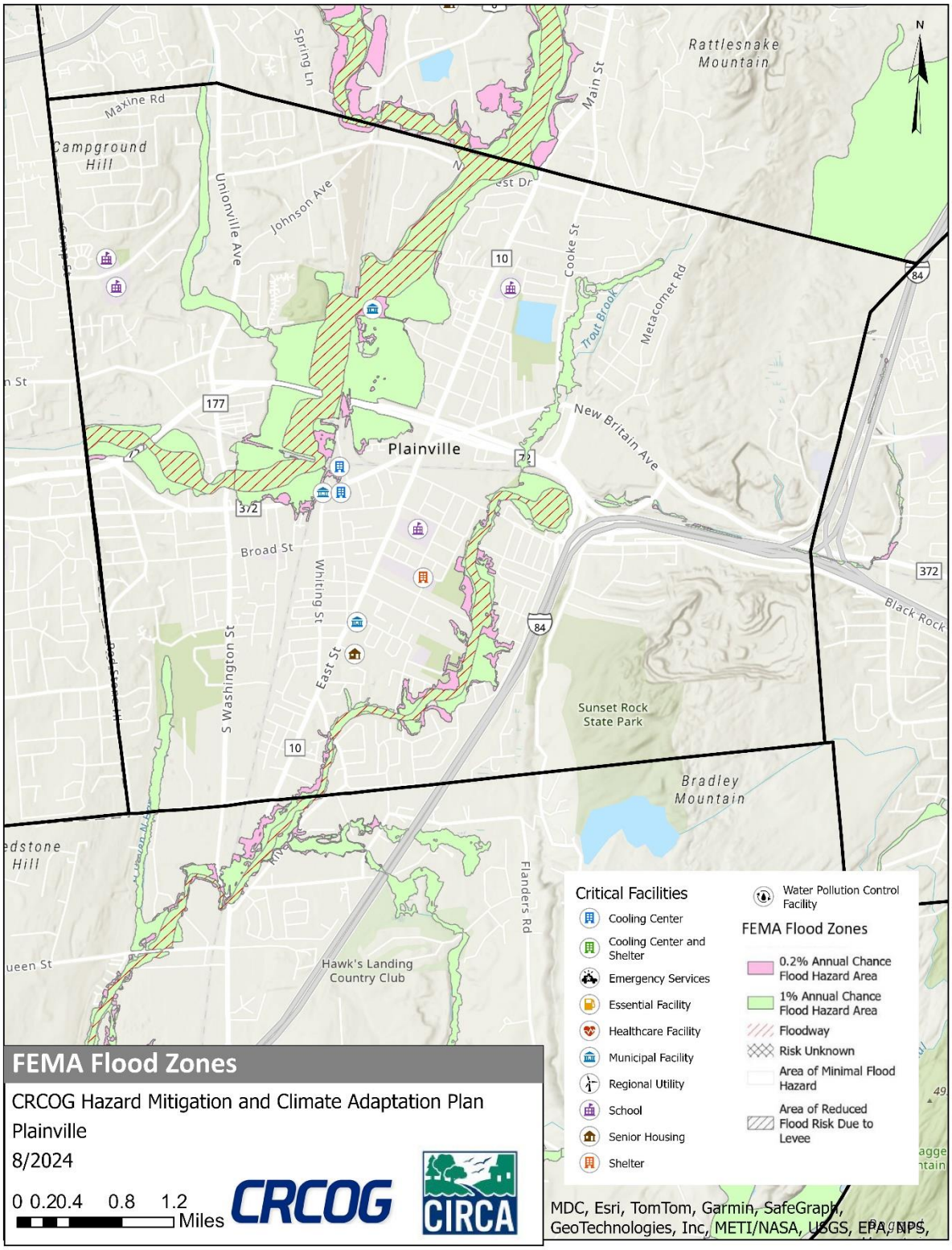


Figure 24-3: CIRCA Flood CCVI and Critical Facilities, Plainville

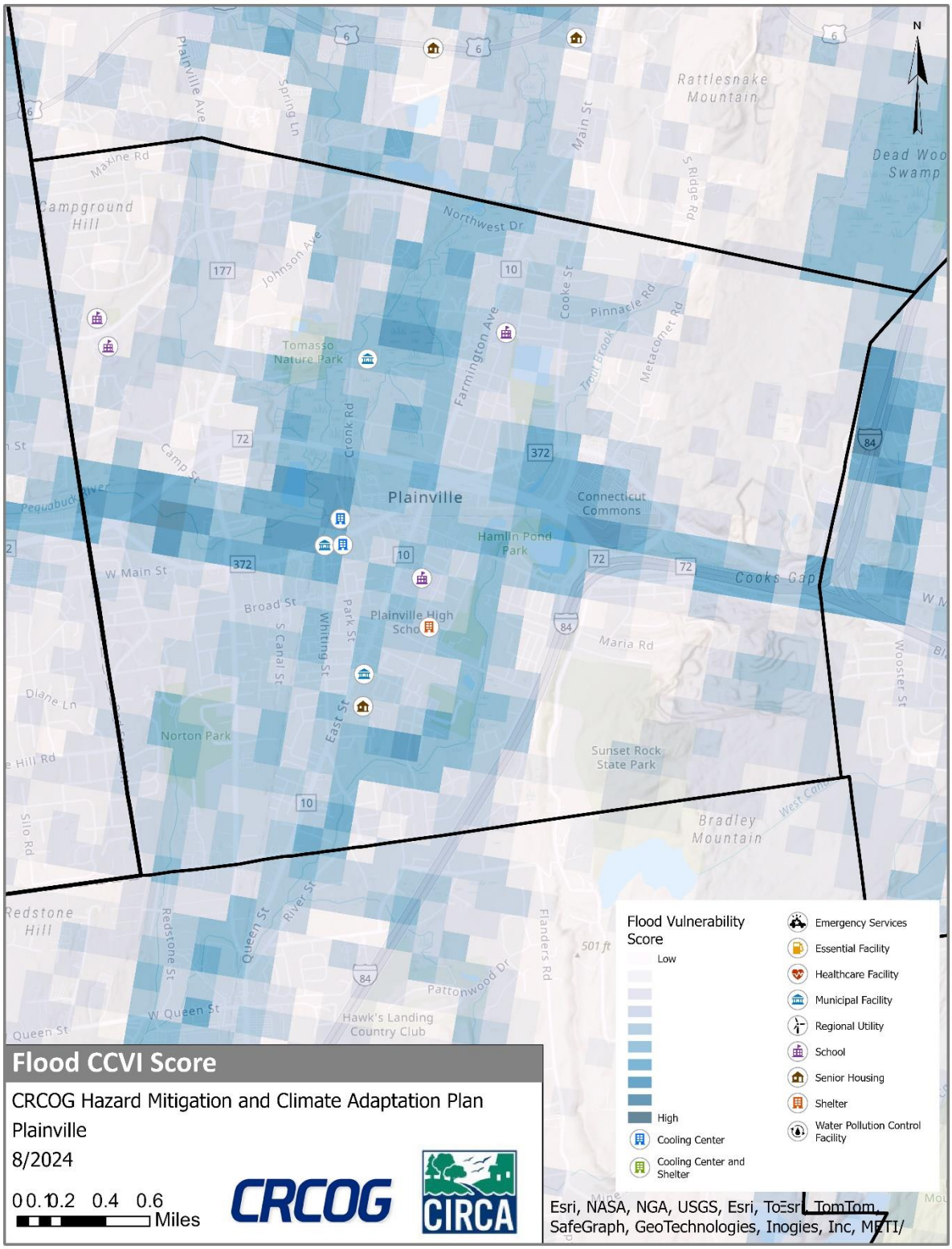


Figure 24-4: Dam Inundation Area and Critical Facilities, Plainville

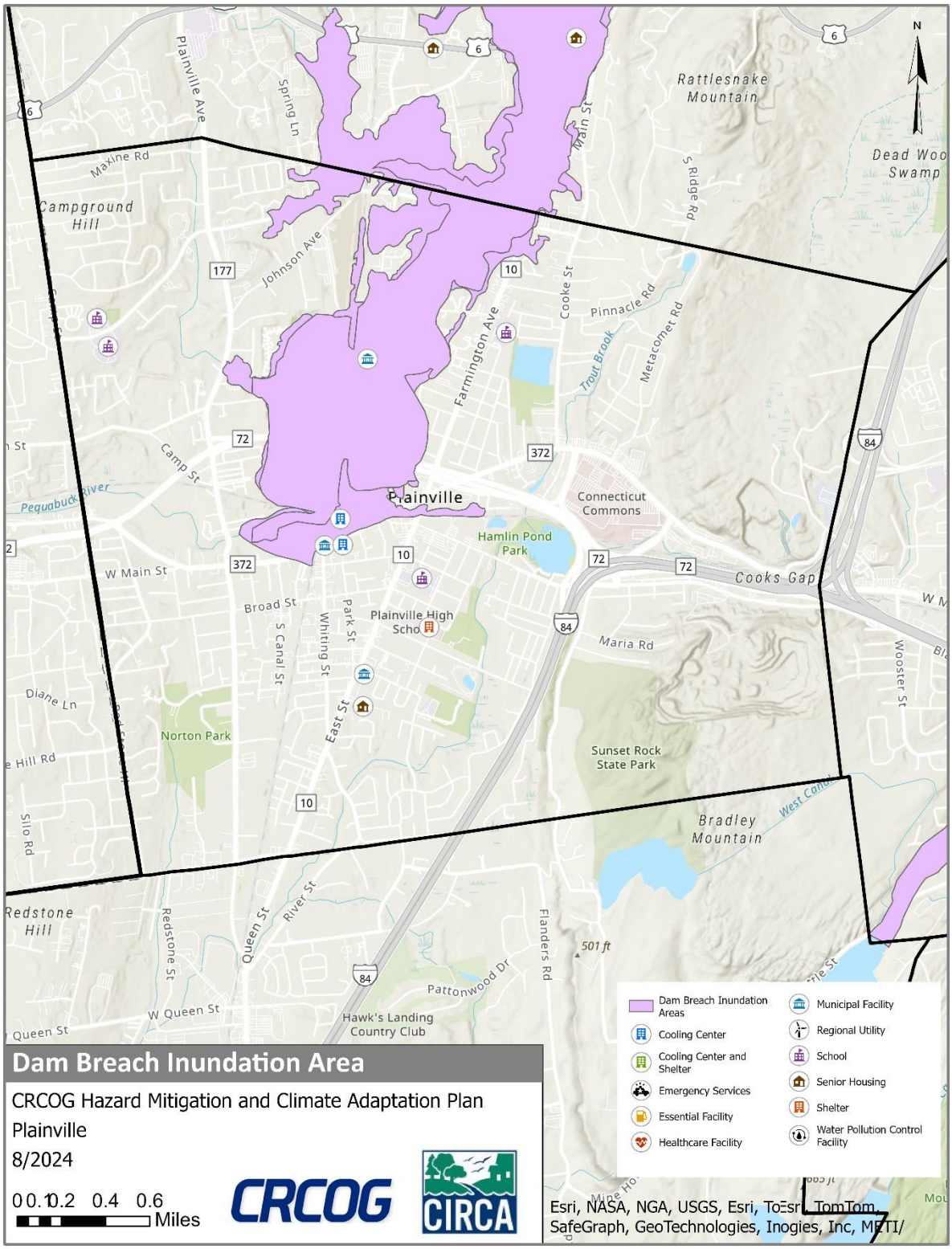
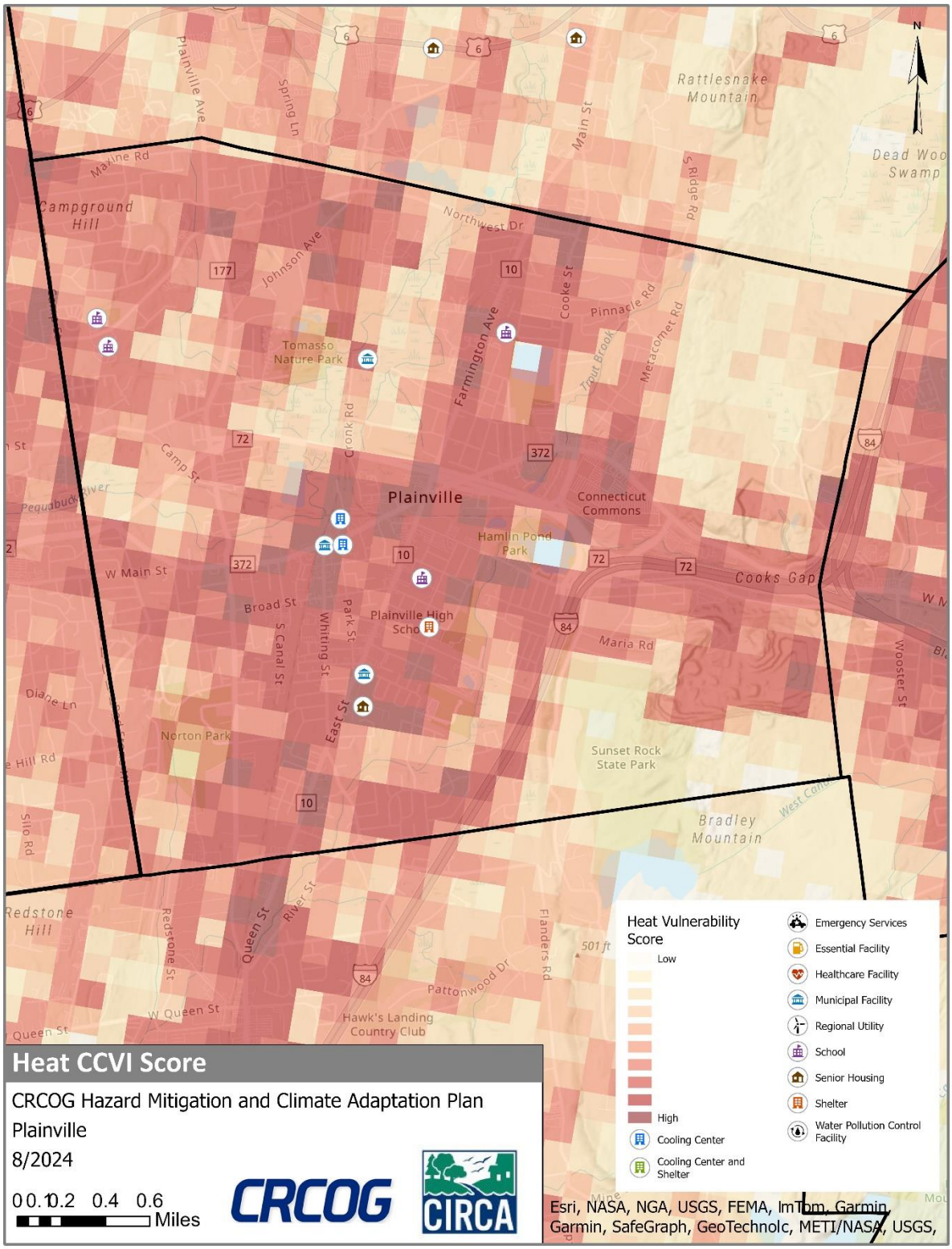


Figure 24-5: CIRCA Heat CCVI and Critical Facilities, Plainville



25 Rocky Hill

Community Overview

Rocky Hill covers 13.9 square miles with a population of 20,845 (2020 Census). Elevation ranges from 30 feet to 400 feet. Land drains primarily to the Connecticut River Watershed, though the southwest portion of Town drains to the Mattabesset River. Major watercourses include the Connecticut River and Dividend, Goff, Hog, and Saw Mill Brooks. Principal transportation routes include Interstate 91 and State Routes 99, 3, 160 and 400. An active freight rail line, owned by Providence-Worcester Railroad, runs north-south along the Connecticut River. Paralleling the rail line is the Buckeye Jet Fuel line which runs from New Haven to Bradley International Airport. The State Veterans Home and Hospital and Dinosaur State Park are among approximately a dozen State agencies located in Town. Rocky Hill's major industries include professional, scientific and technical services, finance and insurance, warehouse/ distribution, health care and construction.

In Rocky Hill, development patterns are guided by stringent building codes and planning and zoning ordinances that prohibit construction within flood plains. Over the recent five-year period, the town has witnessed a moderate level of development, and this trend is expected to continue for the next three years. Predominantly, the development over the past half-decade has revolved around residential projects, and this emphasis on residential development is projected to persist in the foreseeable future. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

A number of critical facilities in Rocky Hill include the Police Station (Emergency Operations Center), Town Hall/Community Center, Public Library (back-up shelter and warming/cooling center), three volunteer fire stations, the High School (primary shelter), and West Hill School.

Table 24-3: Critical Facilities, Rocky Hill

Facility	Shelter	Cooling Center	Generator
Police Department (EOC)			X
Public Library		X	
3 Volunteer Fire Stations (EOC)	1st Responder		X
Community Center	Secondary	X	X
High School	Primary		X
West Hill School			
CT State Health Lab			
CNG natural gas storage facility			
MDC H2O Storage facility			
Algonquin Gas line			
VA Home & Hospital			X
Waste Water Pollution Control			X
Buckeye Fuel Line			
Town Hall			

During extreme heat events, Cora J. Belden Public Library and Rocky Hill Community Center can all be opened as public cooling centers. A generator is still needed for the library. The town has a portable military grade generator but it is not large enough to power the entire library. The Community Center has a generator and is used as a secondary shelter in town.

The High school is the shelter in the currently but the town staff think this will change soon. Town staff are not sure where the new location will be if it does change.

Capabilities

Hazard mitigation is incorporated into Rocky Hill's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

The Town does not permit any new structures in flood zones, and in 2008 updated the Town Code Chapter 141, Flood Damage Prevention, in accordance with NFIP minimum standards.

Rocky Hill emergency response personnel are highly skilled and experienced in emergency response. Emergency response personnel and the Town of Rocky Hill highway employees are crossed trained in snow removal and emergency response for multiple and pre-disaster events.

Rocky Hill is about 98% covered by hydrants on public water, operated by Metropolitan District Commission (MDC). A small section in the southwest corner adjacent to the Berlin town line is not hydranted, however specific Fire Department mutual aid agreements have secured water tankers to respond to this area if needed. There is a Town Ordinance requiring residents to clear snow from hydrants in front of their properties, as well as public notification reminders to do this. Mutual aid agreements with neighboring communities are in place for fire, police, and emergency response assistance.

The Town, in cooperation with the local power utility, has designated Century Hills Apartments as a first priority for power restoration due to a high concentration of apartments; the second priority is senior/over-55-adult housing developments.

Rocky Hill collects debris and has a designated area for debris disposal. The DPW has a budget of 25- to 30-thousand dollars per year to maintain trees, which has been sufficient.

The Town changed the location of the primary shelter to the high school in 2016; the building had undergone upgrades including a new generator, cafeteria, and auditorium. This facility can accommodate up to 2,000 people.

Recent bridge and culvert replacements include the Old Main Street Bridge on Golfbrook, which was structurally deficient, and the Frank Street culvert over Sawmill Brook, where two metal pipes were rotten.

Rocky Hill has adopted new MS4 stormwater runoff regulations, which is expected to lead to lowered peak flood flows, in addition to creating water quality benefits.

Since the 2019 HMP, no new actions have been incorporated as capabilities, thus capabilities to address natural hazards and the losses that they have caused, have not increased since the last plan has been adopted.

Challenges

Challenges Overview

The MDC wastewater treatment facility located in the northeast corner of Town is in the Connecticut River flood plain and at risk from a 1%-annual chance flood event.

When the Mattabesset River in Berlin floods, Saw Mill Brook also floods and renders the extreme western portion of France Street, the residences located there, and the Town of Berlin inaccessible. This road is used as a secondary access route for about 12 properties and one business. This road is not built up to any sort of standard and is likely that it was not originally intended to be a main access point. Additional areas of concern are Beach Road and Main Street (CT RT 99) near the former Ames property. Beach Road is susceptible to periodic flooding isolating homes north of Little Brook. State drainage structures located on Main Street (CT 99) are under-sized, causing periodic localized flooding.

A primary concern is to maintain power at the Police Station/EOC, the Town Community Center/Town Hall (shelter) and the Library (backup shelter). The generators for the Police Station and the Library are in need of up-grading.

The town staff are concerned about the aging population in town. Staff reported that the town has a lot of age-restricted communities, and assisted living facilities. Town staff believe that all these facilities have generators. The town staff said that a while back, they had to open a shelter and found that dealing with the aging population was difficult. Town is unsure if they have the resources to take care of the aging population if a shelter needs to be opened, such as cots/emergency kits/etc.

Town staff said the town has a lot of agricultural land that is in the flood plain. This land floods every spring and the farmers suffer losses regularly.

Town staff report there are some culverts that need repair but that these repairs are within the town's ability to handle and the culverts are not causing flooding issues.

There are several significant concerns related to MDC facilities, but the town has been in communication with MDC and the action that needs to be taken is on the side of MDC. Town staff reported that MDC is aware of the problem areas. Town staff identified the following areas of concern:

- Goff Brook – the Rocky Hill Water Pollution Control Facility located at 80 Goff Brook Lane is located here and has experienced flooding.
- Flooding along Waterchase Drive.
- Flooding along Silas Dean. Town staff suggested this might be related to a state culvert rather than to MDC.
- Pump station on Main St and Brook St
- Pump station on Pratt St.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Rocky Hill. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 25-2: Average Annualized Losses, Rocky Hill

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$53,568.08
	NRI	$765,838.82
	FEMA PA	$35,293.39
Tornados/High Winds	NCEI	$20,054.91
	NRI	$191,140.07
Winter Storms	NCEI	$15,887.07
	NRI	$11,970.86
	FEMA PA	$8,791.16
Flood	NCEI	$16,237.25
	NRI	$56,382.57
	NFIP	$1,272.12
Drought	NRI	$90,863.82
	USDA	$101,619.70
Extreme Heat	NRI	$23,960.62
Wildfire	NRI	$879.90
Earthquakes	NRI	$49,610.23
Dam Failure	HMP	$35.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Rocky Hill 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should assess the capacity of the shelters and ensure the town has the capability to meet the needs of different vulnerable populations.
- Acquire generators for critical facilities.
- Continue ways to pursue installing a box culvert on Beach Road and raising the road above the 1% annual-chance flood elevation.
- Continue to work with MDC to identify potential hazard mitigation actions for MDC facilities.
- Continue to prioritize and repair culverts.
- Town staff should participate in flood related training.

Status of Previous Mitigation Strategies and Actions

The Town of Rocky Hill reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 24-3: Status of Previous Mitigation Strategies and Actions, Rocky Hill

No.	Action	Notes	Status
1	Apply for funding through the State local bridge program to install a box culvert on Beach Road and raising the road above the 1% annual-chance flood elevation.	Town staff said this bridge didn't qualify for the local bridge program. The town didn't apply because they didn't meet the parameters. This is still of great interest to the town to install the culvert and raise the road.	Carry forward with Revisions
6	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff said they were aware of one repetitive loss property that had already been acquired by the town and turned into a park. They reported that there might be one more but they were not sure of the location. CIRCA Staff explained that the Town could request the list from FEMA if they were interested in learning the address of the RL property.	Carry Forward
3	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.	Town staff said they are compliant with MS4.	Complete/ Retire
5	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	There are several significant concerns related to MDC facilities, but the town has been in communication with MDC and the action that needs to be taken is on the side of MDC. Town staff reported that MDC is aware of the problem areas. Town staff identified the following areas of concern: • Goff Brook – the MDC treatment plant is located here. (CIRCA staff follow-up suggests this is the Rocky Hill Water Pollution Control Facility located at 80 Goff Brook Lane). This location has experienced flooding. • Flooding along Waterchase Drive • Flooding along Silas Dean. Town staff suggested this might be related to a state culvert rather than to MDC. • Pump station on Main St and Brook St Pump station on Pratt St.	Carry Forward with Revisions.

No.	Action	Notes	Status
2	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.	Town staff said they have a few businesses for whom this action is relevant and would like to leave this action in.	Carry Forward
7	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff would like to revise this action to acquire and review the SHPO layer.	Carry Forward with Revisions
4	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they have not yet participated in flood- related trainings but this is an interest.	Carry Forward

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.

Table 24-4: Active Mitigation Strategies and Actions, Rocky Hill

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
RH1	Assess the capacity of the shelters and ensure the town has the capability to meet the needs of different vulnerable populations.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	All Hazards	No	19	7	133
RH2	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
RH3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	Medium	Extreme Heat	No	18	3	54
RH4	Apply for funding to install a box culvert on Beach Road and raising the road above the 1% annual-chance flood elevation.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	STEAP; IIJA AOP; FEMA HMA	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
RH5	Conduct an assessment of France Street, situated near the Berlin line in Rocky Hill, to address access concerns and determine necessary road improvements.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$50,000 - $100,000	STEAP; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
RH6	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods/Tidal Connecticut River Flooding	No	18	6	108
RH7	Work with MDC to address flooding concerns at the Rocky Hill Water Pollution Control Facility, Waterchase Drive, the Pump station on Main St and Brook St and Pratt St.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Planning	$500,000 - $1M	CWSRF; FEMA HMA; STEAP	07/2026 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114
RH8	Work with MDC to address flooding concerns at Waterchase Drive.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$500,000 - $1M	CWSRF; FEMA HMA; STEAP	07/2026 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
RH9	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat/Tidal Connecticut River Flooding	No	18	5	90
RH10	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
RH11	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.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Low	Riverine and Pluvial Floods	No	18	7	126
RH12	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Ri	No	18	9	162

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	climate change increases frequency and severity of floods.							verine and Pluvial Floods				
RH13	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	No	17	6	102
RH14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 25-2: CIRCA Environmental Justice Rank and Critical Facilities, Rocky Hill

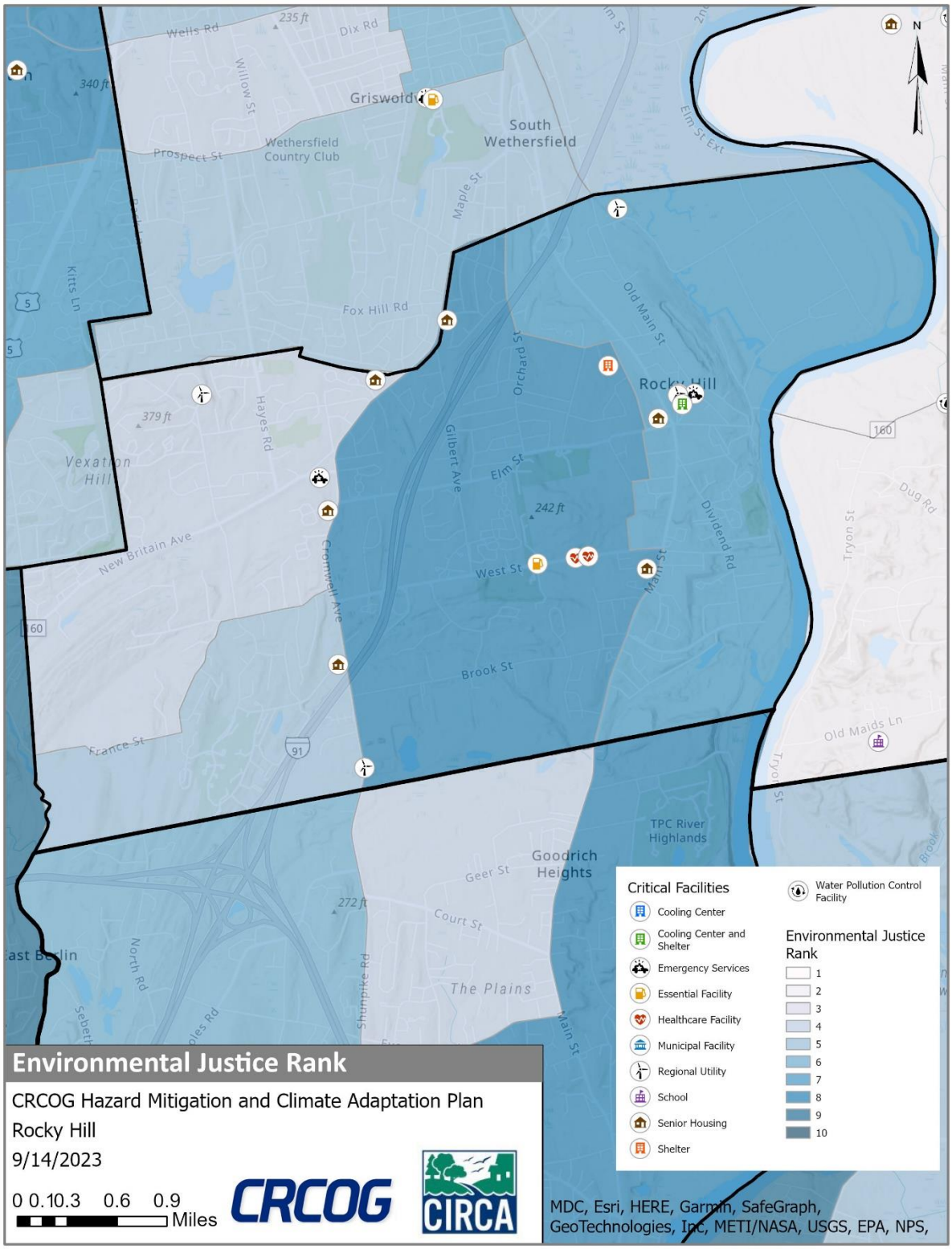


Figure 25-2: FEMA Flood Zones and Critical Facilities, Rocky Hill

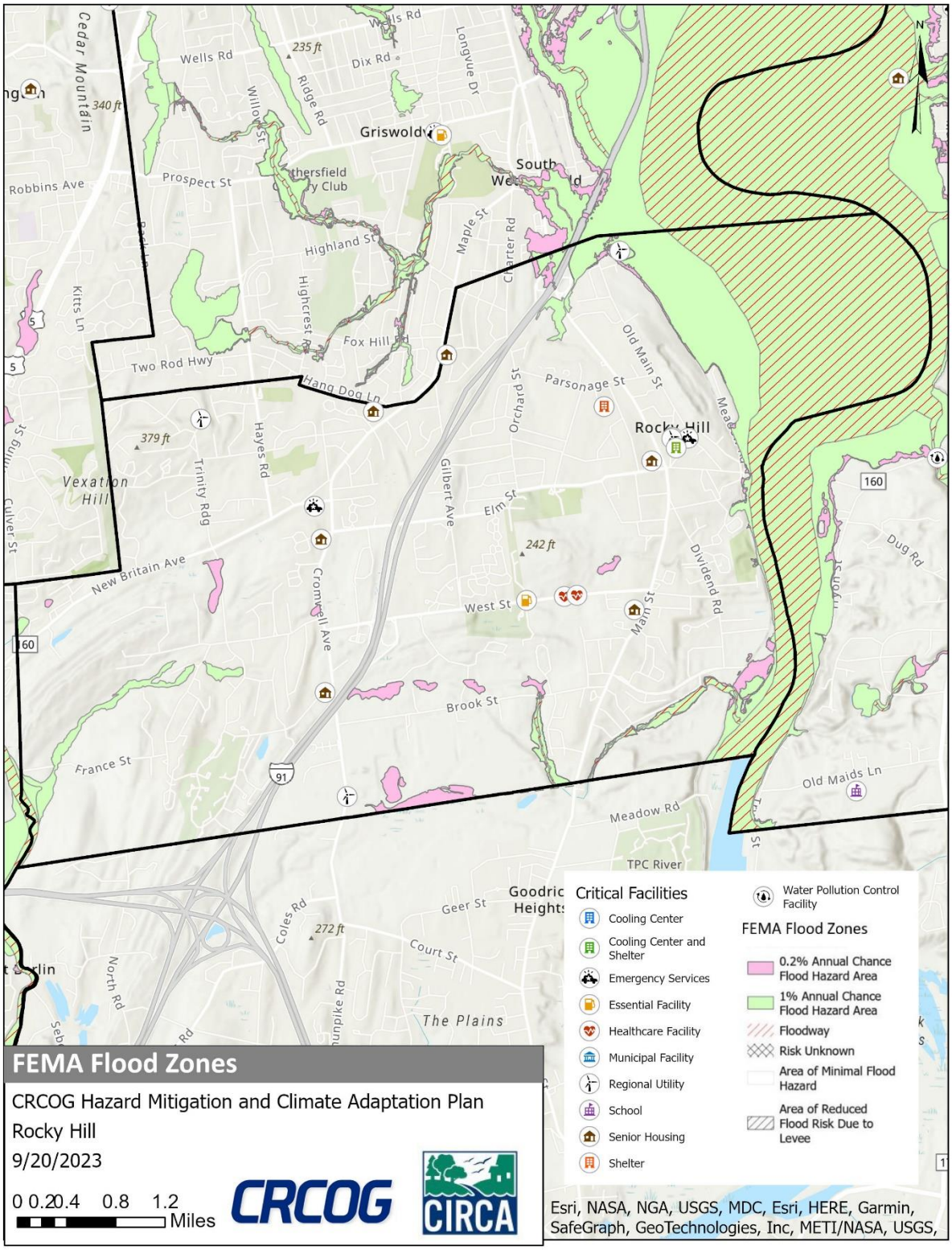


Figure 25-3: CIRCA Flood CCVI and Critical Facilities, Rocky Hill

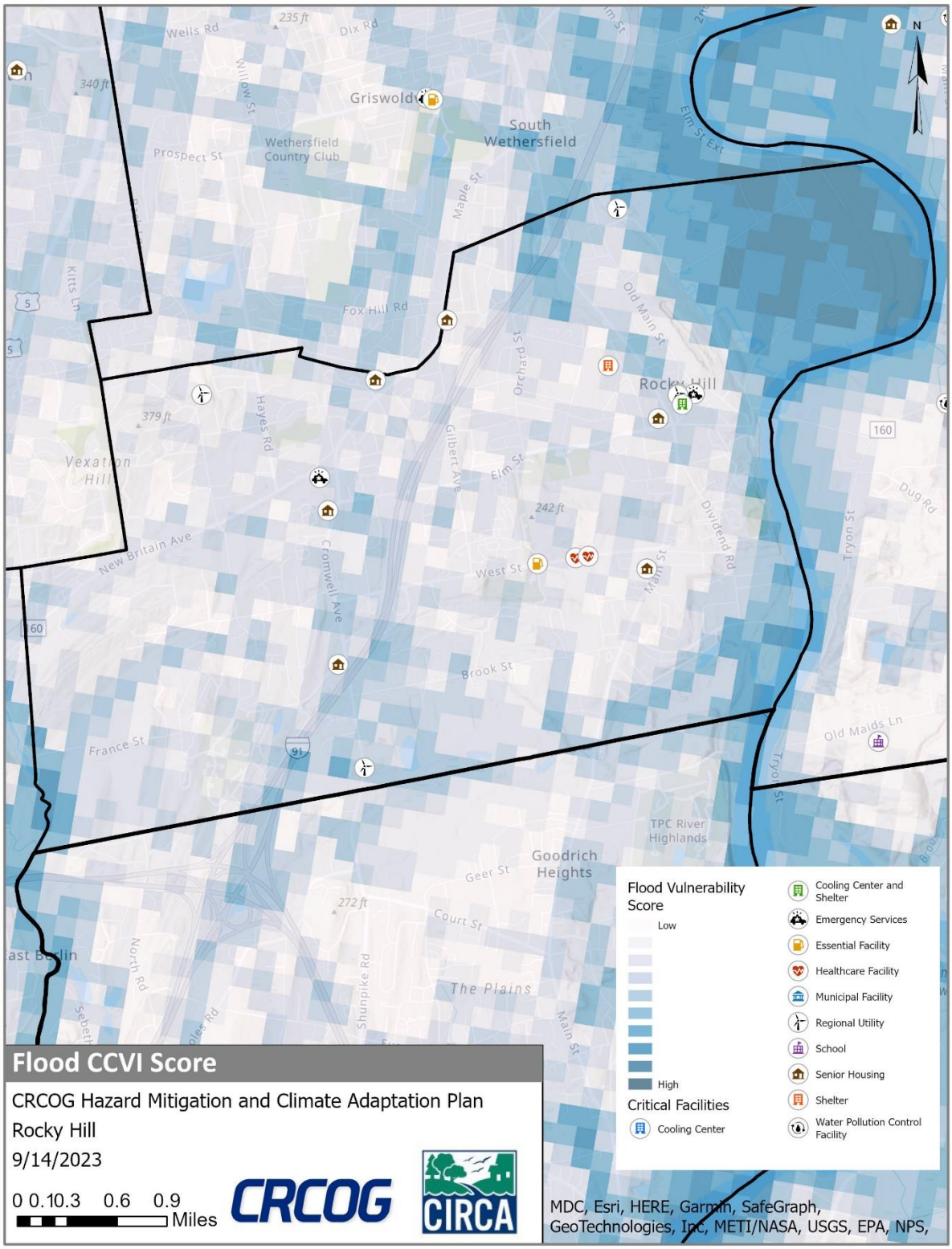


Figure 25-4: Dam Inundation Area and Critical Facilities, Rocky Hill

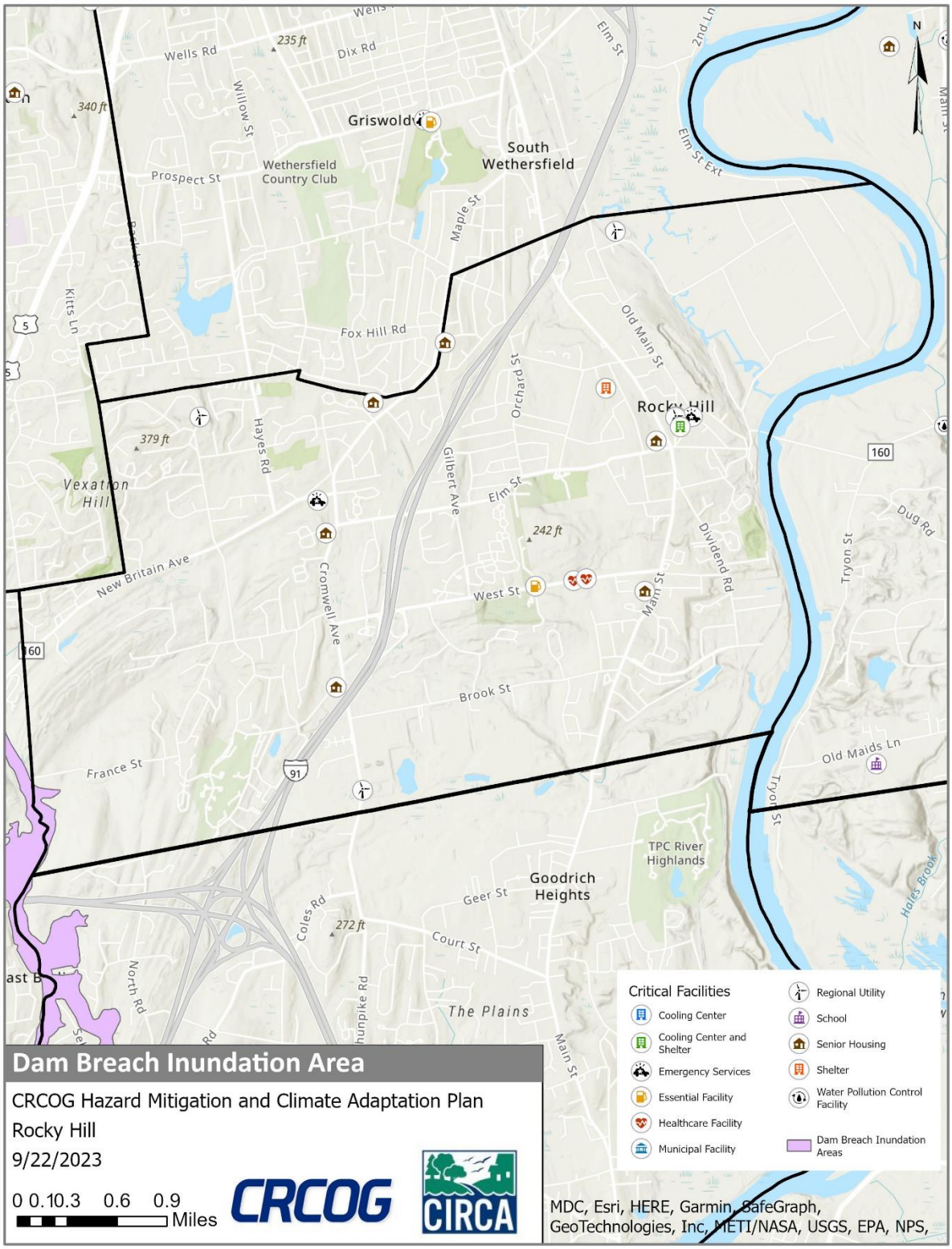
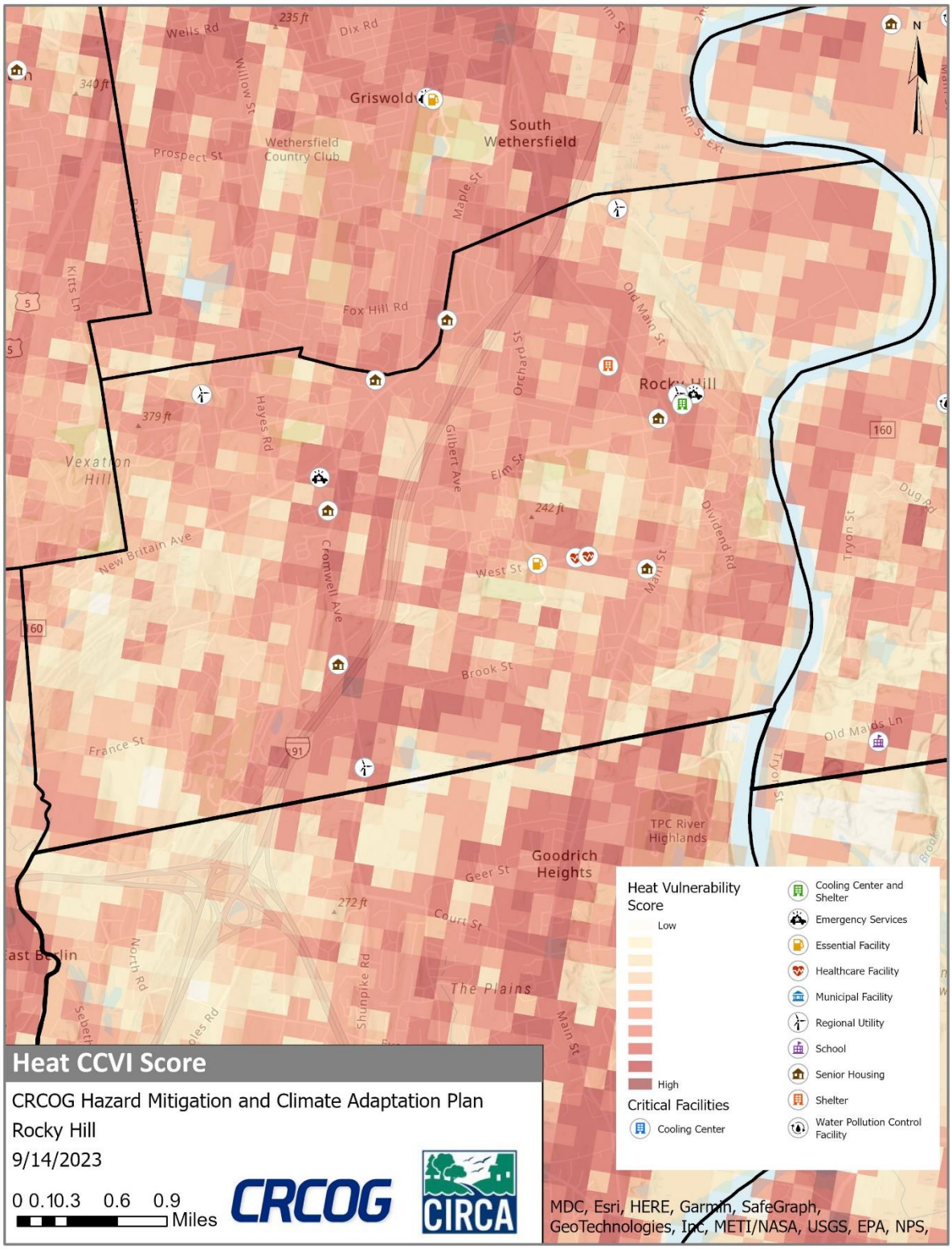


Figure 25-5: CIRCA Heat CCVI and Critical Facilities, Rocky Hill



26 Simsbury

Community Overview

Simsbury is a suburban community of about 24,517 (2020 Census) encompassing 33.9 square miles. Elevation ranges from about 150 to 500 feet above sea level. Most of Simsbury contributes to the Farmington River Watershed, although a very small portion in the southeast drains to the Park River. Watercourses in town include the Farmington River and Bissell, Grimes, Hop, King Philip, Nod, Minister, Munnisunk, Owens, Saxton, Second, and Still Brooks. Principal industries include agriculture, insurance offices, non-electric blast initiation systems, polypropylene fiber manufacturing, and safety and detonating fuse making. The main transportation routes are north-south state routes 10/202 and 167, and east-west state routes 185, 309 and 315.

Simsbury is experiencing development along Route 10 on the south side of town, which includes apartments and an assisted living center, strategically located outside the floodplain. Additionally, at 36 Iron Horse Boulevard, a property within the floodplain has been raised three feet above flood level, alleviating concerns about flooding and exemplifying a commitment to responsible development, achieved through the CLOMR/LOMR process. While some development or redevelopment might occur in areas of flood risk. Strict adherence to state and local flood regulations and the state building code will reduce overall risk.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In Simsbury these include the Simsbury High School (primary emergency shelter), the Tariffville Elementary School (secondary shelter and the only shelter available to Tariffville if Route 315 is closed and Tariffville is isolated), the Squadron Line School (secondary shelter), the Public Works Campus and the Public Library, Senior Center, Town Hall in additional to the town's emergency response facilities. The Water Pollution Control Facility (WPCF) is located within a FEMA Special Flood Hazard Area (SFHA) and therefore at risk from a 1-percent annual-chance flood event; it is protected from such events by a flood-control dike.

Table 24-4: Critical Facilities, Simsbury

Facility	Shelter	Cooling Center	Generator
Simsbury High School	Primary		Two
Tariffville Elementary School			X
Squadron Line School			X
Public Works Campus			
Library	Secondary Shelter	X	X
Senior Center	Secondary shelter	X	X
Town Hall		X	X
Water Pollution Control Facility	No		X

During extreme heat events, Simsbury Public Library, Eno Memorial Hall- Simsbury Senior Center and Simsbury Town Hall can all be opened as public cooling centers. All facilities currently have generators. The public library and Senior center are both used as town shelters.

Capabilities

Hazard mitigation is incorporated into Simsbury's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards.

Simsbury has been pro-active in preserving open space in the floodplain and assuring that new developments are not placed in floodplains or wetlands. None of the new residential units noted previously were, or will be, constructed in the floodplain. The Town carefully reviews renovation/reconstruction plans for homes in repetitive loss areas to ensure that flood proofing is accomplished and that utilities are located above the 1-percent annual-chance flood level. Zoning regulations require that new construction and substantial improvement be built with two feet of freeboard above the FEMA-defined 1-percent annual-chance flood elevation. This is a higher standard than that required by FEMA. The Town adopted updated floodplain regulations as part of a Zoning Regulations update that was made effective on April 30, 2018.

The Town regularly performs culvert and bridge replacement and upgrade work.

The Town utilizes the Everbridge notification system to warn owners of homes with repetitive loses of impending storm events. The Social Services Department maintains a listing of special needs populations so that notification and contact can be made in hazard events

The Town coordinates with the power supplier Eversource to address dangerous trees. Though loss of power is a significant concern, electrical transmission to the town center itself comes from two different directions, creating a redundancy that lowers the risk of complete power loss. Many Town facilities have emergency generators or standby power, including Simsbury High School, Tariffville Elementary School, Squadron Line School, Virginia Connelly senior housing facility, the town hall, and some mobile phone towers.

Simsbury maintains and adds dry hydrants and cisterns as funding allows, but does not feel its water supply is currently sufficient (see below). The Fire Department has the appropriate equipment to fight wildfires at this time.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"), Tariffville Elementary School and the Squadron Line School have been officially designated as emergency shelters, increasing the town's capacity to house displaced residents and providing a local sheltering option in case of isolation of the Tariffville area.

The Virginia Connelly senior housing facility recently acquired a new generator. The public library is currently being fitted to be able to have a portable generator hooked up and provide power; it does not have a dedicated generator at this point. Coordination with Eversource has improved. Despite these improvements, the Town believes that following a temporary improvement following the storms of 2011, power disruption response capabilities have decreased recently.

Since 2014, multiple culverts have been upgraded, including structures located on:

- Great Pond Road, in vicinity of 142 Great Pond Road
- Westledge Road (multiple structures)
- Firetown Road at Bissell Brook

A culvert on Riverside Road, west of the intersection of Riverside Road and East Weatogue Street, was upgraded and a backflow-prevention gate installed to provide flood protection. A culvert to the east, however, has not been upgraded.

Dry hydrants and cisterns have been added in the last few years.

The Town acquired 1 Old Bridge Road, a repetitive loss property, in 2014.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Assess tree maintenance practices to identify opportunities for improvement.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is a significant challenge for Simsbury. In the Riverside Road area, buildings are directly at risk of flooding. During floods, the Town is forced to cut power before water contacts those points, leaving property owners unable to operate sump pumps to remove rain, stormwater, or groundwater that enters their basements. These homes then experience basement damage even if floodwaters don't rise high enough to impact the structures directly. In addition, town staff have reported that a large length of the riverbank adjacent to Riverside Rd has moved since 2019. The town surveys this area quarterly. Town staff have not observed movement since then, but as the river floods, there might be more erosion, which town officials are concerned about.

There are many important roads that have been overtopped by flood waters, hindering travel by emergency vehicles and access to the emergency shelter. During Hurricane Irene and Superstorm Sandy certain critical access roads were blocked: route 185 was closed at East Weatogue Street, severing a major east/west transportation artery; route 315 was closed, isolating the Tariffville Village area and preventing those residents access to the Town emergency shelter; Town Forest Road flooding blocked access/egress to the Town Public Works Campus; and Riverside Road flooding blocked emergency vehicle access to the neighborhood from the Town Center, as well as access to the Emergency Shelter for neighborhood residents. Municipal officials reported that another flash flood event overwhelmed existing drainage within the State right-of-way on Route 189 and closed the intersection of Route 189 and Elm Street; this limited access to Tariffville from Bloomfield.

Municipal staff report wildfire as a concern in town. Recent droughts and insect damage to trees have increased the risk, and the distribution of dry hydrants, cisterns, and fire roads is not considered to be sufficient. McLean Game Refuge and the ridgeline are particular areas of concern. The Fire Department reports the typical wildfire to be less than one acre in size, with large fires reaching six to seven acres.

Town staff reported concerns from the summer storms 2021, which include:

- The small drainage systems in town were overwhelmed. There was no major damage but there were culverts that exceeded capacity and erosion along the Farmington River riverbank.
- Lucy Brook overtopped East Weatogue Street.
- Quarry Rd culvert is of concern.
- Firetown Rd overtopped by the church.

Two more culverts need upgrades on Riverside Rd and on Town Forest Road and Stratton Brook Roads over the Stratton Brook.

Simsbury has significant tree canopy, with 1/3 of town in open space. The town has a tree maintenance budget which is keeping town-owned land maintained as best as they can. The town is relying on Eversource as well to maintain the trees.

The town is concerned about undersized stormwater infrastructure.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Simsbury. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 26-2: Average Annualized Losses, Simsbury

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$63,004.49
	NRI	$838,250.49
	FEMA PA	$12,188.09
Tornados/High Winds	NCEI	$23,587.73
	NRI	$231,106.71
Winter Storms	NCEI	$18,685.70
	NRI	$13,647.18
	FEMA PA	$9,096.41
Flood	NCEI	$19,097.56

Hazard	Source	Average Annualized Losses (AAL)
	NRI	$54,189.89
	NFIP	$12,543.35
Drought	NRI	$136,865.09
	USDA	$0.00
Extreme Heat	NRI	$28,090.40
Wildfire	NRI	$9,699.98
Earthquakes	NRI	$26,119.31
Dam Failure	HMP	$42.00

Other Hazard Costs

A typical wildfire costs the Fire Department around $1,500 (per event).

The Town reports that a typical thunderstorm costs about $5,000 in cleanup.

The Town estimates that a typical winter storm costs about $40,000 in cleanup and $2,000 in emergency response by the Fire Department.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Simsbury 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During Plan development, multiple hazard mitigation needs of Simsbury were noted.

- Mitigation of some frequent road flooding, such as that on Route 185 and Riverside Road, may be accomplished by raising road elevations above the 1-percent annual-chance flood level. Municipal staff believe that elevation of Grant Pond Road is possible within the next five years. Access improvements on Town Forest Road can be accomplished, but at a large expense. Work involves raising the road above the 1-percent annual-chance flood level and replacing two large culverts and associated drainage. The environmental and cost implications of raising Route 315, on the other hand, led to the establishment of a secondary emergency shelter site at the Tariffville Elementary School.
- The Town may partner with homeowners to apply for mitigation funds for elevations and buyouts; some homeowners are known to be interested in such assistance. Floodplain regulations may be strengthened by revising the definition of substantial damage and substantial improvement (SD/SI); currently SD/SI is rarely triggered.
- To address the issue of downed trees damaging overhead utilities, Simsbury should continue to maintain a tree trimming/removal program.
- Simsbury would like to fund additional dry hydrants and cisterns.
- Upgrading and improving the culvert on Riverside Road, west of East Weatogue Street and east of the upgraded culvert with a backflow-prevention gate, will help address isolation issues that occur during flood events. The town should continue to prioritize culvert repair and upsizing in additional areas of flooding.
- Historical failures of the bank along the western shoulder of Riverside Road were addressed by the installation of gabion baskets. Over time, slump and erosion has been observed. A more long-term solution should be pursued.
- Culverts along Route 189 at the intersection of Elm Street need to be upgraded to prevent flooding and road closures during larger storm events.
- The Water Pollution Control Facility (WPCF) is located within a FEMA SFHA, and is surrounded by an earthen dike. During larger storm events, flood waters have reached within feet of the top elevation of the berm. The dike should be investigated to determine whether improvements are needed to better protect the facility.
- The town should consider conducting an assessment of their stormwater infrastructure to respond to more stormwater burden during thunderstorms and rain events.

Status of Previous Mitigation Strategies and Actions

The Town of Simsbury reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 24-3: Status of Previous Mitigation Strategies and Actions, Simsbury

No.	Action	Notes	Status
5	For the area of Riverside Road near Drake Hill Bridge, address the riverbank, as the road is at risk of slumping due to erosion.	Town staff said that a large section of Riverside Rd had sunk down a few years ago and now they survey it quarterly. Haven't seen movement since then but as the river floods, there might be more erosion. Revise to explore the options to address the Riverbank along Riverside road. No intersecting roads are involved. Perhaps this would be a good site for a Resilient CT Phase III project, as there seems to be a clear need for a consultant study?	Carry Forward with Revision
1	For the area of Riverside Road near Drake Hill Bridge, monitor for opportunities to justify the CLOMR/LOMR process and environmental permitting, as part of efforts to raise the road.	Town staff said that a section of the roadway experiences flooding and limits access inside and outside of town. People still have route 10 but that increases traffic in that area which can be an issue. The flooding isn't deep but still of concern, as the town never wants to encourage anyone to drive into floodwaters even if they are shallow. Town did a preliminary study but did not continue the project due to a lack of funding. Town would like to keep this action in case grant funding becomes available.	Carry Forward
20	Work with homeowners and Eversource to floodproof or elevate power grid features (connection points, meters, and circuit breakers) in the Riverside Road area so that power can remain on during flood events.	Town staff said that they have not known of any issues with power grid features during flooding evets. The houses in the area have the meters located high enough on the side of the houses that this is not a problem. Some basements flood so there might be an issue with any meters located in basements. Town would like to carry this forward with revisions to reflect the basement concern.	Carry forward with Revisions
6	Upgrade Culverts on Riverside Road, West of the Riverside Road and East Weatogue Street Intersection	Town staff said one culvert has been upgraded: the culvert near East Weatogue St was replaced in-kind and the town also put a flap-gate valve on it. Two more culverts need upgrades on Riverside Rd. Town staff would like to know if Flap-gates are funded by FEMA / if this is considered an upgrade even if the size of the culvert is not increased. One of the concerns here is preventing backflow into the residential neighborhoods (hence the flap-gate valve), so increasing the flow of water through the culverts is not what the town is trying to do.	Carry Forward with Revisions.
12	Initiate design and grant application work for elevation of Route 315.	Town staff said this has not happened but is still of interest to town.	Carry Forward

No.	Action	Notes	Status
13	Complete a study exploring the feasibility and effectiveness of raising both Route 185 and East Weatogue Street in the area where they intersect.	Town staff said that this has not been done but would be a big benefit to the region. After Irene, Route 44 was the only way in and out of the region or people had to travel to Farmington, Route 6. This is a major regional artery and the increase in population in the region is increasing the pressure on this need. Perhaps this would be a good site for a Resilient CT Phase III project, due to the regional corridor?	Carry Forward
15	Upgrade culverts associated with Stratton Brook on Town Forest and Stratton Brook Roads	Town staff said this has not been completed but is still a priority.	Carry Forward
18	Complete replacement with bridges of culverts associated with Bissell Brook on Firetown Road.	Town staff said nothing has been done but is still a direction the town would like to go.	Carry Forward
7	Coordinate with CTDOT to Upgrade Culverts along Route 189 at the Intersection of Elm Street	Town staff said this was temporarily improved and the town hasn't had this problem since. It's a DOT system. A couple of residential homes are impacted by this so the town would like to carry this forward to continue to work with DOT.	Carry Forward with Revisions to note the concern for the residential houses
19	Acquire parcels with development potential that could worsen flood risk if developed, and preserve as open space.	Town staff believe this is referring to acquiring an existing property on Nod Rd. Town staff said they received a grant a couple years back to acquire property along the River but the grant didn't cover all the costs and the grant administration was difficult and costly. The town is unlikely to acquire these properties because of the problems they have had with this grant program.	Retire as there is no longer a need.
2	Update flood damage prevention regulations to address Increased Cost of Compliance, allowing residents to access those funds.	Town staff said there have been no updates to the regulations but would like to keep this in.	Carry Forward
23	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff said they have RLP. This action should be carried forward.	Carry Forward
24	Work with CT DEEP to complete a formal validation of the Repetitive Loss list and update the mitigation status of each listed property.	Town staff said they don't think this has been done and the staff member that might have done it has left the town.	Carry Forward

No.	Action	Notes	Status
10	Complete an analysis of costs and benefits of joining the FEMA Community Rating System.	Town staff said nothing has been done but this is still of interest	Carry Forward
11	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they are participating in courses. This is a capability.	Complete/ Retire
27	Evaluate the costs and benefits of constructing a fuel cell at the Simsbury High School	Town staff said this evaluation was done. They completed the evaluation study but ultimately decided not to construct the fuel cell.	Complete/ Retire
16	Evaluate the Dike around the Water Pollution Control Facility to determine whether improvements are necessary.	Town staff said this evaluation was done. It is necessary to look at again once the new FEMA modeling and mapping is finalized along Farmington River. Town staff are not optimistic about having an action related to this, since they previously applied for a BRIC grant for this but the application was not approved.	Complete/ Retire (or revise to reflect that more will need to be done post-FEMA models?)
14	Conduct a wildfire vulnerability and needs assessment to guide construction of fire roads through larger open space parcels and of additional dry hydrants and/or cisterns.	Town staff said they have not done this but would like it carried forward.	Carry Forward
17	Construct additional dry hydrants and/or cisterns in wildfire-prone areas not served by public water.	Town staff said that this is an ongoing program. They have some in fire prone areas but would like more. They would like to keep this action in case funding becomes available.	Complete but Carry Forward
21	Approve a new Drought Ordinance.	Town staff said this was done about 3-4 years ago.	Complete/ Retire
25	Assess tree maintenance practices to identify opportunities for improvement.	Town staff said this is done. Town increased tree maintenance budget significantly over the past 5 years. This is a capability.	Capability/ Retire
4	Codify storm water design guidelines derived from the study of impervious cover into zoning, subdivision, and highway regulations.	Town staff said this is ongoing but would like to keep it on.	Carry Forward with a revision to a specific action
9	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 compliance.	Town staff said they are compliant with MS4.	Complete/ Retire

No.	Action	Notes	Status
22	Coordinate with SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	Combine with action 26	Carry Forward with Revisions
26	Coordinate with SHPO to conduct historic resource surveys, focusing on areas within hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by SHPO.	CIRCA suggested to revise this action to acquire and review SHPO layer. Town staff suggested the new action should be to incorporate that SHPO layer into the town's GIS files. Combine with action 22.	Carry Forward with Revisions
8	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.	Town staff said they would like to keep this action in and revise to incorporate new DEEP training.	Carry Forward with Revisions
3	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff said they have done this. Town is silver certified.	Complete/ Retire

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.

Table 24-4: Active Mitigation Strategies and Actions, Simsbury

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SB1	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
SB2	Explore options to address the Riverbank along Riverside road as the road is at risk of slumping due to erosion	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$500,000 - $1M	DCRF; FEMA HMA	07/2024 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76
SB3	For the area of Riverside Road near Drake Hill Bridge, monitor for opportunities to justify the CLOMR/LOMR process and environmental permitting, as part of efforts to raise the road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$500,000 - $1M	DCRF; FEMA HMA; Municipal Operating Budget; Municipal CIP Budget	07/2024 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76
SB4	Work with homeowners and Eversource to floodproof or elevate power grid features such as meters in residents basements in the Riverside Road	Reduce losses from other hazards.	Prevention	Emergency Management	$0- $10,000	Municipal Operating Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	8	152

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	area to ensure power supply during floods.												
SB5	Upgrade two culverts on Riverside Road, and installing flap-gates to prevent backflow into residential neighborhoods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
SB6	Initiate design and grant application work for elevation of Route 315.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	DCRF; FEMA HMA	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
SB7	Complete a study exploring the feasibility and effectiveness of raising both Route 185 and East Weatogue Street in the area where they intersect.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114
SB8	Upgrade culverts associated with Stratton Brook on Town Forest and Stratton Brook Roads	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SB9	Complete replacement with bridges of culverts associated with Bissell Brook on Firetown Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
SB10	Obtain more 6 inch dry-prime pumps	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	Municipal CIP Budget; STEAP	07/2024 - 06/2025	Medium	Riverine and Pluvial Floods	No	18	6	108
SB11	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SB12	Coordinate with CTDOT to Upgrade Culverts along Route 189 at the Intersection of Elm Street, addressing their impact on several residential homes.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	CT DOT; IIJA AOP	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
SB13	Update flood damage prevention regulations to address Increased Cost of	Reduce flood and erosion risks by reducing	Property Protection	Planning	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and	No	19	14	266

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Compliance, allowing residents to access those funds.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods				
SB14	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
SB15	Work with CT DEEP to complete a formal validation of the Repetitive Loss list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	5	95
SB16	Complete an analysis of costs and benefits of joining the FEMA Community Rating System.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
SB17	Evaluate the Dike around the Water Pollution Control Facility using the 2023 FEMA maps revisions to determine whether improvements are necessary.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even	Structural Project	Public Works	$50,000 - $100,000	CWSRF; FEMA HMA	07/2025 - 06/2026	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
		as climate change increases frequency and severity of floods.											
SB18	Complete the storm water design guidelines derived from the study of impervious cover into zoning, subdivision, and highway regulations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	Municipal Operating Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	10	190
SB19	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
SB20	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
SB21	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0- $10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
SB22	Conduct a wildfire vulnerability and needs assessment to guide construction of fire roads through larger open space parcels and of additional dry hydrants and/or cisterns.	Reduce losses from other hazards.	Prevention	Fire Department	$10,000 - $50,000	DCRF; FEMA HMA; Municipal Operating Budget	07/2025 - 06/2026	Medium	Wildfires	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SB23	Construct additional dry hydrants and/or cisterns in wildfire-prone areas not served by public water.	Reduce losses from other hazards.	Preparedness & Emergency Response	Fire Department	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	High	Wildfires	No	18	7	126
SB24	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
SB25	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 and/or watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Medium	Riverine and Pluvial Floods	No	17	7	119
SB26	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 26-3: CIRCA Environmental Justice Rank and Critical Facilities, Simsbury

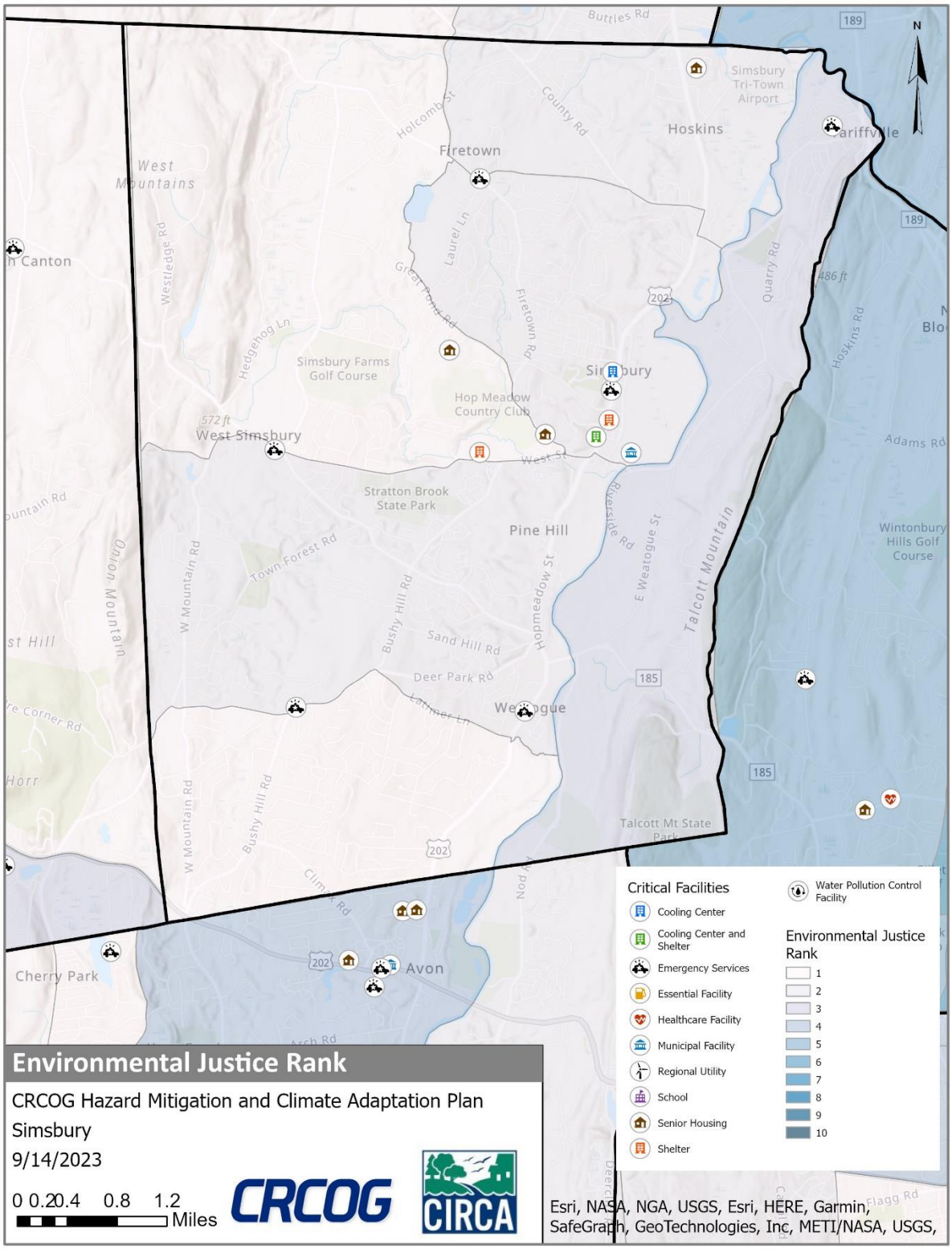


Figure 26-2: FEMA Flood Zones and Critical Facilities, Simsbury

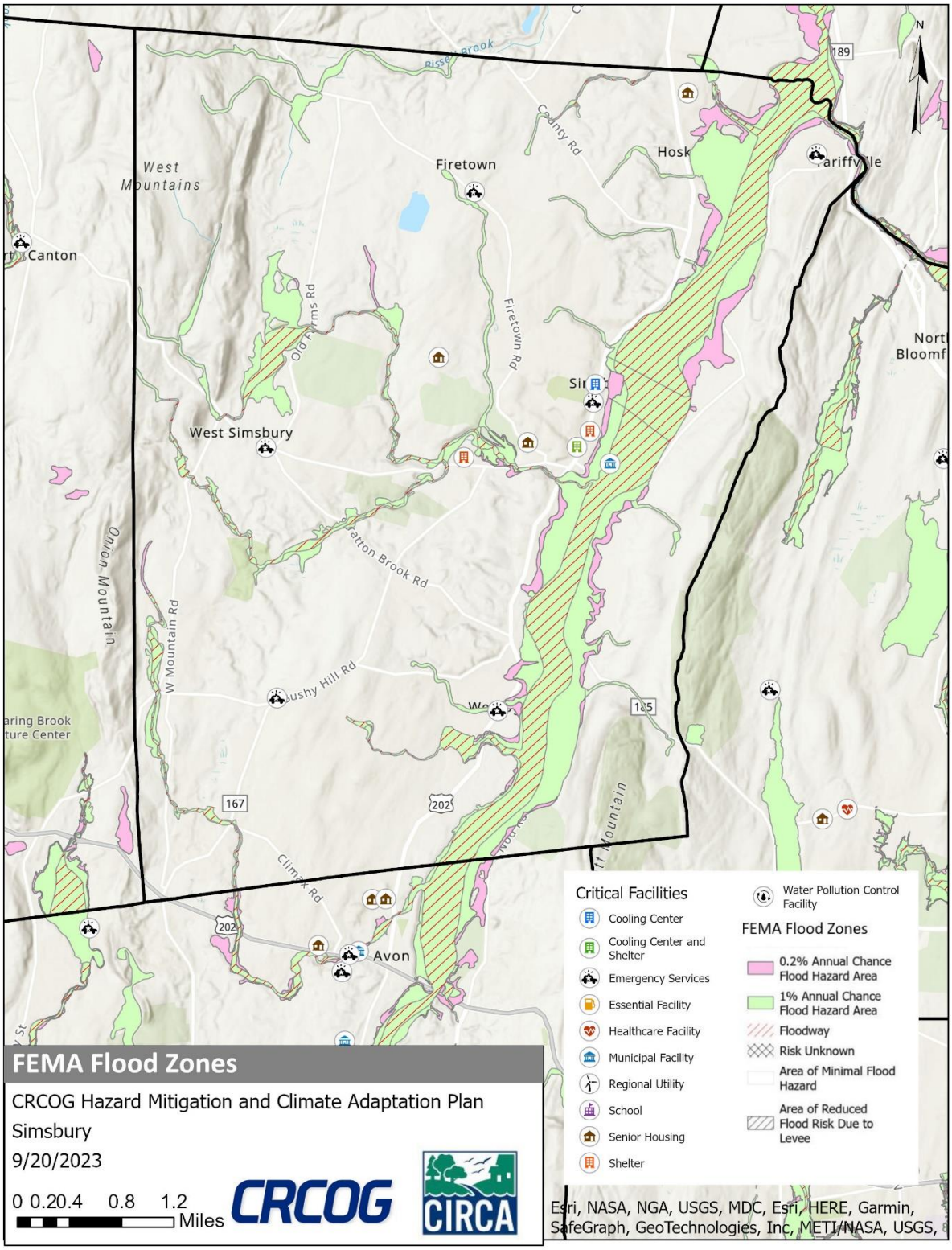


Figure 26-3: CIRCA Flood CCVI and Critical Facilities, Simsbury

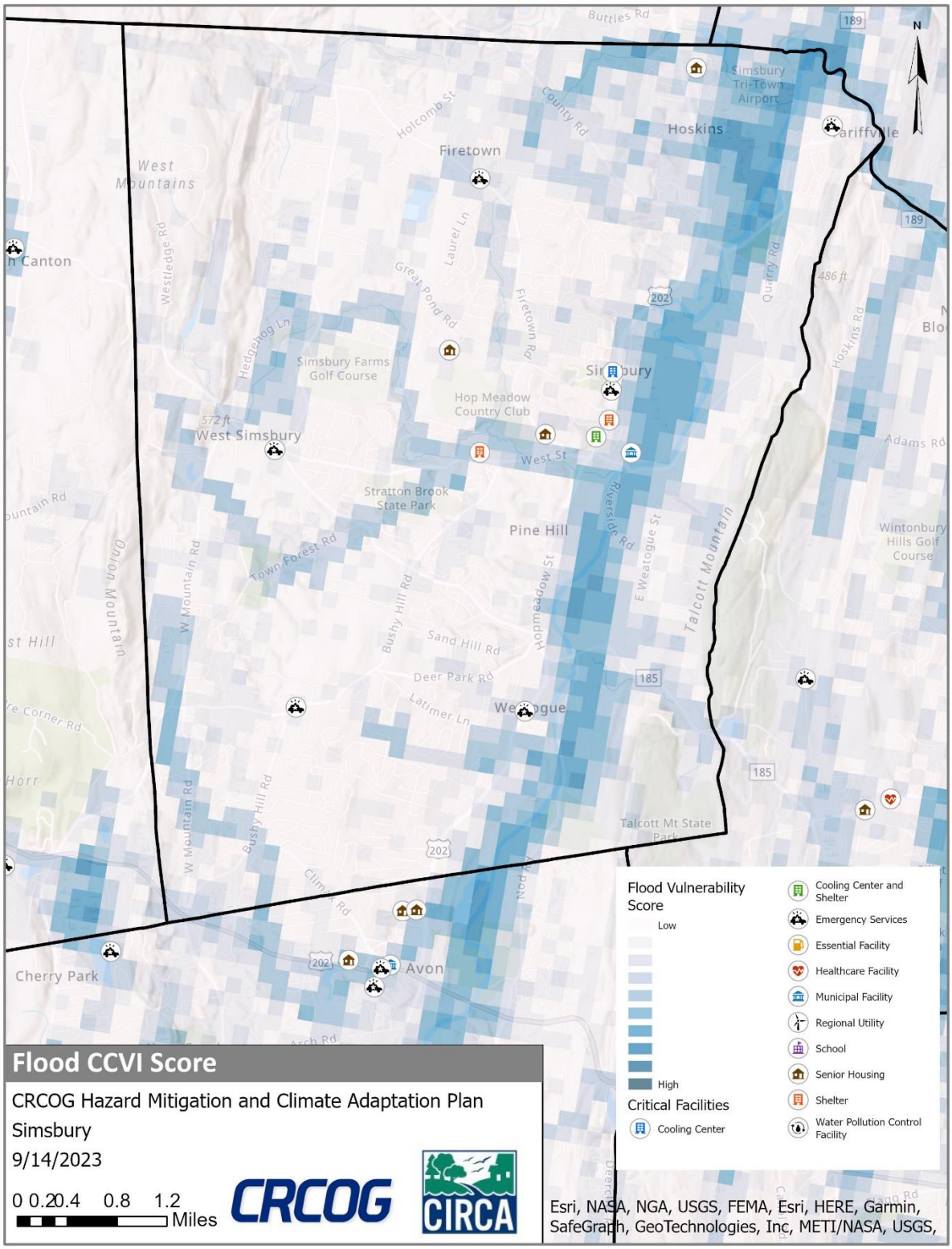


Figure 26-4: Dam Inundation Area and Critical Facilities, Simsbury

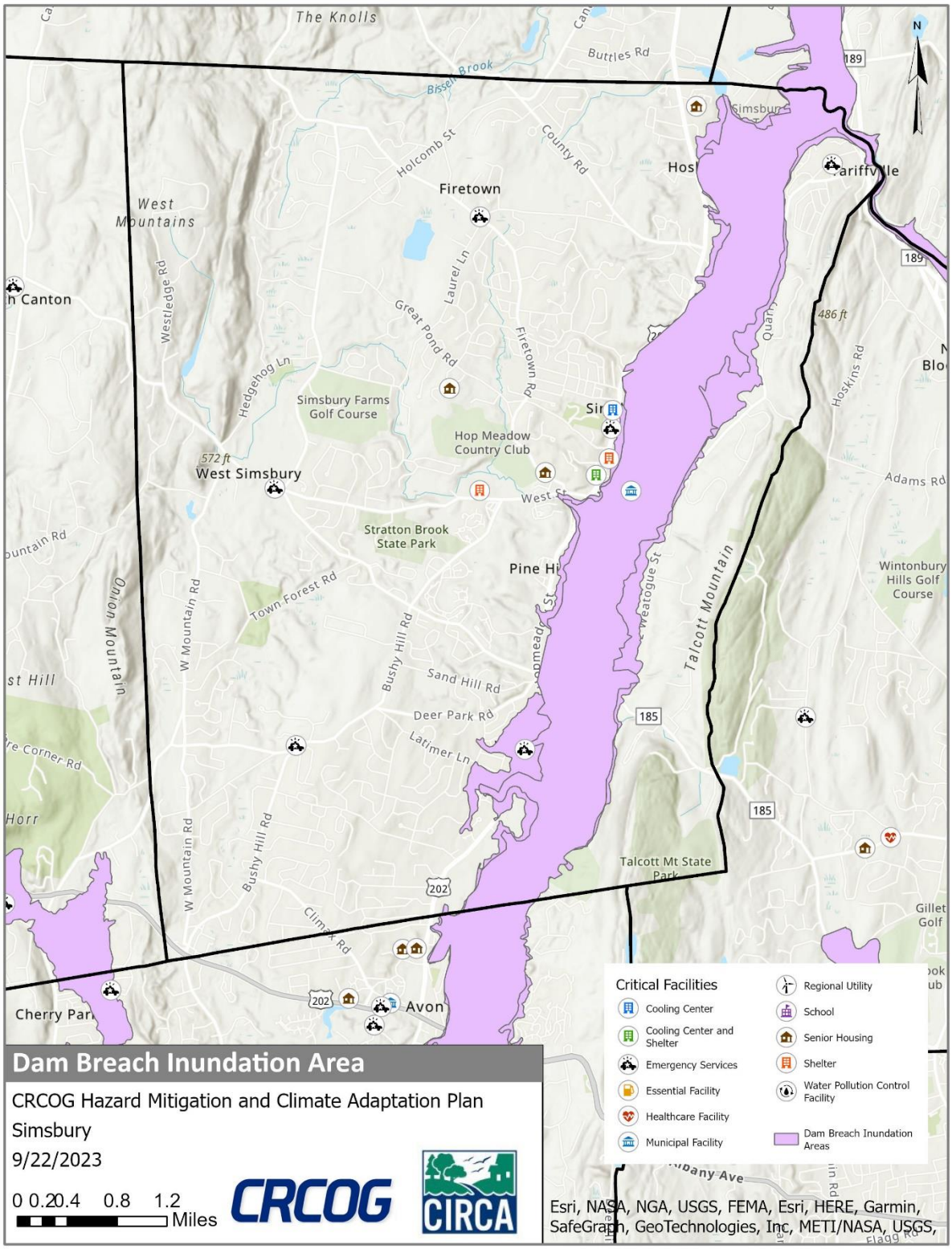
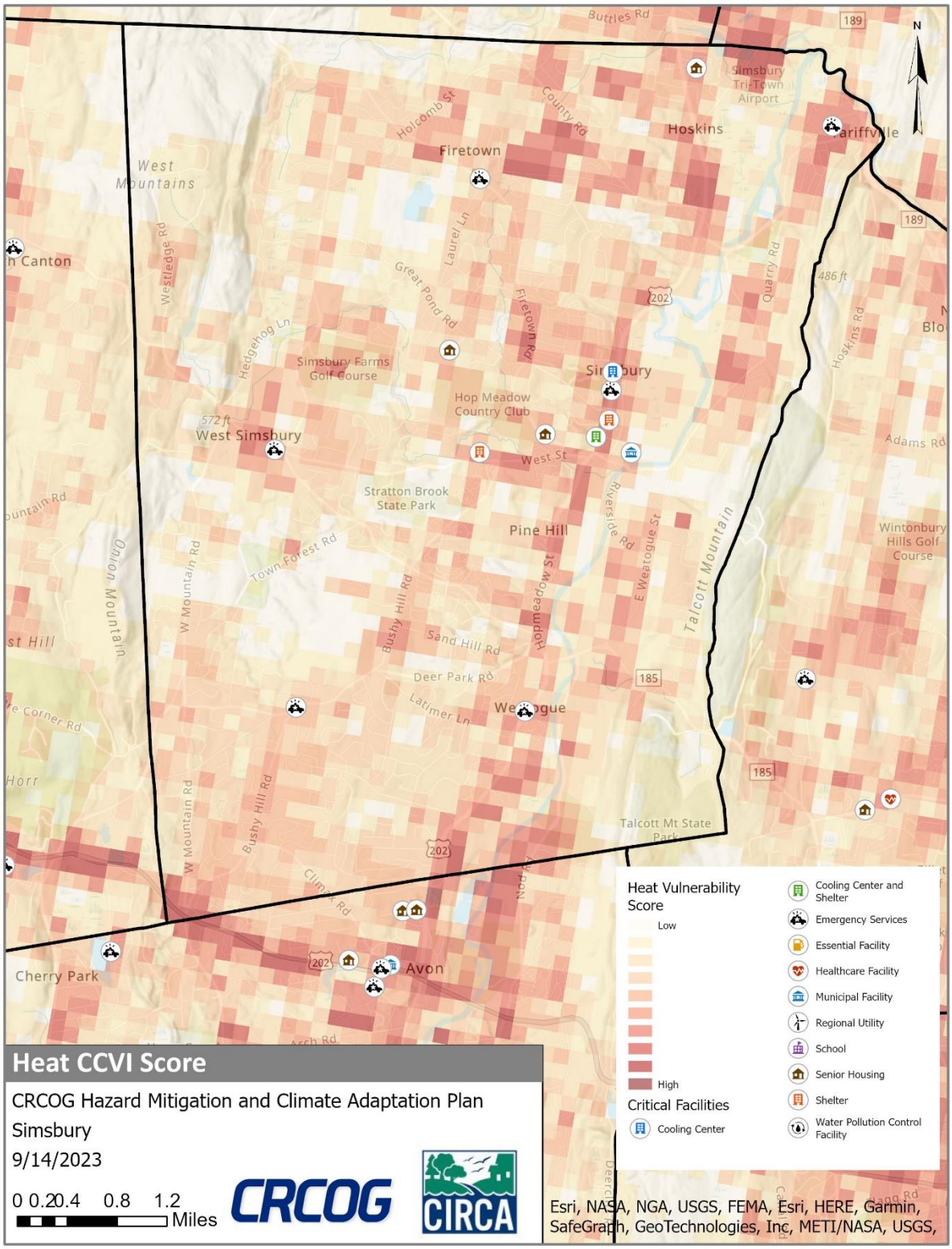


Figure 26-5: CIRCA Heat CCVI and Critical Facilities, Simsbury



27 Somers

Community Overview

The rural town of Somers has a population of over 10,255 (2020 Census), and covers a land area of 28.3 square miles. Elevation ranges from about 250 feet on the western side of town to over 900 feet in the hills on the eastern side. Somers lies in the Scantic River Watershed. Its major watercourses include the Scantic River and Abbey, Gillette, Gulf, Shady, Thrasher, Watchaug and Wrights Brooks, and Woods Stream. The main transportation routes through Town are north-south state routes 83 and 186, and east-west route 190. Somers hosts the State of Connecticut's Osborn, Cybulski, and Northern Correctional Facilities. Principal industries are agriculture and diversified industry. The largest employers are the state penitentiaries and Growers Direct, which has over 70 acres of greenhouses in town. Somers is also home to several tobacco farms, a handful of retail establishments, and a large horse farm. Somers also contains Sonny's Place, an amusement park and concert venue, and portions of the Shenipsit State Forest.

Somers is experiencing growth and development, including a new development on Eleanor Rd, a gas station, greenhouse facilities at Growers Direct Farms, expanding tobacco farming, and an amusement Park that expanded their parking lot by dredging out a swale to retain more water, a floodplain management action. In addition, an old mill site in Somerville is being redeveloped into 80-100 apartment units. The mill was originally partly in the river, but after the mill was removed, the FEMA map was revised. The proposal is for residential units, but the units will be outside the FEMA flood zone because of the map revision and the position of the building relative to the river.

Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Somers critical facilities include the Somers Firehouse, Public Works, Police Station, Kibbe Fuller Community Center, Senior Center, Somers High School, Mabelle B. Avery Middle School, Somers Elementary School, Sewer Plant, Town Hall, Woodcrest Senior Housing, multiple group homes, the Library, Speech Academy, three large State Penitentiaries, Geissler's Supermarket, three gas stations, and Soapstone Mountain Tower Site.

Table 27-1: Critical Facilities, Somers

Facility	Shelter	Cooling Center	Generator
Firehouse (EOC)			Yes
Public Works			Partial
Police Station			Yes
Kibbe Fuller Community Center (EOC)			Yes
Senior Center		X	Unknown
Somers High School	X		Yes
Mabelle B. Avery Middle School			Minimal
Somers Elementary School			Minimal
Sewer Plant			Yes
Town Hall		X	Yes
Woodcrest Senior Housing			Minimal
Group Homes (multiple)			

Facility	Shelter	Cooling Center	Generator
Library			
Speech Academy			
3 Large State Penitentiaries			Yes
Johnson Memorial Hospital in Stafford			Yes
Geissler's Supermarket			Yes
3 gas stations			
Soapstone Mountain Tower Site			

During extreme heat events, Somers Senior Center and Somers Town Hall can both be opened as public cooling centers. Generators for these facilities may be needed.

The Somers Fire Department is the Town EOC. The Town shelter is the Somers High School.

In the event of an active shooter, the library is the command post.

The three large state penitentiaries, run by the state, have altogether about 3,000 prisoners and 300 staff on duty. They have their own water treatment plant, but Somers Fire and EMS respond to prison needs.

An important State and Federal communications tower is located on the peak of Soapstone Mountain and is considered by the Town to be a major critical facility. The facility is located within a State park, but the road is maintained by the Town. It is not normally cleared in the winter, but is plowed by the Town in cases of emergency.

There is no hospital in Somers, but Johnson Memorial Hospital, just over the border in Stafford, is the primary hospital used by residents, and the Town considers it a critical facility.

Capabilities

Hazard mitigation is incorporated into the Somers Plan of Conservation and Development (POCD). The Hazard Mitigation Plan (HMP) document itself is cited. POCD actions specifically address natural hazards.

No new development or demolition in floodplains has occurred since 2008. A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Somers it will cover, is unknown.

The Somers DPW has the capacity to remove tree debris, and contracts out tree trimming and removal. Additionally, the Town has reported a positive relationship with the regional electricity provider, Eversource.

Somers has two primary solar farms, with plans for more; additionally, many Town buildings (including the Police and Fire Departments, the Elementary School, and the Public Works building) have solar panels on their roofs. There is some potential for development of microgrid systems utilizing these power sources.

Somers participates with Tolland County Mutual Aid (TN), which includes 25 agencies and covers both fire and EMS services.

The Town has a robust GIS system to assist with planning, and has a Community Emergency Response Team (CERT).

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Include in permitting requirements a review of potential impacts, based on the FMS, of proposed development and town projects.
- Educate residents on personal disaster safety and supply kits, through the Town website and social media.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Expand emergency communication and notification methods to a variety of media, including radio, television, social media, the Town's low-power FM transmitter (WDJW), and the Town Website.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted in 2019.

Challenges

Challenges Overview

One of the primary concerns for Somers officials revolves around tree damage and power outages, particularly the risk of power grid failure resulting from downed wires caused by tree debris during storms. Town staff is urging the trimming of dead trees, advocating for more extensive tree trimming efforts by Eversource, and seeking increased funding within the town for tree removal. While a comprehensive forestry plan is not deemed necessary by town staff, they would prefer to secure funding from FEMA or the state for tree removal. Currently, the town allocates $50,000 annually but has been spending $90,000 per year for these purposes. The town does not own its own equipment but collaborates with a local contractor. The town reported a small tornado over the past five years that cause tree damage as well.

Flooding is a significant concern for the Town of Somers. Town staff report flooding on Battle Street to be a concern. In addition, during the aftermath of Ida, Watchaug Road was washed out, but it was subsequently repaired with the replacement of culverts. However, Watchaug Road has a private airstrip that continues to flood often. Town staff reported that the Turnpike Road also received flood-related improvements a few years ago. Furthermore, Durkee Road, which experiences continuous flooding due to the presence of the Scantic River, has been addressed by the town. Despite the limited number of houses on this road, the town has lowered, paved it and reinforced its edges and banks. When Durkee Road is inundated, the town temporarily closes it to traffic until the water subsides. Additionally, Gulf Road faced issues near the Connecticut Water Company tank due to an undersized culvert under the access road, leading to a washout caused by debris accumulation. In addition, Gulf Stream erodes Golf Rd. and as a result, there are some residential houses that have severe erosion. Some houses have only 15-20 ft remaining (laterally) before their back yards start to erode.

Town staff mentioned that they recently had a frost that wiped out the fruit growers' crops. Town officials are concerned that this issue will continue to increase in coming years.

Town staff mentioned Woodcrest which is an a privately owned-apartment complex that has vulnerable populations, as they tend to be more elderly. They have a generator but it does not supply power to the whole facility.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Somers. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 27-2: Average Annualized Losses, Somers

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$26,353.59
	NRI	$662,792.03
	FEMA PA	$5,483.85
Tornados/High Winds	NCEI	$9,866.30
	NRI	$107,746.19
Winter Storms	NCEI	$7,815.88
	NRI	$54,556.86
	FEMA PA	$8,543.09
Flood	NCEI	$7,988.15
	NRI	$57,946.63
	NFIP	$4,868.25
Drought	NRI	$282,011.12
	USDA	$108,533.53
Extreme Heat	NRI	$2,158.18
Wildfire	NRI	$3,688.38
Earthquakes	NRI	$20,090.95
Dam Failure	HMP	$703.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Somers 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted.

- Providing back-up power to critical facilities such as Public Works Building and Library.
- A tree management plan should be considered for the town of Somers to deal with dead/dying trees and resulting power outages during storm events.
- Install additional dry hydrants as needed.
- Conduct a design and implement drainage on Battle St.
- Conduct an assessment of vulnerable populations within town and ensure that the town has the resources and capacity to shelter if needed.
- Additional fire hydrants are needed and planned for Mountain Road and other areas of town.

Status of Previous Mitigation Strategies and Actions

The Town of Somers reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Somers

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff believe the town at one point was interested and/or involved in SCT but haven't updated their application in a while. Open space and agriculture are about half of the town and more important to focus on. CIRCA can check on and Somers is not part of SCT.	Complete/ Retire
2	Install one additional needed dry hydrant.	Town staff said hydrants were installed or will be installed King Road and Watchaug Rd Revise to say add additional fire hydrants.	Carry Forward with Revisions
3	Acquire generators for Town Hall, Public Works, and Senior Center.	Town staff said that generators are located at town hall and the senior center. Public works has one but it won't run the entire building. Library does not have one. Could revise to include generators for Public Works and the library. Schools could also use the generators. In the event of an active shooter, the library is the command post.	Carry Forward with Revisions
4	Hire a consultant to assist with implementation of the Somers Floodplain Management Study by prioritizing culvert improvements and obtaining necessary permits.	Town of Somers will look into this because they are not sure where this study is referring to. Could be on Maple Street where there was a study by Milone and MacBroom. There is a bridge repair that will come out of the study. Town staff will need to check on this but likely revise to say complete the project.	Carry Forward with Revisions
5	Improve drainage system on Battle Street.	Town staff believe that this was not completed and may still be needed. Part of a study was done a few years back, but the drainage system improvement hasn't been completed. Change the language to say "Conduct a design and implement". Town staff will check on the status of this.	Carry Forward with Revisions
6	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.	Attendees do not believe many businesses are in areas of risk, but they said that there is always a chance of chemical release potential at the sewer treatment plant, and therefore the sewer plant is what needs to be focused on rather than small businesses. This can be dropped.	No Longer Needed/Retire
7	Include in permitting requirements a review of potential impacts, based on the FMS, of proposed development and town projects.	Town staff are already doing this. Looking at wetland impacts, zoning, impervious surfaces. Different town disciplines review applications that come in.	Capability/ Retire

No.	Action	Notes	Status
8	Educate residents on personal disaster safety and supply kits, through the Town website and social media.	Town staff said the Town aCERT team does this.	Capability/ Retire
9	Establish an ordinance requiring generators for new special needs housing developments.	Town does not have an ordinance that they are aware of. Town will work with group homes case by case to discuss if they need stand by power, and would advise group homes to get one if prudent. The town staff doesn't see any group homes moving in and this is no longer needed.	No Longer Needed/R etire
10	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.	Town staff said they are a part of MS4 and are active with MS4 compliance and reporting. They need funding and not technical assistance. No longer needed. CIRCA Staff suggested we put in actions about projects that the Town of Somers can get money for.	No longer needed/ Complete
11	Make information about available assistance for property acquisition or relocation available at Town Hall and on the Town website.	Town staff said the CERT team does not do this, but they also do not believe it is a needed action at this time. Can take this off.	No Longer Needed/R etire
12	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff participants in FEMA, Department of Homeland Security trainings and courses.	Capability/ Retire
13	Conduct an outreach campaign informing residents of the Community Emergency Response Team (CERT) and encouraging public participation.	Complete.	Complete/ Retire
14	Expand emergency communication and notification methods to a variety of media, including radio, television, social media, and the Town Website.	Town staff said they have their own Everbridge subscription, update the website continuously, and are active with social media updates. This is a capacity and can be removed	Capability/ Remove
15	Designate a secondary shelter (most likely the Senior Center, if sufficient backup generators are installed)	No Longer Needed. See critical facilities below.	No Longer needed/R etire
16	Work with CT DEEP to improve the Camp Road dam.	Town staff said this is In Progress. They had the dam inspected 2.5 years ago. Working with Fuss and O'Neill for a design. Change to "Implementation of design"	Carry Forward with Revisions
17	Complete an analysis of costs and benefits of joining the FEMA Community Rating System.	Very few flood insurance policies are active in Somers, that this can be removed.	No Longer Needed/R emove

No.	Action	Notes	Status
18	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	The town does not have a historic district but have a few historic buildings which aren't in flood zones. The town doesn't feel like there are other parts of the town need to be surveyed for historic buildings. CIRCA can check to see if historic buildings are on the National Register/SHPO layer. None of the buildings in Somerville are likely historic buildings since they have been under renovations in the past. CIRCA Staff suggested that "Use SHPO GIS point data and overlay with FEMA Flood Zones to see risk areas".	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.

Table 27-4: Active Mitigation Strategies and Actions, Somers

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SO1	Acquire generators for Public Works, Elementary school, middle school and Library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
SO2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
SO3	Complete the design phase and bridge repair on Maple Street based on the study conducted by Milone and MacBroom.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
SO4	Conduct a design and Implement a drainage system on Battle Street.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SO5	Initiate a comprehensive assessment and action plan for addressing flooding issues on Battle Street	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$10,000 - $50,000	DCRF; FEMA HMA; Municipal Operating Budget	07/2026 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SO6	Implement design and repairs to Hurds Lake Dam.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	High	Dam Failure	No	19	4	76
SO7	Allocate additional funding in the municipal budget for tree management activities.	Reduce losses from other hazards.	Natural Resources Protection	Planning	$0- $10,000	Municipal Operating Budget	01/2026 - 12/2026	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	18	7	126
SO8	Install additional dry hydrants as needed including Mountain Road.	Reduce losses from other hazards.	Preparedness & Emergency Response	Fire Department	$0- $10,000	Municipal Operating Budget	07/2024 - 06/2025	High	Wildfires	No	18	7	126
SO9	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
SO10	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
SO11	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SO12	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
SO13	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
SO14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 27-1: CIRCA Environmental Justice Rank and Critical Facilities, Somers

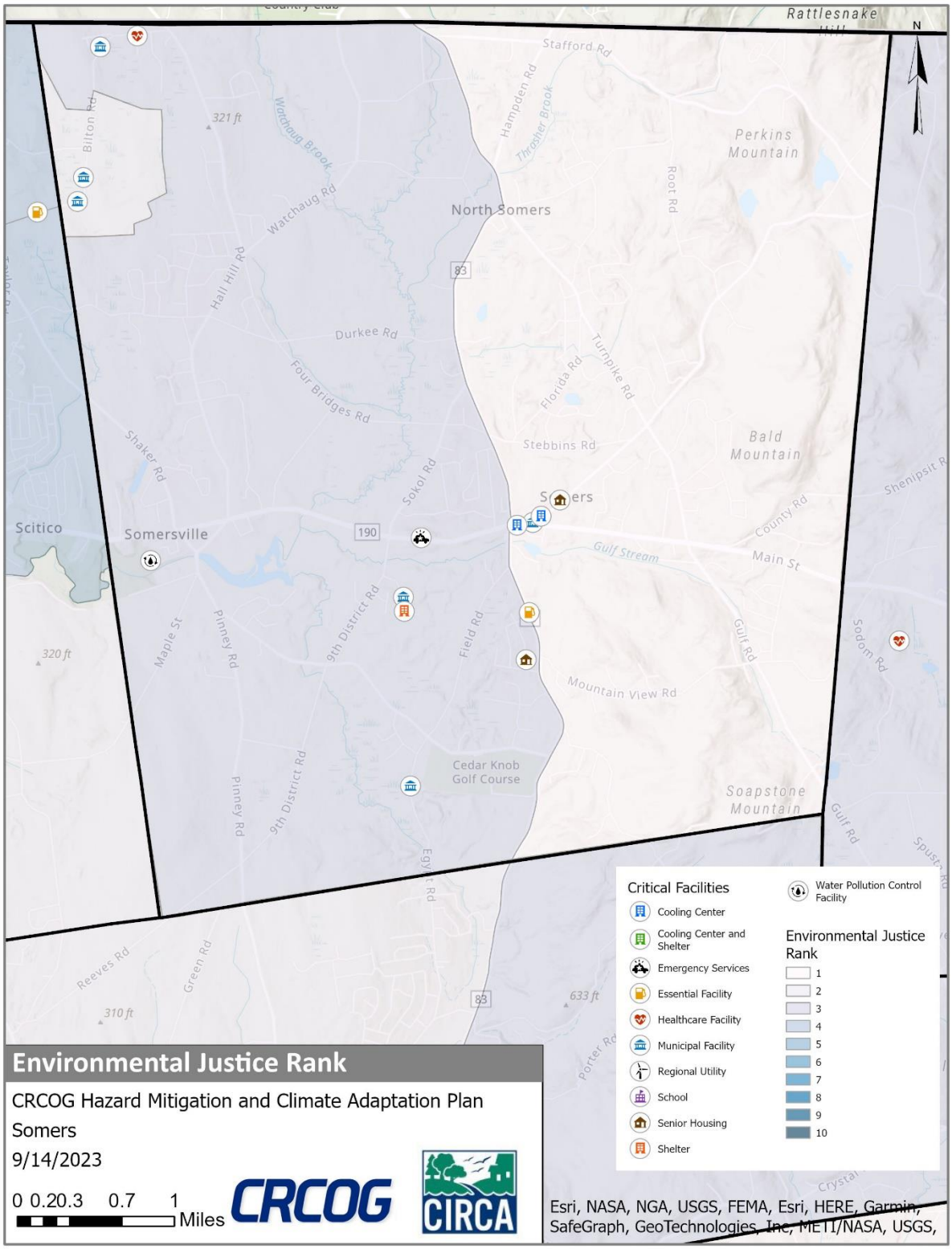


Figure 27-2: FEMA Flood Zones and Critical Facilities, Somers

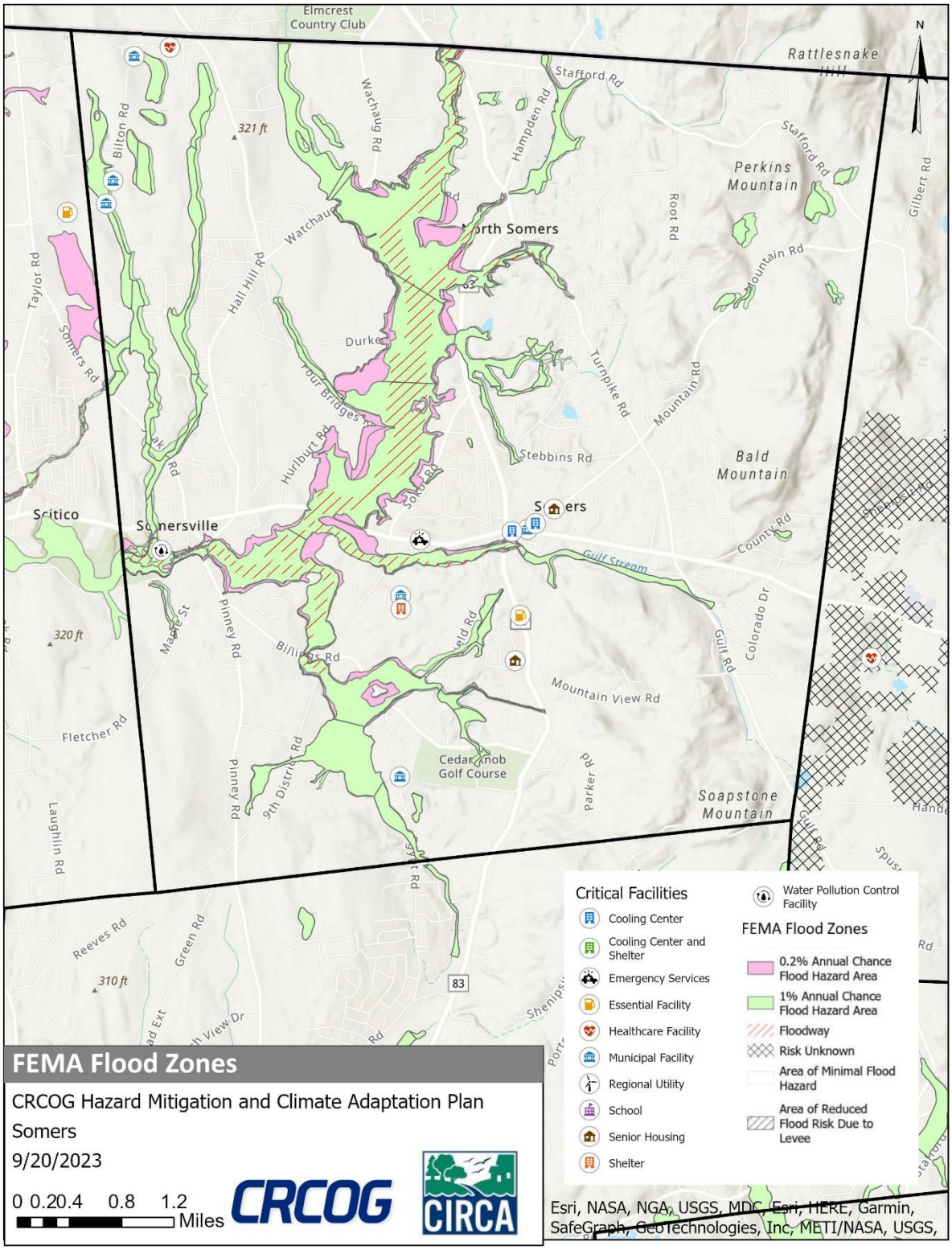


Figure 27-3: CIRCA Flood CCVI and Critical Facilities, Somers

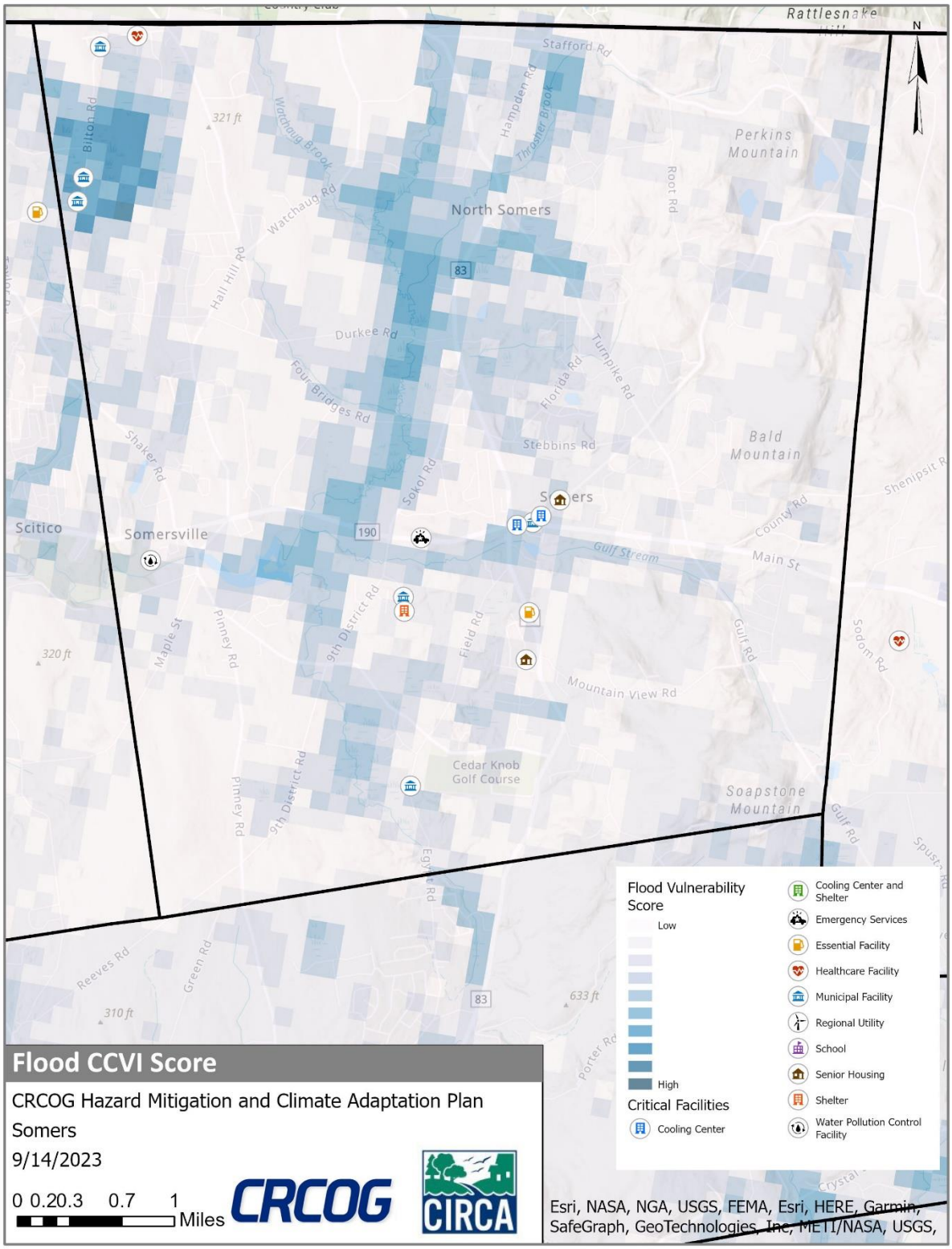
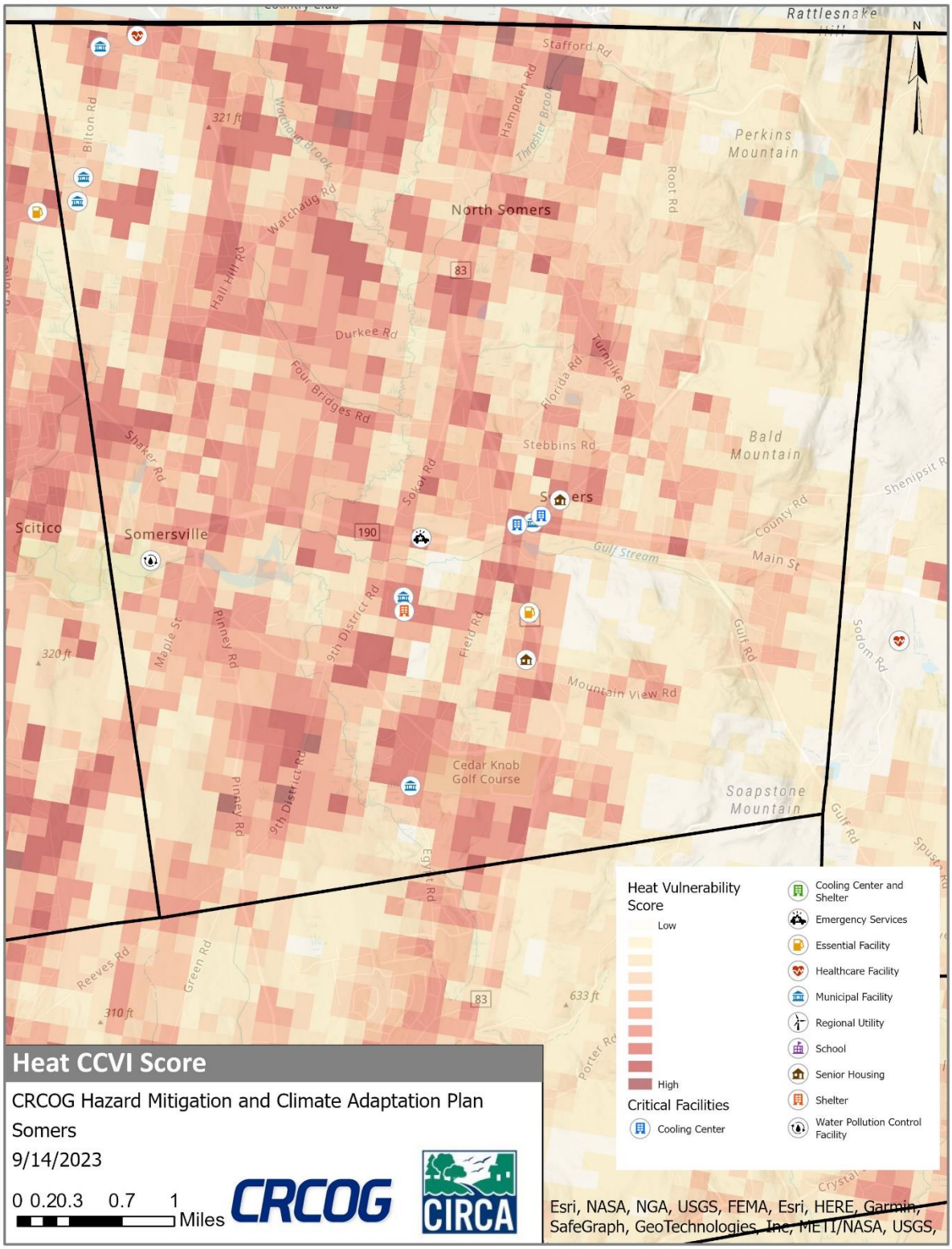


Figure 27-5: CIRCA Heat CCVI and Critical Facilities, Somers



28 South Windsor

Community Overview

South Windsor is a suburban community that encompasses roughly 28.5 square miles with a population of about 26,918 (2020 Census). The Town drains into three main watercourses: the mainstem of the Connecticut River in the west, the Scantic River in the north, and the Hockanum River to the east. Other major watercourses include the Podunk and Scantic Rivers and Averys, Bancroft, Dry, Newberry and Waples Brooks. Interstate 291 travels through the southwestern corner of Town; other major transportation routes include state routes 5, 30, 74 and 194. Principal industries include food distribution, fuel cell power plants, and machine and equipment design and manufacture. South Windsor also has significant retail development in the southeast corner of town, around the Buckland Hills regional mall and the Shops at Evergreen Walk.

The town has seen some development emerge in the past 5 years but does not allow new development in the FEMA floodplain, and are not aware of any particularly vulnerable developments. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In South Windsor critical facilities include Recreation / Public Buildings Maintenance Headquarters, the High School (primary shelter), Capitol Region Education Council School, Town Hall, Police Department, Library, Town Garage, Emergency Operations Center (EOC), Old Orchard Hill School, Community Center, New Orchard Hill and four (4) Elementary Schools.

Table 27-2: Critical Facilities, South Windsor

Facility	Shelter	Cooling Center	Generator
Recreation / Public Buildings Maintenance Headquarters			X
High School	Primary		X
Capitol Region Education Council School			X
Town Hall			X
Police Department			X
Fire Department			X
EOC			X
Library	Charging Center		
Town Garage			X
Old Orchard Hill School			
Community Center	Secondary	X	X
New Orchard Hill Elementary School			X
Philip R Smith Elementary School			X
Eli Terry Elementary School			X
Pleasant Valley School			X
Timothy Edwards Middle School			
Waste Water Treatment Facility			X
Eleven (11) Waste Water Pump Stations			X

During extreme heat events, the Charles N. Enes Community Center can be opened as a public cooling center. This facility has a generator and is used as a shelter in town.

In 2016 the Town completed renovations on a state-of-the art EOC that can continue operations through most natural hazards (including up to Category 3 Hurricane). The facility has high-speed fiber-optic communication connections to all critical Town offices.

The Town has aggressively pursued installation of emergency generators for critical facilities. Generators have been funded as capital projects. A generator was added to the high school (primary shelter) since the 2014 HMP.

Wapping School ownership is returning back to the BOE, so this will no longer be the shelter that the town originally thought it might become at the time of the last HMP update.

This former Old Orchard Hill School building was converted to a recreation center. This is a possible site for a future shelter, taking over the role that town staff once envisioned for the Wapping School building. However, this facility would still need a generator.

Capabilities

Hazard mitigation is addressed specifically in South Windsor's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards.

The Town of South Windsor, through its Flood Plain Regulations (Sec. 5.2 of the Zoning Regulations, revisions adopted in September 2008) prohibits the construction of structures designed for human habitation within flood zones and specifies construction standards that take into account flooding effects on structures.

South Windsor follows State guidelines to require retention or detention basins built on new developments.

The Town maintains trees along roadways and on Town property. Public Works clears snow from municipal roads using GPS-equipped vehicles. The Town keeps records of winter storm costs every year and uses those to inform future efforts.

The Town's EOP has recently been updated beyond the annual review and maintenance.

The EOC has recently been renovated. All critical data centers in the EOC and the Police Department have redundancies and system back-ups.

Public Works has created a smartphone app called "Connect South Windsor" (powered by PublicStuff.com) that is used to report and track drainage issues, downed trees and power lines, public complaints, etc.

Since the 2014 HMP, three bridges and culverts have been upgraded, and numerous other drainage improvement projects have been implemented. The Town's GIS system has been enhanced, including through mapping and digitizing of stormwater features such as outfalls.

South Windsor has improved its tree maintenance capabilities. The Town has two tree wardens: one for roadways and another for Town property. The tree wardens work closely with Eversource to coordinate trimming efforts. The annual tree maintenance budget has been increased and the Town feels it is

sufficient. South Windsor has a very robust debris management plan that was updated, with new staging and storage sites identified, in 2022.

South Windsor was awarded the Silver Certification level within the SustainableCT program in October 2019.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Improve use of municipal website and social media to educate residents on emergency preparedness.
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding and severe storms are the primary natural hazards of concern of the Town of South Windsor. Severe storms can result in prolonged power outages, disruptions to communications and transportation, and debris management issues. In August of 2020 South Windsor reports that they had many trees down, roads blocked, and power outages for 4-5 days. Eversource has been trimming trees the last 3-4 years and town consults with them.

Forest- and wildland fires are not considered to be a significant concern by the Town; because it is mostly built-out, there are few locations where such a fire could burn. The majority (80-90%) of South Windsor is on public water with hydrants; no additional fire suppression needs are known.

There are 4 dams in town that are owned and maintained by DEEP; none poses a significant threat to the community.

As a result of Henri, South Windsor has three HMP grants to address issues in the following locations:

- A culvert off Chandler Rd washed out.
- Culvert on Sele Dr was in danger of being undermined. This area did not flood but was of concern to the town.
- Spring Pond overflowed and damaged the pool.

Additional culverts that are in poor conditions and are a concern for the town include:

- A culvert on Griffin Rd east of Rye St that is very old and in poor condition.
- Two Culverts on Rye Street. One culvert is failing and if/when that one fails, then the other will be impacted and likely fail.
- Rye St culvert at Griffin Rd.

- Darthill Rd culvert at Vernon Town line.
- Strong Road culvert east of Main St.

Town staff mentioned they are managing their sewer system and looking for grants. Areas in the collection system may be affected by infiltration.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact South Windsor. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 28-2: Average Annualized Losses, South Windsor

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$69,174.65
	NRI	$1,360,003.29
	FEMA PA	$27,080.25
Tornados/High Winds	NCEI	$25,897.72
	NRI	$275,499.46
Winter Storms	NCEI	$20,515.63
	NRI	$17,983.37
	FEMA PA	$18,775.30
Flood	NCEI	$20,967.82
	NRI	$89,586.47
	NFIP	$3,103.13
Drought	NRI	$176,600.93
	USDA	$25,887.33
Extreme Heat	NRI	$30,990.66
Wildfire	NRI	$1,554.17
Earthquakes	NRI	$66,445.43

Hazard	Source	Average Annualized Losses (AAL)
Dam Failure	HMP	$46.00

Other Hazard Costs

Town officials report that South Windsor sustained over $8 million in damages following a large winter storm in 2015.

Losses Summary

A review of the above loss estimates demonstrates that the Town of South Windsor 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- South Windsor should continue their relationship with Eversource to ensure that dead/dying trees are cut and reduce the risk of power outages and blocked roads.
- South Windsor should complete a town wide assessment of the town culverts and prioritize replacing and/or upsizing underperforming/failing culverts.
- Town staff should conduct a town wide bridge assessment.

Status of Previous Mitigation Strategies and Actions

The Town of South Windsor reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, South Windsor

No.	Action	Notes	Status
4	Perform dam assessment of public and private structures including, but not limited to, Avery Heights dam, dam at Lake St., dam at Veteran's Park off Parkview Dr., and Dzen's dam.	Town Staff said that some of these have been completed. Avery Heights Dam - complete Lake St Dam – complete. This dam is on private property and the town does not own it. Veteran's Park Dam – The town has a grant application for HMGP for this dam. The summer 2021 storms caused some flooding that did not breach the Dam, but flooding occurred below the Dam. Dzen's Dam – the dam by Mill Rd. Town has not done any assessment of this dam, and attendees do not believe this dam is of concern. Town does not own this dam or the embankment. The town has an access road and has an easement to maintain the dam. Revise this to take out the completed Dam projects and DZen project which the town isn't interested in doing and move forward with the Veteran's Park Dam project.	Carry forward with Revisions
12	Develop and prioritize recommended actions based on dam assessment, and work with property owners to implement.	Attendees reported that recommended actions have been developed for Veteran's Park Dam and all the dams that they believe necessary.	Complete/ Retire
3	Update Open Space Plan in 2020.	Town staff reported that the POCD was completed about a month ago, and that the POCD includes an open space plan.	Complete/ Retire
13	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff did not believe that they had any RLP. CIRCA told staff they have one residential and one non-residential RLP and this action should stay in their list.	Carry Forward
15	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Town staff are not aware of any properties that are RLP. The town will work with DEEP/CRCOG to get the property information so they have the RLP on file.	Carry Forward

No.	Action	Notes	Status
1	Acquire generator for Wapping Elementary School to make progress towards creation of an emergency shelter in that space.	Town staff said the Wapping Elementary School does not have a generator but that it is no longer going to be used as a shelter as they no longer own it and BOE does. The building will now be used as an annex to the high school. The town is now looking at Old Orchard Hill School (currently a recreational facility) for creating the back-up shelter space indicated in this action. Old Orchard Hill School does not have a generator so this action (with revisions) is still needed.	Carry Forward with Revisions for the new selected shelter location
16	Work with senior housing developments to have them each install emergency generators to power at least a communal space. If this is unsuccessful, consider adoption of regulation.	Town staff said they are working on this but the facility owners are concerned with costs. South Windsor hosts two senior living facilities (Wapping Muse and Flaxville), both of which the town has communicated with. There are also private senior housing complexes which have generators. Town staff said they don't feel the need to change regulations.	Intent is complete/ Retire
18	Reach out to local gas stations to encourage and offer assistance with private emergency generator installation.	Attendees believe that the Town does not have authority to compel local service stations to become involved with generators.. This is no longer a need.	No longer need/ Retire
20	Install an emergency generator at the Public Library.	Town has not done this but is still an interest.	Carry Forward
14	Improve use of municipal website and social media to educate residents on emergency preparedness.	Town staff said Emergency management has its own information feed which links to other departments, public works., etc. The Town maintains signs throughout the town as well. This is a capability.	Complete/ Retire
19	Conduct outreach and education program to provide technical assistance to private owners of generators to ensure they are installed correctly.	Town staff said this hasn't been completed. There have reportedly been a huge influx of people putting generators into their homes, which are all inspected before they are activated. Town staff feel the inspection is sufficient.	No longer needed/Retire

No.	Action	Notes	Status
2	Develop a plan to ensure residents have access to important medications after storm events when roads and pharmacies are closed.	Town staff believe Human services has conducted a significant amount of outreach through their population. Likely complete, and also a capability. CIRCA will confirm with Andrea Cofrancesco, Director of Human Services. From Andrea: We do not have any plans on how to get people their meds if the roads and pharmacies are closed. We continue to encourage planning for an emergency and that is part of it. If there are issues with the person not being able to get their meds due to other issues (they can't drive, their health prevents them from getting them, etc.) we can help them. So I think more discussion on this subject would be a good idea.	Carry Forward
8	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.	Town staff said the town is compliant with MS4, and this is an ongoing process. Town staff do an annual report every year and post to the website. This is a capability.	Complete/ Retire
10	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Town staff said MDC does not have any facilities in town aside from water mains. No water or sewage pump stations owned by MDC are present. MDC does have water mains which are gravity fed from out of town. The town staff do not feel this action is needed.	No longer needed/R etire
6	Complete an analysis of costs and benefits of joining the FEMA Community Rating System. Get information from participating Towns, solicit input from residents and from experts, and request assistance from CRCOG.	Attendees do not believe progress has been made. The Town does not allow new building in the FEMA floodplain. There a few buildings that are flood prone. There are some homes in the floodplains and they may carry flood insurance. Town staff believe there is not a need and is no longer an interest.	No Longer Needed/R etire
7	Assign a municipal staff-member to be a utility liaison responsible for maintaining contact with utility representatives.	Town staff said all the staff take on this role when needed and this is an ongoing process. During every storm a person is assigned as a liaison, and sometimes the specific person who serves as a liaison changes depending on the specific needs of the situation. The intent of this action is compete.	Intent is complete/ Retire
11	Determine additional updates to town GIS data and capabilities needed to assist with hazard mitigation. Pursue those updates.	Town staff said they are updating GIS all the time and the town has $100,000 in the budget next year for additional GIS work. Determining the specific updates needed for Hazard Mitigation is still of interest. Check to see if there is FEMA funding for GIS work.	Carry Forward with Revisions

No.	Action	Notes	Status
17	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff said there was three historic resource inventories done in the past few years. CIRCA recommended to revise to say acquire and review SHPO-supplied GIS data and town staff agreed.	Carry Forward with Revisions.
5	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.	Town staff do not believe they have an issue with this but would like to keep an action for training. Revise to say watch the DEEP's online training.	Carry Forward with Revisions
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Staff said they are actively participating in courses. This is a capability.	Complete/ Retire

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.

Table 27-4: Active Mitigation Strategies and Actions, South Windsor

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SW1	Acquire a generator for Old Orchard Hill School which will act as the secondary shelter in town.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	18	5	90
SW2	Install an emergency generator at the Public Library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	18	5	90
SW3	Develop a plan to ensure residents have access to important medications after storm events when roads and pharmacies are closed.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	All Hazards	No	18	6	108
SW4	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Human Services / Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SW5	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SW6	Conduct a town wide bridge assessment to identify vulnerabilities and develop a priority list for maintenance/replacement.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	6	108
SW7	Perform dam assessment of the dam at Veteran's Park off Parkview Drive.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	FEMA HMA	07/2024 - 06/2026	High	Dam Failure	No	19	6	114
SW8	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SW9	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
SW10	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods	No	19	5	95
SW11	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	GIS Department	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
SW12	Continue to update town GIS data and capabilities needed to assist with hazard mitigation. Pursue those updates.	More than one goal.	Prevention	GIS Department	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SW13	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
SW14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Information Technology	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 28-2: CIRCA Environmental Justice Rank and Critical Facilities, South Windsor

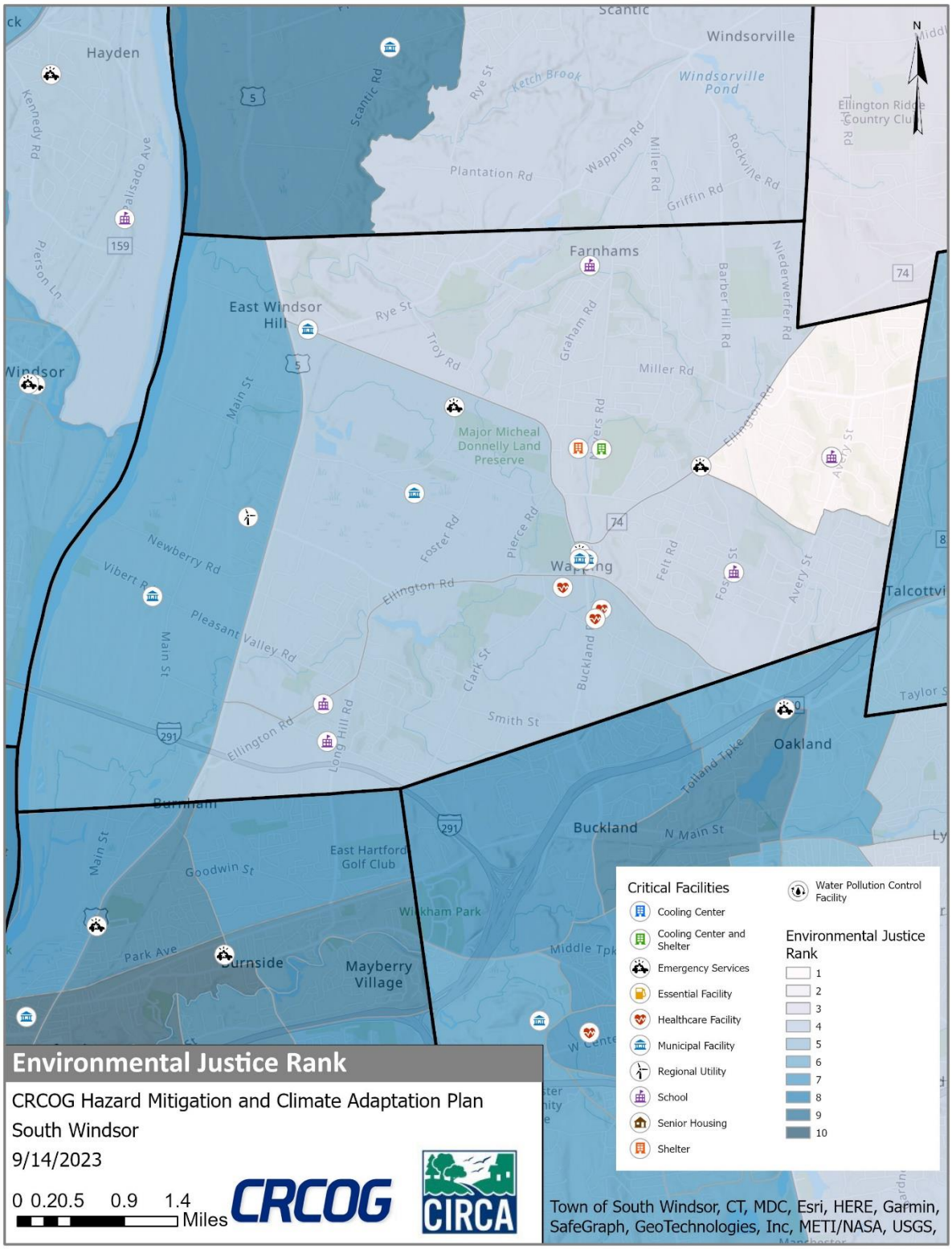


Figure 28-2: FEMA Flood Zones and Critical Facilities, South Windsor

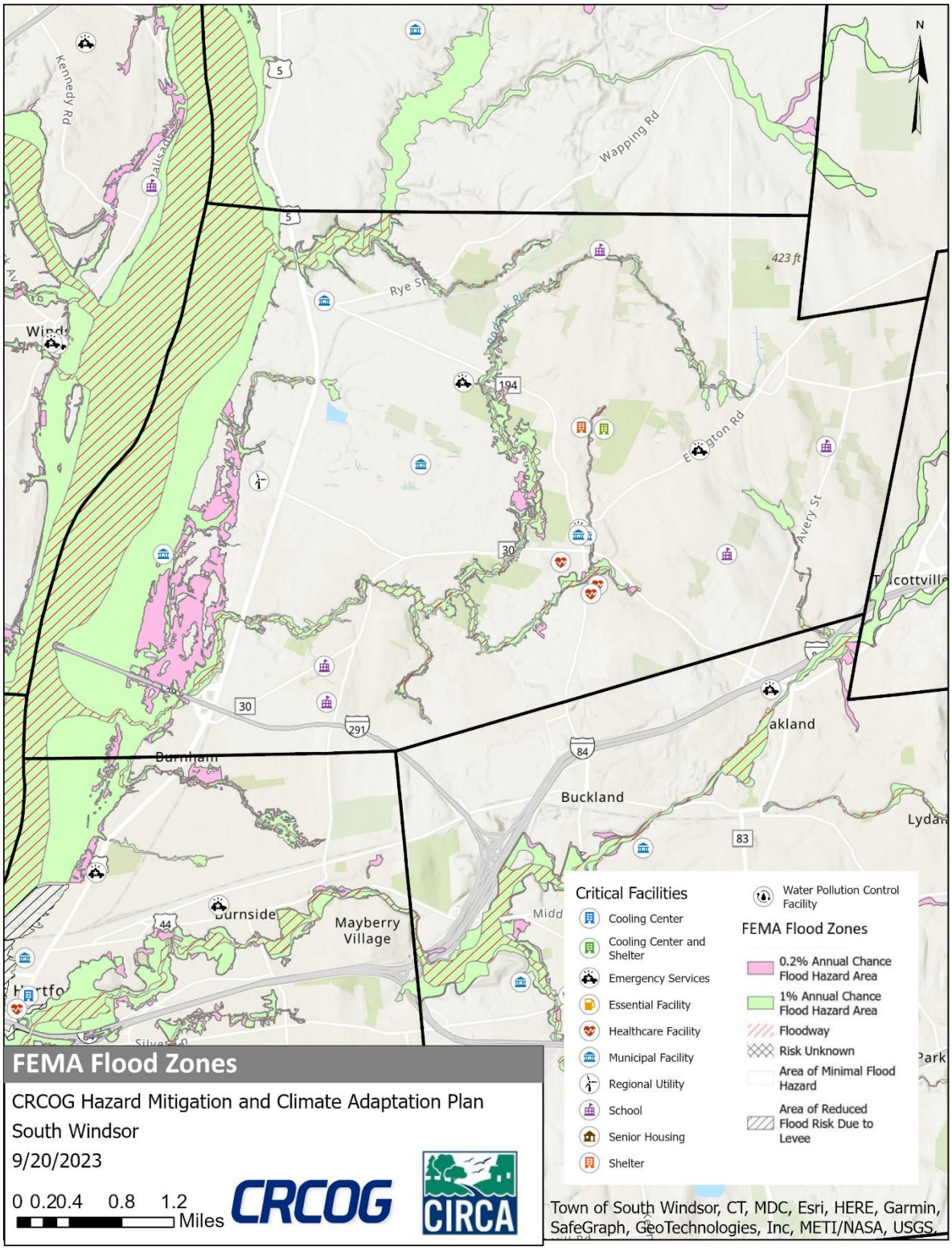


Figure 28-3: CIRCA Flood CCVI and Critical Facilities, South Windsor

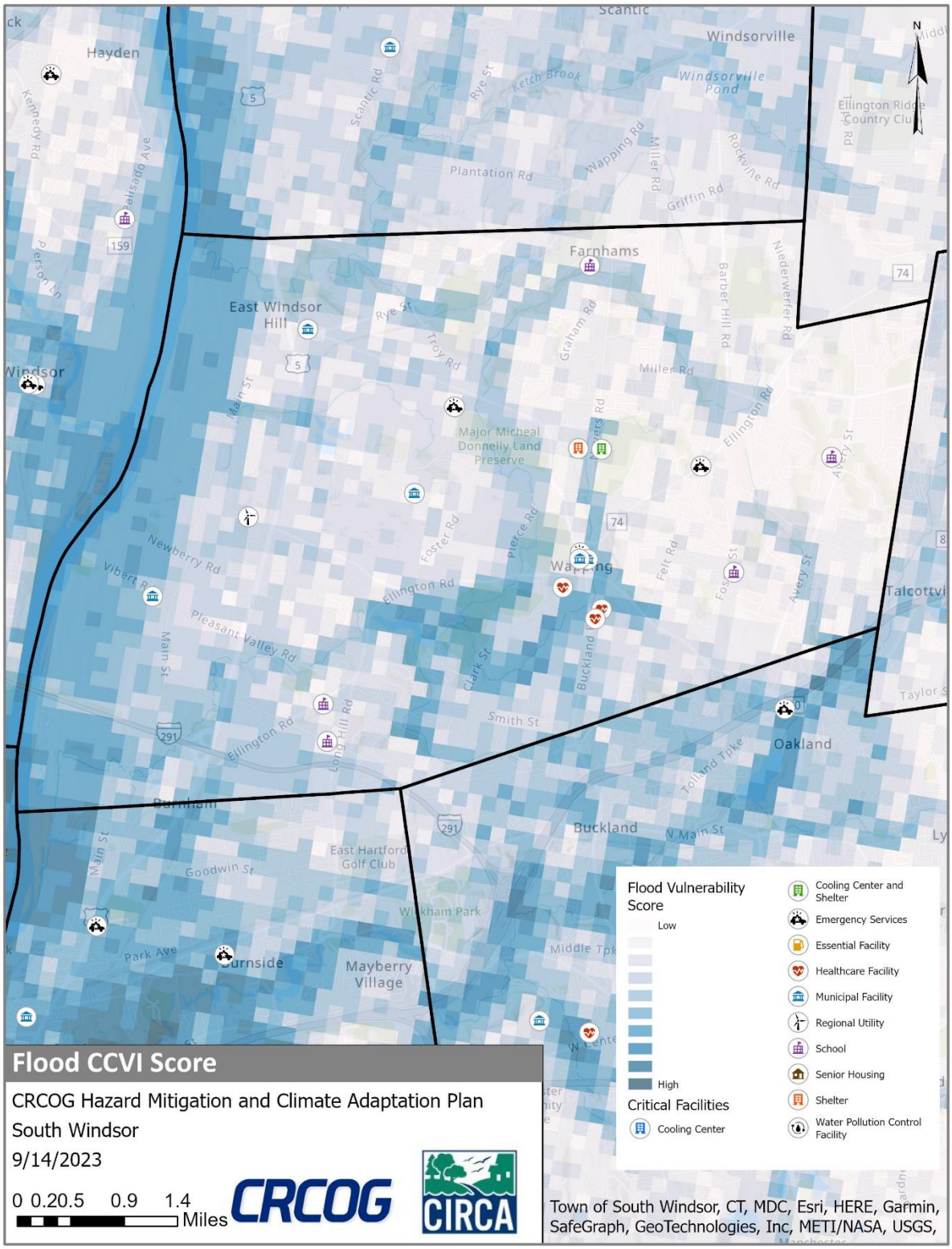


Figure 28-4: Dam Inundation Area and Critical Facilities, South Windsor

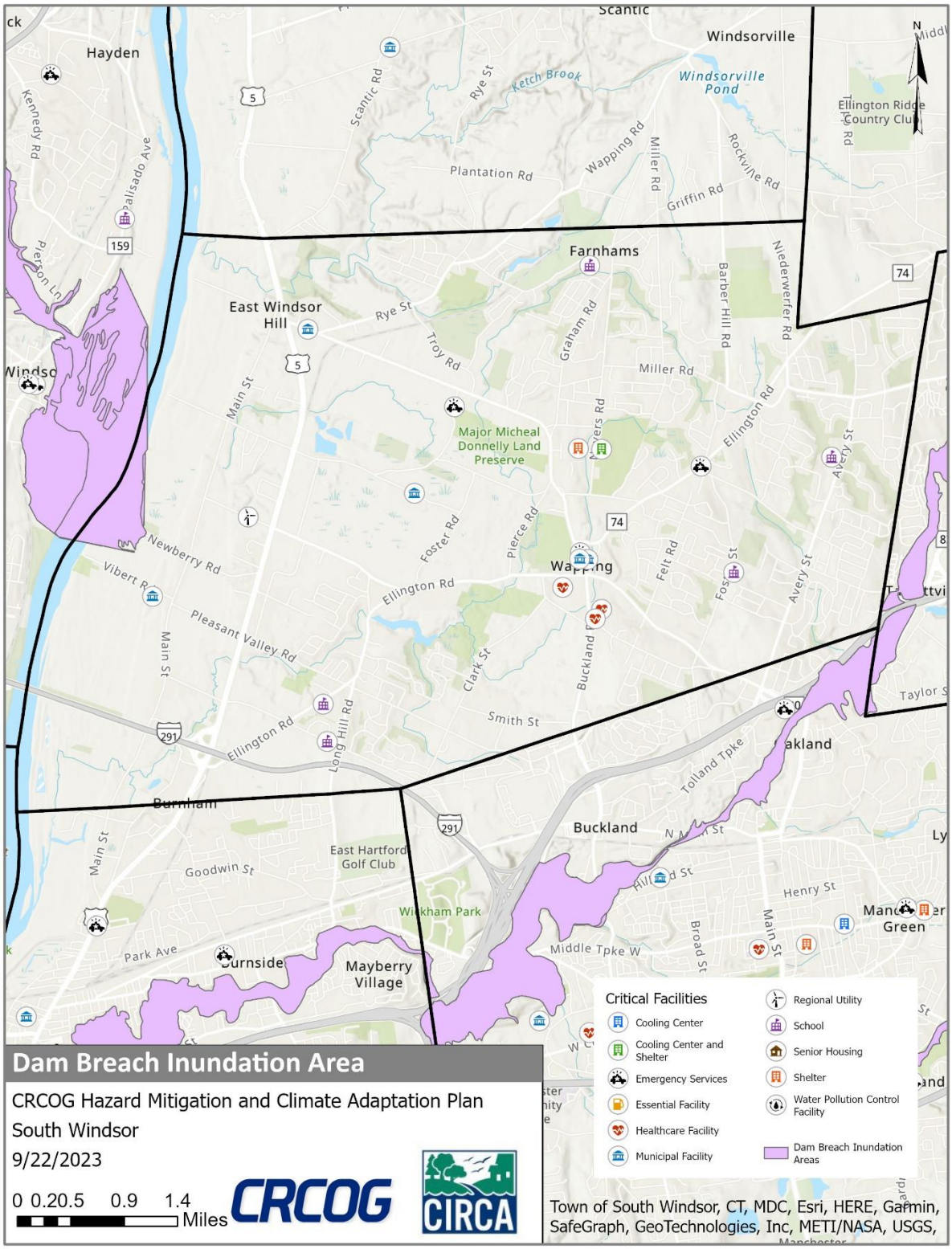
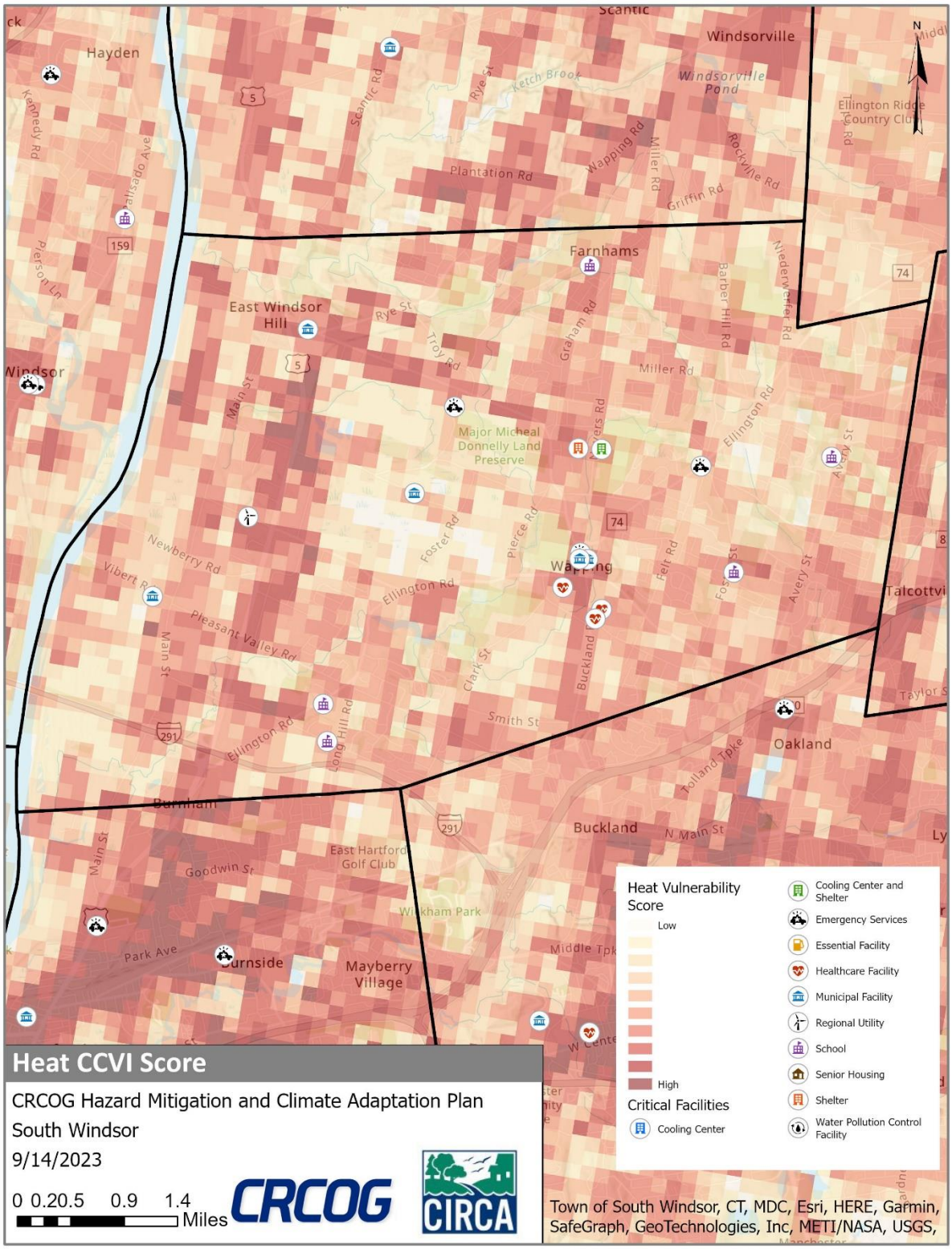


Figure 28-5: CIRCA Heat CCVI and Critical Facilities, South Windsor



29 Southington

Community Overview

The Town of Southington is a suburban community that covers 35.9 square miles of land and has a population of 43,501 (2020 census), giving it a population density of 1,210 people per square mile. Elevation ranges from approximately 110 feet to 930 feet. The majority of Town drains to the Quinnipiac River, although the eastern edge of town drains to the Mattabesset River in Berlin. Aside from the Quinnipiac River, other major streams in Southington include Cussgutter Brook, Eightmile River, Roaring Brook, Hamlin Brook, and Misery Brook.

While historically an agricultural community, Southington now has large industrial and commercial districts and a revitalized downtown. Southington also has several designated historic districts. Interstate Highways 84 and 691 pass through Town; other major transportation routes include Routes 10, 120, 177, 229, 322, and 364. The Town is part of the CT*Fastrak* bus rapid transit system providing bus services to Hartford and Waterbury. Major businesses and industries include retail, accommodation and food services, health care and social assistance, and manufacturing.

Southington is experiencing notable redevelopment activities, particularly in its downtown area near the river, where a commercial and mixed-use project is pending approval. Previously known as Greenway Commons, this development will feature 200 apartments and retail space, although it will have a reduced footprint. Additionally, the town is witnessing a surge in adaptive re-use of older buildings. The Upper part of the West Street Corridor has garnered development interest, possibly influenced by its proximity to ESPN, prompting discussions about potential adjustments in zoning regulations to facilitate responsible development. Southington has also established a commendable track record of acquiring open space, conserving approximately 600-700 acres in the past decade. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Southington critical facilities include the Fire Stations, Police Department (Emergency Operations Center), Water Department, Water Pollution Control Facility, Municipal Center, Calendar House (Senior Center), JFK Middle School, and DePaolo Middle School.

Table 27-3: Critical Facilities, Southington

Facility	Shelter	Cooling Center	Generator
Fire Department Headquarters			Yes
Fire Stations			Yes
Police Department (EOC)		Meeting Room	Yes
Water Department			Yes
Water Pollution Control Facility			Yes
Municipal Center			
Calendar House (Senior Center)	Primary	X	Yes
JFK Middle School			Yes
DePaolo Middle School	Secondary		Yes
Southington's Public Library		X	Yes

Facility	Shelter	Cooling Center	Generator
Sewer Pump Stations			Yes

The Calendar House (senior center) is the Town's primary shelter. In the previous plan, the primary shelter was to be the Fire Department Headquarters. The secondary shelter is the DePaolo Middle School which has had new generators installed since adoption of the 2016-2021 Hazard Mitigation Plan for the Former Central Connecticut Region ("2016 HMP").

During extreme heat events, Southington's Calendar House Senior Center, Southington's Public Library and the meeting room in Southington's Police Department can all be opened as public cooling centers. Calendar House is located on Pleasant Street and has kitchens, a medical office, full generator power, bus transportation. Approximately 80 people could fit at this cooling center. The library is under construction and the new one will open in September 2024 with full generator power. The back-up cooling center for off hours is a meeting room in the Police Department which is open 24/7.

Capabilities

Southington plans and documents relevant to hazard mitigation include:

- **Plan of Conservation & Development, 2016:** Promotes infrastructure improvements and open space preservation. Describes flood hazards and elements of a river corridor.
- **Municipal Building Codes, 2022 Connecticut Supplement:** follows CT State Building Code and IRC 2021.
- **Inland Wetlands and Watercourses Regulations, 2013**
- **Zoning Regulations, 2023:** Flood Damage Prevention Regulations apply to all SFHA identified in the FIS. Buildings must be elevated two feet above BFE in residential, or one foot if non-residential. Mandates zero increase in runoff in flood plain areas.
- **Subdivision Regulations, 2005:** Require minimizing risk of flood damage and designing drainage to reduce flood exposure.
- **Emergency Operations Plan, 2014-2015**

Southington has inventoried all shelters and warming/charging stations, developed a shelter plan to guide response activities, and invests in shelter supplies twice a year. The Health Department maintains a list of vulnerable populations and assists with evacuations as needed.

The Town provides training for its emergency personnel and participates in DEMHS Region 3 regional emergency planning. Southington has also maintained a Community Emergency Response Team (CERT) since 2015. CERT volunteers train in disaster preparedness and response, and assist during emergencies. The CERT staffs the emergency shelter when it is activated and educate the community about disaster preparedness. They have an online emergency preparation and response resource library.

The Everbridge emergency notification system has been implemented town-wide.

The Town developed a household preparedness pamphlet and posted it on its website, and hands it out at a variety of events. The Town also provides preparedness training in local schools using the FEMA Student Training in Emergency Preparedness (STEP) program.

Southington has participated in the National Flood Insurance Program (NFIP) since 1981 and intends to continue participation. No major buildings/structures are located in floodplains, and the Town generally discourages building in floodplains. The Planning and Engineering Departments perform enforcement and outreach regarding floodplain activities. Outreach typically occurs on a case-by-case basis.

When heavy rain is predicted, the Town will divert traffic from roads at risk of flooding. The Town has an annual inspection and maintenance schedule for its bridges and culverts.

Drainage and flooding complaints are typically sent to the Engineering or Highway/Parks Departments. The Fire Department has six pumps it uses to assist with basement pump outs when needed.

Public Works consistently undertakes bridge replacement projects. New designs use the most recent Northeast Regional Climate Center (NRCC) rainfall return periods in accordance with December 2014 CT DOT guidance. The Town has not evaluated existing culverts based on the new rainfall return periods.

The Town's Open Space and Land Acquisition Committee cites “water quality / resource protection” and “flood control” as two of its rationales for acquisitions. The Town owns an open space parcel at 1 Hightower Road that equals 13,610 cubic yards of flood storage space. The Town sells the flood storage to developers who need to conduct mitigation activities. This storage attenuates peak flows caused by the increase in impermeable surfaces with development that occurs in the watershed. The area has space for future expansion.

Removal of ice and snow for town-owned roads is handled by town workers and contractors, and is reportedly very effective. The Town handles debris removal. Snow drifts are mitigated through additional plowing efforts, while icing is mitigated through the use of additional road treatment. The Town has an informal program to review snow accumulation on town-owned roofs each winter, with clearing occurring when depths are sufficiently deep or wet.

Southington does not have specific policies for requiring burial of utilities, though it is generally encouraged during site plan review. Nearly all recent development has buried utilities.

Town departments have sufficient supplies for the next major storm event. Several chainsaws and a wood chipper are available for cleanup activities. A chipping and trimming contractor is on-call for large jobs. Tree complaints are directed to the Town Engineer. The Town performs tree maintenance for town properties and rights-of-way; the tree maintenance budget has increased from $19,000 a year in 2015 to $38,000 a year in 2018, in line with actions from the 2016 HMP. Much of the trimming near power lines is conducted by Eversource Energy.

The Fire Department maintains mutual aid agreements with all surrounding communities. Most of Southington has public water service, and tankers are used to shuttle firefighting water into outlying areas. There is one dry hydrant at Crescent Lake; the hydrant is undersized and embedded in the dam such that upgrading it would be difficult. A variety of all-terrain vehicles assist with fighting wildfires. The Town has two certified Open Burning Officials.

The Town Water Department maintains an Emergency Contingency Plan that outlines response procedures for droughts. The Department is a member of the regional Water Utility Coordinating Committee. Yield tests of new wells is required in certain areas.

Southington owns six dams including one Class C (high hazard) and one Class B (significant hazard), all in good condition. Inspections are performed in accordance with DEEP regulations. The Emergency Action Plans (EAPs) for Town dams will be revised in accordance with DEEP guidance. Several other high hazard dams are owned by the New Britain Water Department, but it is believed that the failure of these dams would not have a significant impact in Southington. The Town has copies of EAPs prepared for other dams whose failure could affect Southington; this information is maintained by the Emergency Management Director.

Southington updated its Flood Damage Prevention Regulations in 2017.

In 2017, the West Center Street Bridge deck was completed, and Spring Street Bridge was replaced in 2022. The Marion Avenue Bridge over Humiston Brook was replaced in 2023.

Southington recently excavated an area within a floodplain on Farmstead Street to provide additional flood storage, but the project does not appear to have resolved the issue.

A low hazard, two-foot high run-of-the-river dam on the Quinnipiac River has been removed in the vicinity of the bowling alley on Route 10. This may provide a minimal flood benefit to nearby properties.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Work with property owners to remove constrictions and/or widen channels on private property to mitigate exacerbation of flooding conditions.
- Require installation of underground utilities in all new developments, when feasible, through the Subdivision Regulations.
- Purchase new equipment for snow removal.
- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- 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.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Southington experiences recurrent flooding throughout Town, with localized flooding at known locations. Flash flooding is a concern along the floodplain of the Quinnipiac River. Roads are often closed during the 100-year storm event, which is happening more frequently. Usually, the roads don't

flood for more than a day, and the flooding involves overtopping but no erosion / damage to the roadbeds. Specific streets with flooding concerns include: Curtiss Street, Mill Street, South Main Street, Woodruff Street, Old Turnpike Road, Darling Street, and the Plantsville neighborhood, although town staff report that this area has not recently flooded, which could be related to the removal of a dam. Several properties, around 8-10, flood on a periodic basis, and the town might be interested in acquiring funds to buy out the repetitive loss properties.

During T.S Isaias, the town reported branches down and some power outages. Eversource has done a lot of tree trimming over the last 10 years since the ice storm and has worked closely with Southington Public Works

Town officials report that clearing the trees when they fall in the river itself is a challenge, as this requires accessing private property.

PFAS's are a concern to the town.

The absence of generators in extended stay facilities such as hotels and motels is a notable concern, particularly for those relying on private sewer pump stations.

Southington has not experienced any wildfires recently. The greatest areas of concern are those that do not have public water service along the eastern and western ridgelines. These areas are believed to be at high risk of a fire as the forest floor is littered with debris from previous major storms. Access can be difficult in these areas.

More than 20 dams could affect the Town of Southington with their failure, and five Class C (high hazard) dams lie within the Town boundaries. This is summarized in the table below. Potential losses downstream of Class C dams could be catastrophic, while potential losses downstream of Class B (significant hazard) dams could be significant.

Table 27-4: Summary of Dams Whose Failure Could Significantly Impact Southington

Dam Name	Hazard	Dam Use	Dam	Owner	Downstream Watercourse
New Britain (Wolcott) Reservoir Dam	C	Water Supply	Satisfactory	City of New Britain	Roaring Brook
New Britain (Wolcott) Reservoir Dike	C	Water Supply	Not Rated	City of New Britain	Roaring Brook
Plainville Reservoir Dam	C	Water Supply	Not Rated	Southington Water Department	Tributary to Patton Brook
Southington Reservoir #1 Dam	B	Water Supply	Not Rated	Town of Southington	Humiston & Thompson Brook
Southington Reservoir #3 Dam	C	Water Supply	Fair	Town of Southington	Humiston Brook
Spring Lake Dam	C	Recreation	Not Rated	Private	Quinnipiac River
Wasel Reservoir Dike	C	Water Supply	Satisfactory	City of New Britain	Mattabassett River

The privately-owned Spring Lake Dam is a high hazard (Class C) dam that has a maintenance issue that has been identified by DEEP. DEEP and the dam owner are reportedly working to address the issue. A 100-home subdivision and other development is located close to the dam immediately downstream in the likely inundation area near Woodruff Road and Marcy Drive.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Southington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 29-3: Average Annualized Losses, Southington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$111,790.11
	NRI	$1,862,076.60
	FEMA PA	$9,578.85
Tornados/High Winds	NCEI	$41,852.17
	NRI	$399,079.82
Winter Storms	NCEI	$33,154.40
	NRI	$23,073.31
	FEMA PA	$21,914.28
Flood	NCEI	$33,885.18
	NRI	$48,820.81
	NFIP	$16,219.06
Drought	NRI	$10,646.00
	USDA	$44,267.83
Extreme Heat	NRI	$49,558.38
Wildfire	NRI	$1,304.75
Earthquakes	NRI	$72,587.80
Dam Failure	HMP	$77.00

Other Hazard Costs

The following table reflects the Town's annual tree maintenance budget for the last several years. While not directly a loss estimate, these figures give an estimate of the annual cost the Town faces to prevent trees from falling or dropping limbs during hazard events.

Year	Annual Tree Budget
2015	$19,000
2016	$23,000
2017	$38,000
2018	$38,000

The table below considers the impact of Severe Winter Storms on the Town of Southington based on Winter Storm Alfred in late October 2011. The biggest impact was the power outage, although debris removal was the biggest financial impact.

Impact of Severe Winter Storm	Estimated Losses from a Severe Winter Storm Comparable to Winter Storm Alfred (October
Number of Electrical Customers Served (2013)	19,422
Maximum Outages During Severe Winter Storm (2011)	13,457
Maximum Outages Percentage of Customers (2011)	69.29%
Number of Businesses Experiencing Outages	15
Total Lost Wages (Daily)	$2,331.62
Average Lost Wages (Weekly)	$39,730.00
Miles of Local Roads Plowed by Town of Southington	226.61
Municipal Cost (Plowing, Road Treatment, debris cleanup)	$1,046,690.17

Source: Eversource, CCRPA Internal Analysis

Losses Summary

A review of the above loss estimates demonstrates that the Town of Southington 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During Plan development, multiple hazard mitigation needs of Southington were noted.

- The Town wishes to update its Emergency Operations Plan to include procedures specific to the liquid propane plant at the north end of Town.

- To address the recurring flooding in Southington, several solutions can be considered. Firstly, the town should focus on improving the drainage infrastructure in flood-prone areas, possibly by increasing the capacity of stormwater management systems. Additionally, investing in early warning systems and flood monitoring technology can help residents prepare for impending floods and minimize damage.
- Southington should also explore potential buyout programs for properties that face repetitive flooding, providing relief to affected homeowners.
- For tree-related issues, the town should continue to collaborate with utility companies, like Eversource, to ensure regular tree trimming and maintenance. Accessing private property to remove fallen trees in the river should be facilitated through cooperation and clear protocols between the town and property owners.
- To address PFAS concerns, Southington should conduct rigorous testing and monitoring of water sources to identify contamination sources and work on solutions to mitigate PFAS.
- In relation to the absence of generators in extended stay facilities, the town should consider updating building codes and regulations to require such backup power sources, especially for those reliant on private sewer pump stations.

Status of Previous Mitigation Strategies and Actions

The Town of Southington reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-4: Status of Previous Mitigation Strategies and Actions, Southington

No.	Action	Notes	Status
16	Work with property owners to remove constrictions and/or widen channels on private property to mitigate exacerbation of flooding conditions.	Town staff said the town encourages property owners to do this on their own. If there's a flooding concern in an area, the town issues a letter to the property owner to remind them that they can do this work without a permit. This is a capability.	Capability / Retire
8	Create and adopt Low Impact Development (LID) regulations.	Town staff said the town overhauled the zoning regulations and incorporated LID.	Complete / Retire
4	Construct dry hydrants and cisterns on the east side of town and near West Ridge	Town staff report that this is not a high priority right now, but may be a future need. The town has purchased several new fire trucks over the last few years and a new water truck, so the intent of this action has been completed through other means.	Intent complete / Retire
2	Include procedures specific to the liquid propane plant in the Town's Emergency Operations Plan	Town staff said this propane plant is still there and has expanded slightly since the last plan. The tanks are brought in by railroad. This is still a concern. The fire department has trainings related to this. Carry forward.	Carry forward
9	Require installation of underground utilities in all new developments, when feasible, through the Subdivision Regulations.	Town staff said they do this on a case-by-case basis. In some cases, in industrial zones it might be more feasible to do utilities above ground. This is a capability.	Capability / Retire
17	Relocate EOC to Fire Department and convert the current EOC at the Police Station into a backup EOC.	Town staff reported that the police department has given the town the detective's division to use. This is not a priority but should still be carried forward.	Carry forward with revisions to note that this is not urgent.

No.	Action	Notes	Status
3	Purchase new generator for the municipal center.	Town staff reported that this is complete. Many of the critical facilities already have generators, including town hall, municipal center, Water Pollution Control, Police Department, Fire Department, Calendar House (primary shelter/senior center/cooling center), Joseph A. Depaolo middle school (secondary shelter), library (cooling center). The town is all set with generators.	Complete/ Remove
10	Work with groceries and gas stations to assist them with installation of emergency generators so they can reopen quickly following hazard events.	Town staff said they don't have any means to force groceries and gas stations to do this. Town staff report that they are more concerned with extended stay facilities such as hotels and motels. Generators are not required by the regs, although the town encourages them. One concern related to this is the hotels that own and rely on sewer pumping stations; if the power goes out and the sewer pump doesn't work, this would create problems for the town. These pump stations are privately owned. The town development staff emphasize to private developers / large property owners that it is a good idea to have generators, but can't enforce.	Carry forward with revisions to include hotel/motel concern.
11	Purchase new equipment for snow removal.	Town staff said they are purchasing new equipment yearly and this is a capability.	Capability / Retire
6	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.	Town staff said the town is compliant with MS4. The general permit has expired and the town isn't sure how long DEEP will extend it for.	Capability / Retire
12	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	The town is interested in knowing where the RL properties are. CIRCA explained that consultants can't request this information from FEMA, but CRCOG can. Dave is the acting floodplain manager.	Carry forward.

No.	Action	Notes	Status
15	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Carry forward.	Carry forward.
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they are up to date on their trainings.	Capability / Retire
13	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	Town staff report that there have likely been no changes in the last 5 years, but in the last 10 years the town developed a reference list. If there is a need for a site plan application or other permit, the town staff will check against the reference list. CIRCA recommends replacing this action with an action to acquire and review the new SHPO GIS layer.	Carry forward with revisions.
14	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Combine with action 13 above.	Combine with above / carry forward with revisions.
5	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.	The town said that they ask businesses for their management plans. Outreach would be precipitated by a land use or site plan application. Administering of the aquifer protection area (APA) regulations results in some organic outreach too.	Capability / Retire

No.	Action	Notes	Status
1	Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	Southington is not yet in Sustainable CT. Town staff will bring this up with the town council after the election in the fall.	Complete (action was specifically to consider, not to join) / Retire

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.

Table 27-5: Active Mitigation Strategies and Actions, Southington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
ST1	Move the Emergency Operations Center (EOC) to the Fire Department and repurpose the existing EOC at the Police Station into a backup EOC. This action is not time-sensitive for the town, as the Police Department has allocated the detective's division for use as an EOC.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$50,000 - $100,000	STEAP; Municipal CIP Budget	07/2024 - 06/2026	Low	All Hazards	No	17	4	68
ST2	Work with groceries, gas stations hotels and motels to assist them with installation of emergency generators so they can reopen quickly following hazard events.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	FEMA HMA; STEAP	01/2024 - 12/2025	Medium	All Hazards	No	17	4	68
ST3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
ST4	Include procedures specific to the liquid propane plant in the Town's Emergency Operations Plan.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2026-12/2026	Medium	All Hazards	No	17	7	119
ST5	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
ST6	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2024 - 12/2024	High	Riverine and Pluvial Floods	No	19	7	133
ST7	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods	No	19	5	95

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
ST8	Acquire funds to buy out the repetitive loss properties.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Planning	>$1M	DEEP Open Space Grants; FEMA HMA; STEAP	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	3	54
ST9	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/ Extreme Heat	No	18	5	90
ST10	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/ Riverine and Pluvial Floods	No	18	9	162
ST11	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to	More than one goal.	Education and Awareness	Community Services	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	each hazard considered in this Plan Update.												

Figure 30-3: CIRCA Environmental Justice Rank and Critical Facilities, Southington

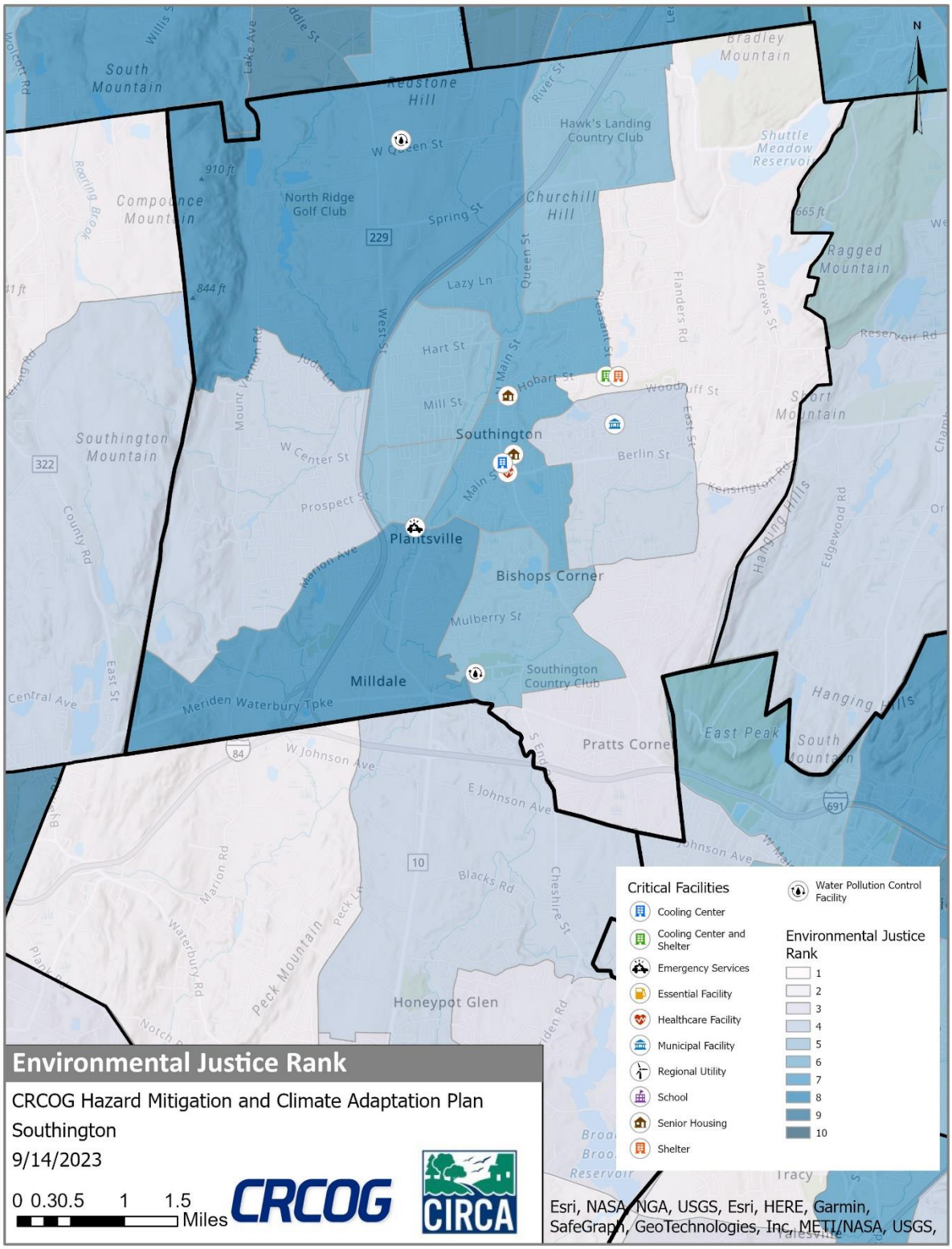


Figure 29-2: FEMA Flood Zones and Critical Facilities, Southington

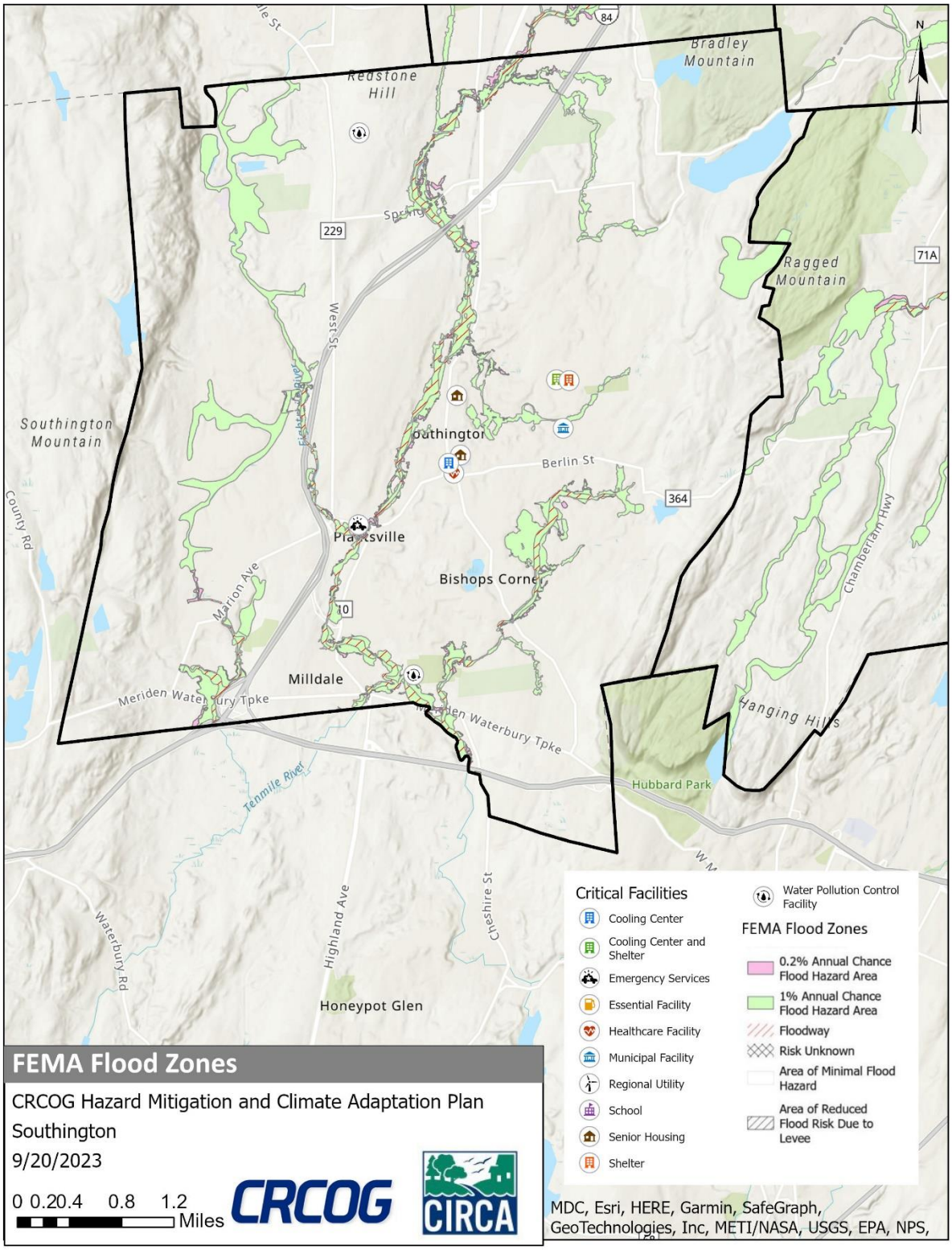


Figure 29-3: CIRCA Flood CCVI and Critical Facilities, Southington

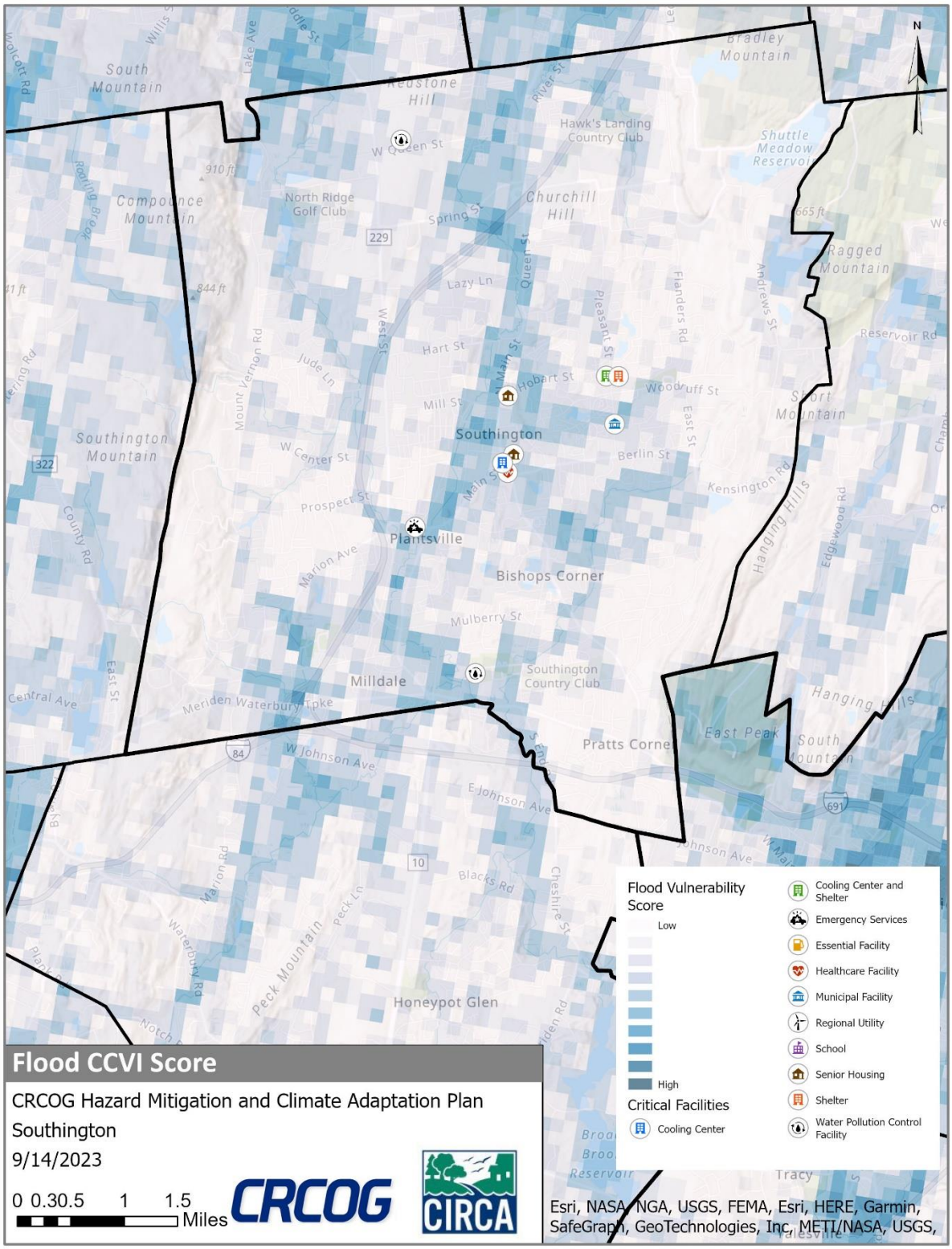


Figure 29-4: Dam Inundation Area and Critical Facilities, Southington

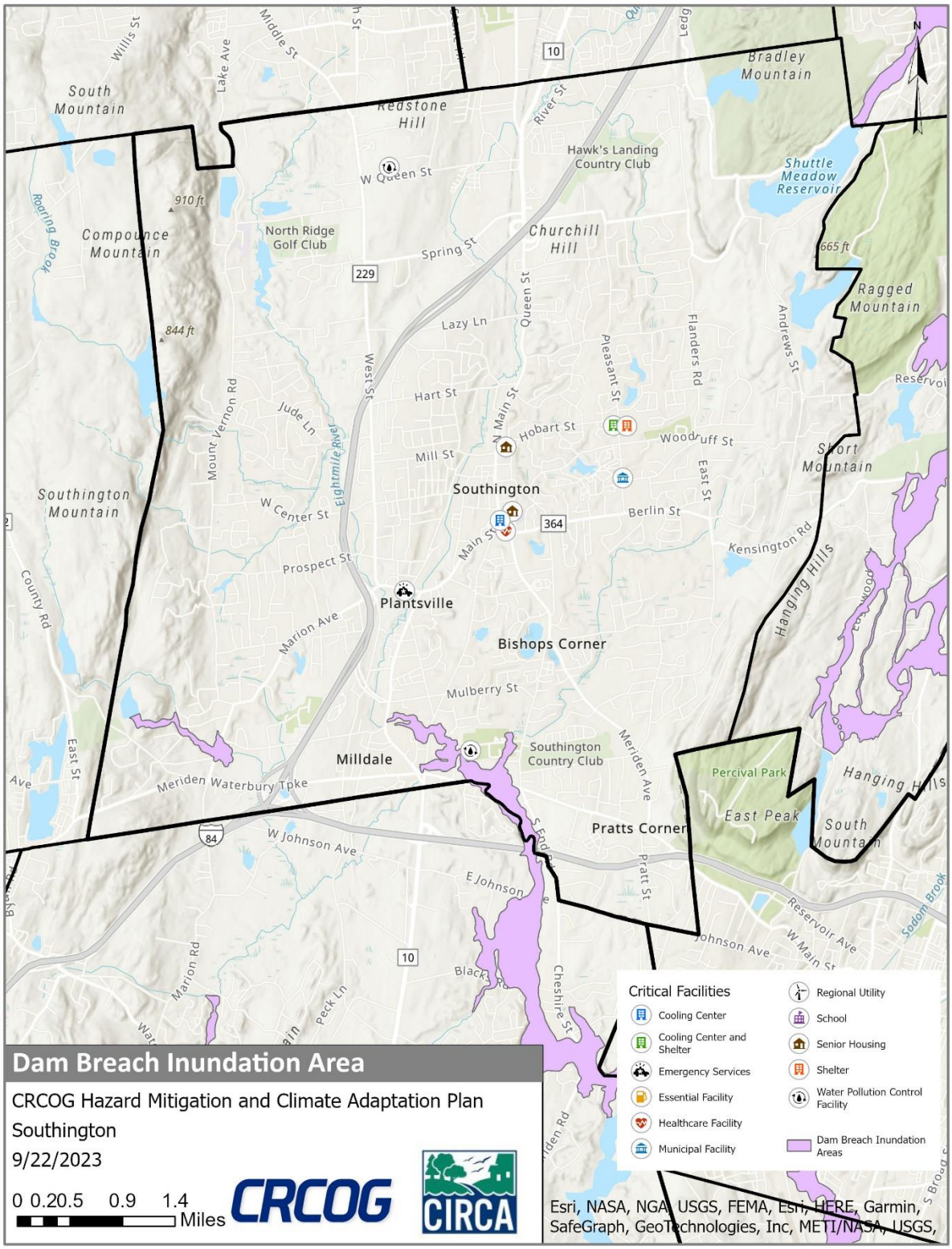
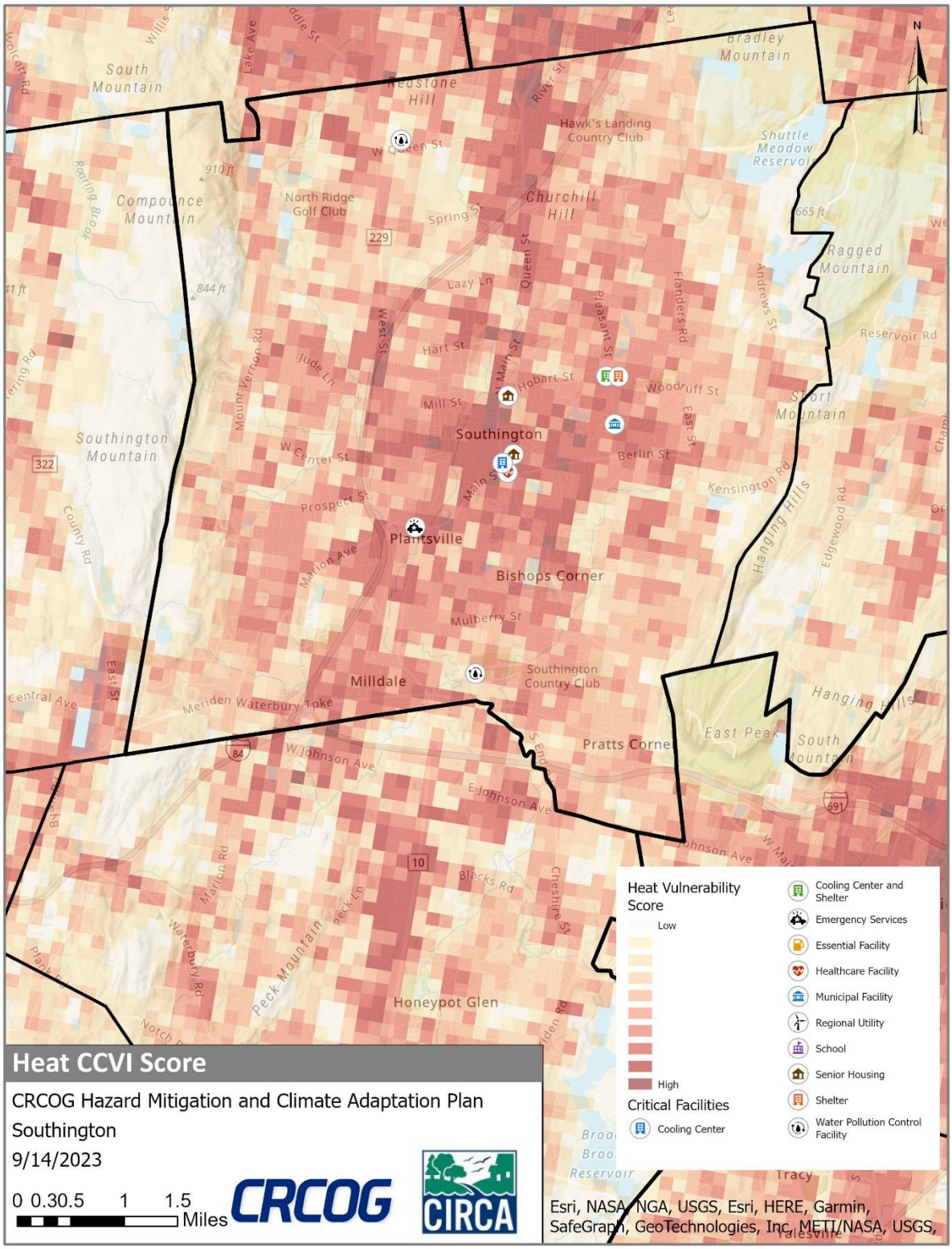


Figure 29-5: CIRCA Heat CCVI and Critical Facilities, Southington



30 Stafford

Community Overview

Stafford is a rural community of approximately 11,472 residents covering approximately 58 square miles in the Willimantic River Valley between almost parallel ranges of hills. The Town of Stafford is comprised of the borough of Stafford Springs, the village of Staffordville, the hamlet of Orcuttville, the village and historic district of Stafford Hollow, the village of Hydeville and West Stafford. Stafford's main industry is manufacturing of woolen products, printed circuits, filters, metal bushings and bearings, precision medical devices, fly rod components, and nameplates and labels. Other important industries are nursery and horticultural products, health care services, seasonal camping, motor sports, and recreation. TTM Industries' three locations (Industrial Park Road, Upper Road, and Old Monson Road), 3M Inc. (located on River Road) and Willington Name Plate (located on Middle River Drive) all utilize various hazardous materials which are reported to the Local Emergency Planning Committee (LEPC). TTM's facility on Upper Road is located within 500 yards of the Staffordville School and plans exist to address this specific hazard both at the facility, the school, and the Staffordville Fire Department.

Stafford is currently seeing the construction of a two-phase senior housing complex, with the first complex completed in 2019 on Woodland Springs Drive and the second one in progress at 55 Woodland Springs. In addition to senior housing, sporadic individual housing units are being developed across the town, but no major subdivisions are proposed or underway. Nominal residential development near the hospital could potentially occur in the next few years. It is unlikely that development will occur in areas of flood risk but if it does, strict adherence to state and local flood regulations and the state building code will reduce overall risks.

Critical Facilities

A number of critical facilities in Stafford are listed here.

Table 27-5: Critical Facilities, Stafford

Facility	Shelter	Cooling Center	Generator
Johnson Memorial Hospital			X
Evergreen Health Care Center			X
Library Annex (EOC)			X
Resident State Trooper Office			X
Staffordville School			
Stafford Middle School	Primary		X
Wastewater Treatment Plant			X
West Stafford Fire Department (Secondary EOC)			X
Senior Center	Secondary	X	X
Library		X	X

During extreme heat events, Stafford Senior Center and Stafford Public Library can both be opened as public cooling centers. Both facilities have generators. The Stafford Senior Center is used as a secondary shelter.

The primary EOC was relocated from the West Stafford Fire House to the Library Annex. The secondary EOC was moved from the center fire and ambulance station to the West Stafford fire department so that it is no longer in the flood plain.

Capabilities

Hazard mitigation is incorporated into Stafford's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards, specifically dam failure and flood control. Stafford has incorporated Floodplain Regulations into its Zoning Regulations, and has not permitted any new construction in the 100 Year flood plain since 2008. In 2010, the Town revised its Inland Wetlands and Watercourses Regulations to be in accordance with the State model regulations. New developments are required to construct flood storage capacity on site.

Stafford's emergency shelter is Stafford Middle School and back up is the Stafford Senior Center

Approximately 15% of Stafford is on public water with pressurized hydrants; eastern Stafford has nine dry-hydrants to provide firefighting water. The Town has tanker trucks to deliver water to other locations.

Stafford has identified an alternative site to construct a new fire station, which will replace the existing one that is located in a flood zone. This site is "shovel ready" but construction is delayed while funding is secured.

Many flood mitigation projects at the Wastewater Treatment Plant (WWTP) have been implemented, and it is now mostly protected. Additional elevation and pump installations, the final piece of a larger WWTP flood mitigation effort, are currently underway.

The Town has developed plans for upgrading the storm drainage infrastructure off of Furnace Avenue and High Street. The Town is working to secure funding to implement the plan.

Stafford now employs a salt mixture for pre-treating roads in anticipation of winter storms. Not only does this aid in safeguarding drivers during such events, but the road treatment, consisting of approximately 25% sand, also reduces the frequency of potential clogging in stormwater infrastructure caused by sedimentation.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Stafford it will cover, is unknown.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The primary natural hazard for Stafford is riverine flooding or possible failure of one of the fifty-seven dams in Town or in upstream communities. Most flood damage has been caused by the Middle River and Furnace Brook and their tributaries. Severe damage has historically occurred at the Stafford Water Pollution Control Facility due to flooding of the Willimantic River. Other at-risk areas include Rt. 32 south of the town as well as numerous smaller town roads. Storm drainage infrastructure off of Furnace Avenue and High Street is undersized. The center fire ambulance station is in a flood zone, and the spillway at the mill upstream of the station is breached and in need of cleaning. The railroad tracks near the fire station are also impacted by flood events; the railroad bridge can become clogged, backing up water to the fire station. The Resident State Trooper station also floods regularly due to storm drainage issues. Staffordville School is occasionally isolated by floodwaters that inundate the surrounding roads. An ultraviolet wastewater disinfection system, associated with the WWTP, has been damaged by flooding in the past.

CT DEEP has classified eight of the fifty-seven dams in or upstream of Stafford as High Hazard (Class C). Five of the High Hazard dams are owned and maintained by the State. The remaining three are privately owned: the Staffordville Reservoir Dam, the Warren Pond Dam, and the Riverside Pond Dam. There are six Significant Hazard (Class B) dams. Of these six, the State Connecticut owns the Bradway Reservoir Dam #4; all other Class B dams are privately owned. There are eleven privately owned and one municipally owned category BB (Moderate Hazard) dams. All seventeen category A and AA dams are privately owned. Fourteen dams have no hazard or owner designation. Seven of these dams lie in sequence, creating a risk of cascading failure and potentially high damage to the downtown area. This issue is ranked among the most concerning to Stafford officials.

Stafford is heavily wooded. The town experienced a lot of tree damage and power outages for about a week after T.S. Isaias. The rural areas of town were a bit harder to get to and Eversource reportedly needed longer to get out there.

Stafford faced significant flooding concerns during various storms. The town's infrastructure, particularly its roads, was notably impacted, with Hopyard Road, a historic resource, experiencing washouts due to its inability to be paved and beavers creating dams causing water over the roads. Olympic Avenue also suffered from flood-related damage caused by water runoff from the mountains. Tetrault Road had to be temporarily closed due to drainage issues during the storms. Furthermore, residents in some areas had to contend with flooding in their yards and basements. Colburn Road, Handel Road, Willington Avenue, Highland Terrace, and Hampden Road all experience roadway damage during high storm water events due to lack of proper drainage and poor roadway alignment.

Stafford staff reported challenges related to extreme heat and the needs of vulnerable populations. The town experiences a higher demand for cooling centers than other municipalities. Moreover, Stafford has two elderly housing complexes, 55 Woodland Springs and Averly Park, where air conditioning is only available in limited areas. Concerns about power outages during a storm prompted the evacuation of elderly residents from Averly Park to the senior center in the past. While there is some backup power for these complexes, it's insufficient to sustain the entire facility, potentially leaving residents without essential cooling during heatwaves. Town staff acknowledges the ideal solution would involve providing

full AC and comprehensive generator power for these complexes, but budget constraints have prevented this so far.

Town staff reported that the Fire station that is in the floodplain, which is of a concern.

Downtown Stafford relies significantly on a sanitary sewer system, and there's potential funding from ARPA to enhance the Water Pollution Control Facility.

Johnson Memorial Hospital underwent an infrastructure upgrade with the installation of a new water tank, enabling water supply from Somers. The completion of the water line, granted the industrial park access to this essential water source.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Stafford. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 30-2: Average Annualized Losses, Stafford

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$29,481.07
	NRI	$604,529.78
	FEMA PA	$8,381.63
Tornados/High Winds	NCEI	$11,037.17
	NRI	$107,073.78
Winter Storms	NCEI	$8,743.42
	NRI	$53,996.88
	FEMA PA	$9,579.54
Flood	NCEI	$8,936.13
	NRI	$79,990.19
	NFIP	$7,766.15
Drought	NRI	$909.16

Hazard	Source	Average Annualized Losses (AAL)
	USDA	$0.00
Extreme Heat	NRI	$1,922.47
Wildfire	NRI	$9,828.89
Earthquakes	NRI	$16,546.99
Dam Failure	HMP	$753.00

Other Hazard Costs

Six floods between 1900 and 1980 caused damage of more than half a million dollars each. The 1955 flood resulting from Hurricane Diane caused an estimated 1.3 million dollars in damage.

The most severe historical damage caused by dam failure occurred in the spring of 1877 and cost the community approximately $400,000 in damage, the loss of two lives, and long-term economic hardship for businesses in its path.

Losses Summary

A review of the above loss estimates demonstrates that the Town of Stafford 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During the course of this Plan development, multiple hazard mitigation needs of Stafford were noted, including addressing undersized bridges and mitigating flooding at the fire station.

- Continue to work with Eversource to regularly trim and maintain trees near power lines to reduce the risk of outages during storms.
- The Fire Department needs to be relocated out of the flood zone.
- Invest in better drainage systems for roadways with inadequate drainage systems, particularly in flood-prone areas like Hopyard Road and Olympic Avenue. Evaluate options for mitigating beaver dam impacts and preventing water overflows. Develop emergency response plans for road closures and provide resources for affected residents to mitigate flooding risks
- Additional generators or other solutions to the dangerous impacts that power outages have on the elderly community are needed.

Status of Previous Mitigation Strategies and Actions

The Town of Stafford reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Stafford

No.	Action	Notes	Status
12	Repair Staffordville and New City dams.	Town staff believe that vegetation clearing was done at New City Dam about 2 years ago. No changes to the structure of the dams but this is still a concern.	Carry Forward
4	Initiate efforts to breach the Hydville Dam. Coordinate with CT DEEP.	Town staff said there is a mill across the street that's in disrepair and there is some talk about revitalizing that mill which has the ability to still utilize the dam. Town staff is not aware of any coordination with DEEP. CIRCA Staff asked whether this is a DEEP-owned dam, but town staff were not sure. Attendees would like to carry this forward with a revision to reflect the possible redevelopment of the mill.	Carry Forward with Revisions
5	Perform a study to identify preferred actions to take to provide sufficient egress and access to and from the main fire station downtown, addressing the issues created by the undermined bridge.	Town staff said they are considering turning this fire department over to only an ambulance department and moving the fire department out of the floodplain. However, this is currently just a discussion with no concrete plans. A new catch basin was added so the undermined bridge issue has been improved with the catch basin. Carry Forward with Revisions to reflect the that the bridge issue has been dealt with.	Carry Forward with Revisions
11	Explore possible sites on which to relocate the main fire station out of the floodplain.	Town staff said this is in discussion and still of interest	Carry Forward

No.	Action	Notes	Status
14	Relocate utilities along Main Street underground during expected road and roundabout rebuild in 2020.	Town staff said they are in the middle of re-doing the roundabout now. The town staff met with Eversource to discuss the possibility of relocating utilities underground, and the cost to put the utilities underground is not feasible now. Town would like to keep an action related to relocating utilities underground in case there is money down the road, but the mention of the road/roundabout rebuild can be removed.	Carry Forward with Revisions
8	Revise Public Works personnel contracts to allow for the hiring of subcontractors during surge conditions.	Devin Cowperphwaiite said if this is referring to the collective bargaining agreement with DPW employees (drivers/laborers), the MEUI CBA already has language in it that provides management the right "to establish contracts or subcontracts for municipal operations provided that this right shall not be used for the purpose of laying off current employees in the bargaining unit." This action is no longer needed/Complete.	No Longer Needed/Complete/Remove
10	Add language encouraging Low Impact Development and limiting impervious surfaces to the Zoning Regulations	Town staff said they are currently in transition with the zoning officer, as they currently have someone in an interim role because their previous zoning officer left last year. Town staff I believe the regs already include language about ratios of pervious/impervious surfaces.	Complete/ Retire
2	Expand hazard warning, advisory, and outreach efforts to social media.	Town staff said they received ARPA funds to purchase new warning signs for early warning advisory, which have been deployed. The town has also made progress with using social media for notifications.	Complete/ Retire
3	Establish an annual education program for private snow-removal contractors and residents on not obstructing roads and the right-of-way.	Town staff said this hasn't been a significant issue in recent years. Town notifies the residents ahead of time with early warnings of snowstorms using the warning signs mentioned in the previous action, which accomplishes the intent of this action.	Intent is complete/ Retire
6	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.	Town staff said they have reached out to businesses for prevention of accidental releases and working on this with the fire department. This is a capability.	Capability/ Retire
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they do participate in trainings when they are offered. This is a capability.	Capability/ Retire
9	Educate Town staff on detour protocols, and purchase more detour signage and traffic routing equipment.	Town staff said they have done this in conjunction with the new ARPA-funded notification signs. This is complete.	Complete/ Retire

No.	Action	Notes	Status
13	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff said they are working with a third party (not SHPO) to discuss the potential creation of a historic district in the town. There is not currently a historic district in the town, but there are a number of historic structures. Town staff mentioned that historical buildings are important to residents so an action about historic buildings should be kept in the plan. CIRCA suggested that this can be revised to acquire and review the SHPO layer/.	Carry Forward with Revisions
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town is registered with SCT.	Complete/ Retire

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.

Table 27-4: Active Mitigation Strategies and Actions, Stafford

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SF1	Explore options for relocating the fire department from the floodplain, and transitioning the facility into an ambulance-only department.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Fire Department	$0-$10,000	DCRF; FEMA HMA	07/2024 - 06/2027	Medium	All Hazards	No	17	6	102
SF2	Explore possible sites on which to relocate the main fire station out of the floodplain.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Fire Department	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	Medium	All Hazards	No	17	6	102
SF3	Acquire generators with sufficient capacity to provide full power backup for the Woodland Springs and Avery Park complexes.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	Medium	All Hazards	No	17	5	85
SF4	Relocate utilities along Main Street underground.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Public Works	>$1M	STEAP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Sever	No	17	3	51

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
									e Winter Storms				
SF5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
SF6	Repair Staffordville and New City dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	Municipal CIP Budget	07/2025 - 06/2027	High	Dam Failure	No	19	4	76
SF7	Initiate efforts to revitalize the mill across the street from the Hydville Dam and Coordinate with CT DEEP, as needed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	STEAP	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
SF8	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SF9	Design and install more resilient stormwater infrastructure for town owned roads, specifically on Hampden Road, Handel Road, Willington Avenue, Colburn Road, and Highland Terrace.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SF10	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
SF11	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Emergency Management	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
SF12	Develop more water supply sources and interconnections as needed	More than one goal.	Water & Wastewater Utility Projects	Public Works	>$1M	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2027	High	Drought/Wildfire	No	19	8	152
SF13	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0- $10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SF14	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods	No	19	5	95
SF15	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90
SF16	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
SF17	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 30-4: CIRCA Environmental Justice Rank and Critical Facilities, Stafford

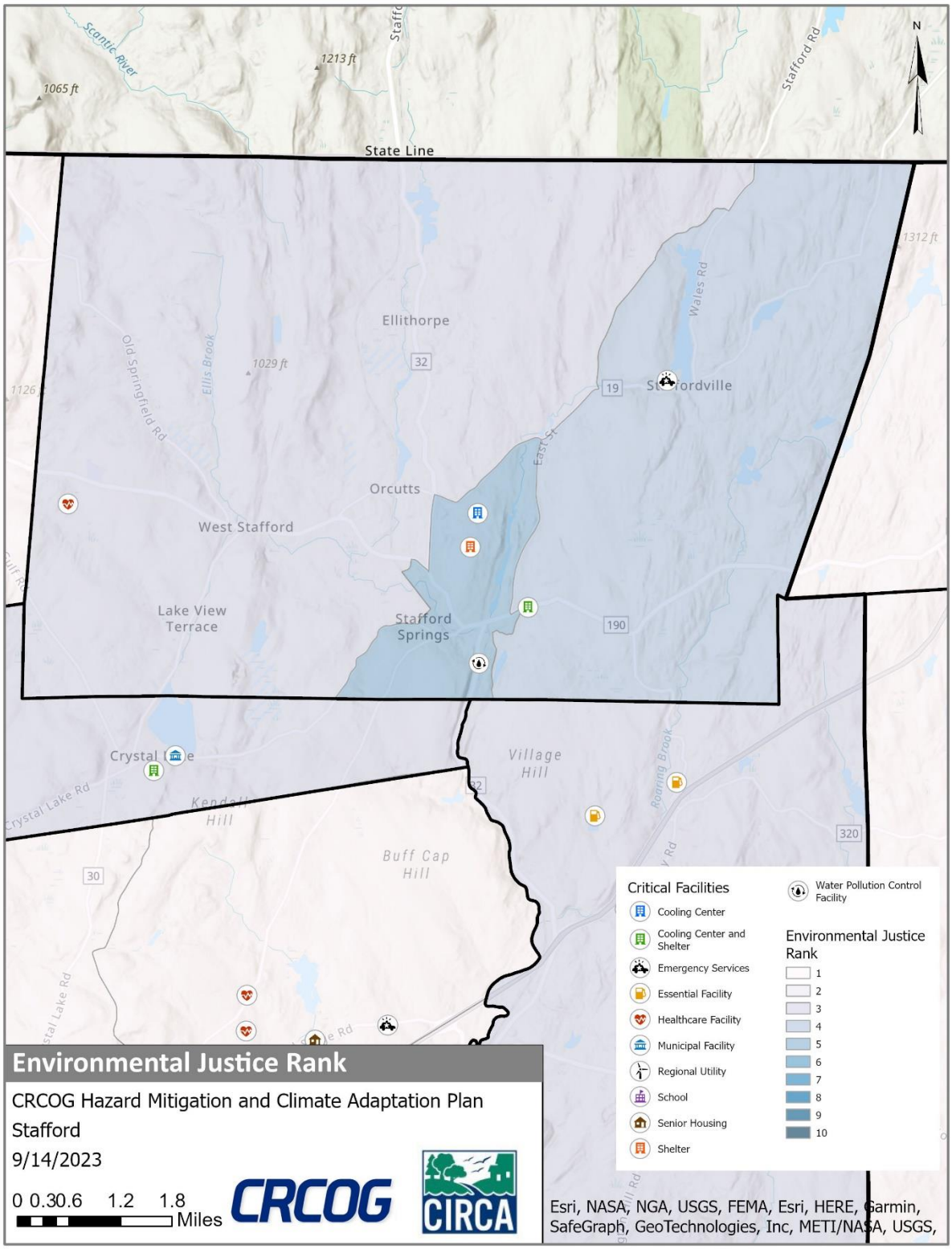


Figure 30-2: FEMA Flood Zones and Critical Facilities, Stafford

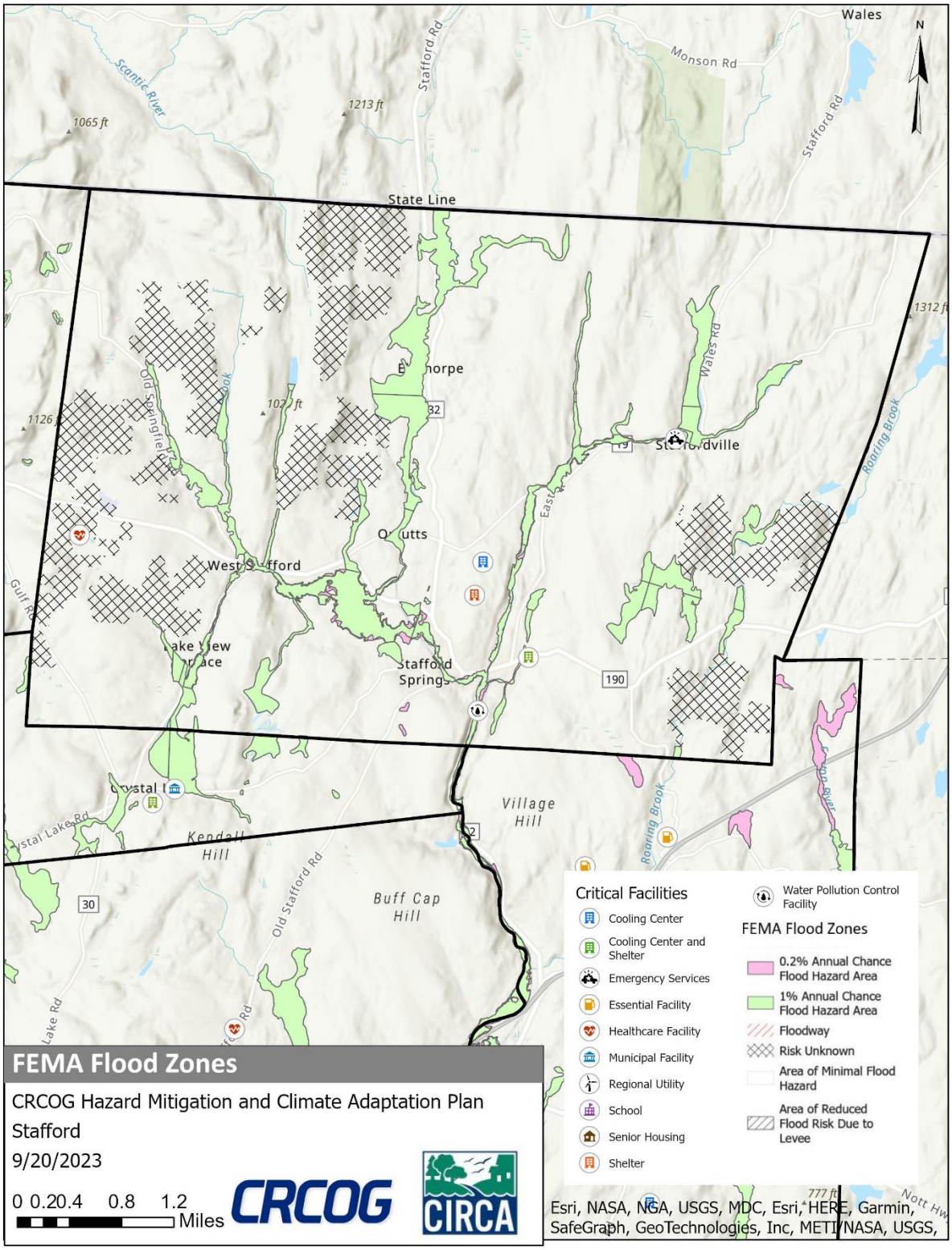


Figure 30-3: CIRCA Flood CCVI and Critical Facilities, Stafford

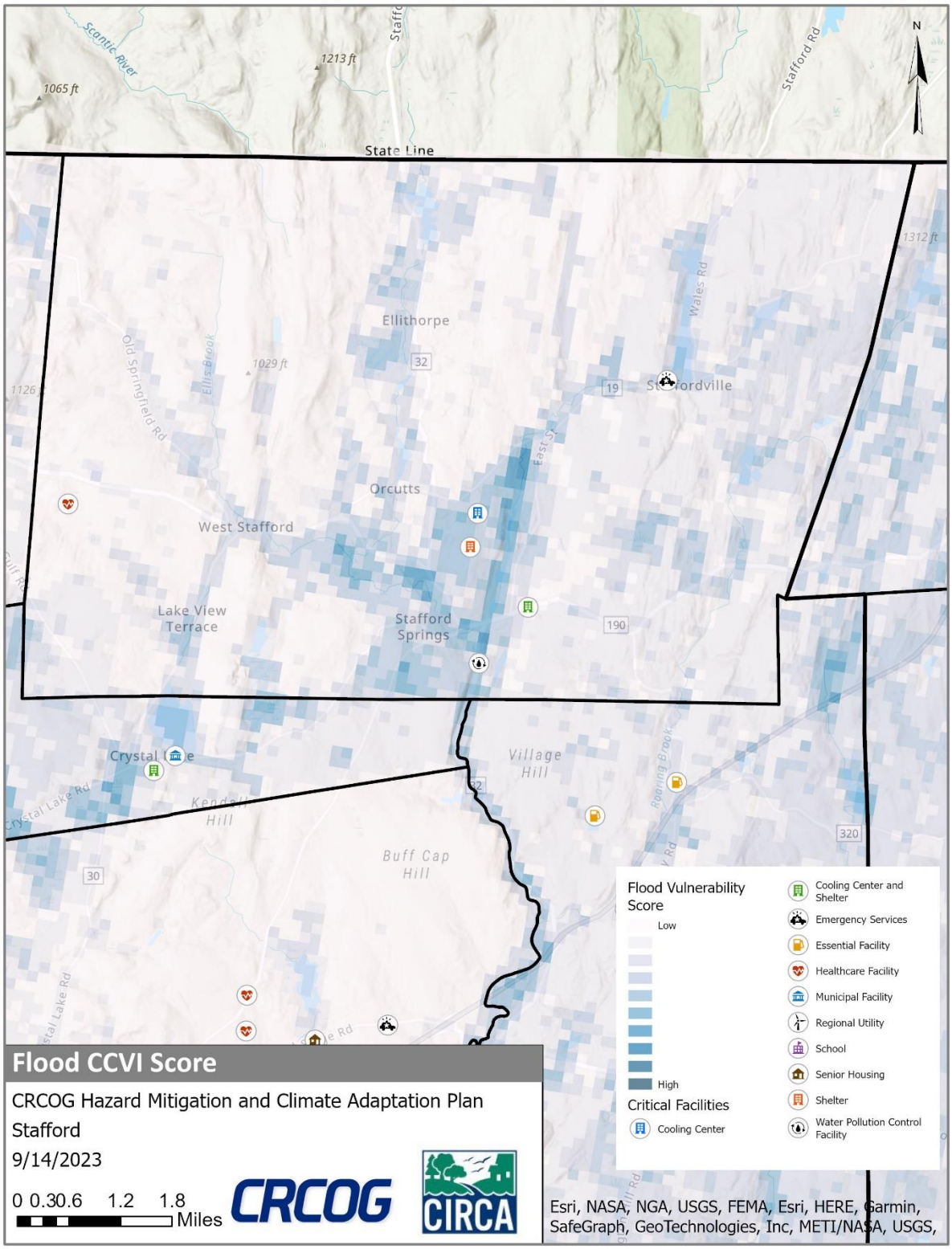


Figure 30-4: Dam Inundation Area and Critical Facilities, Stafford

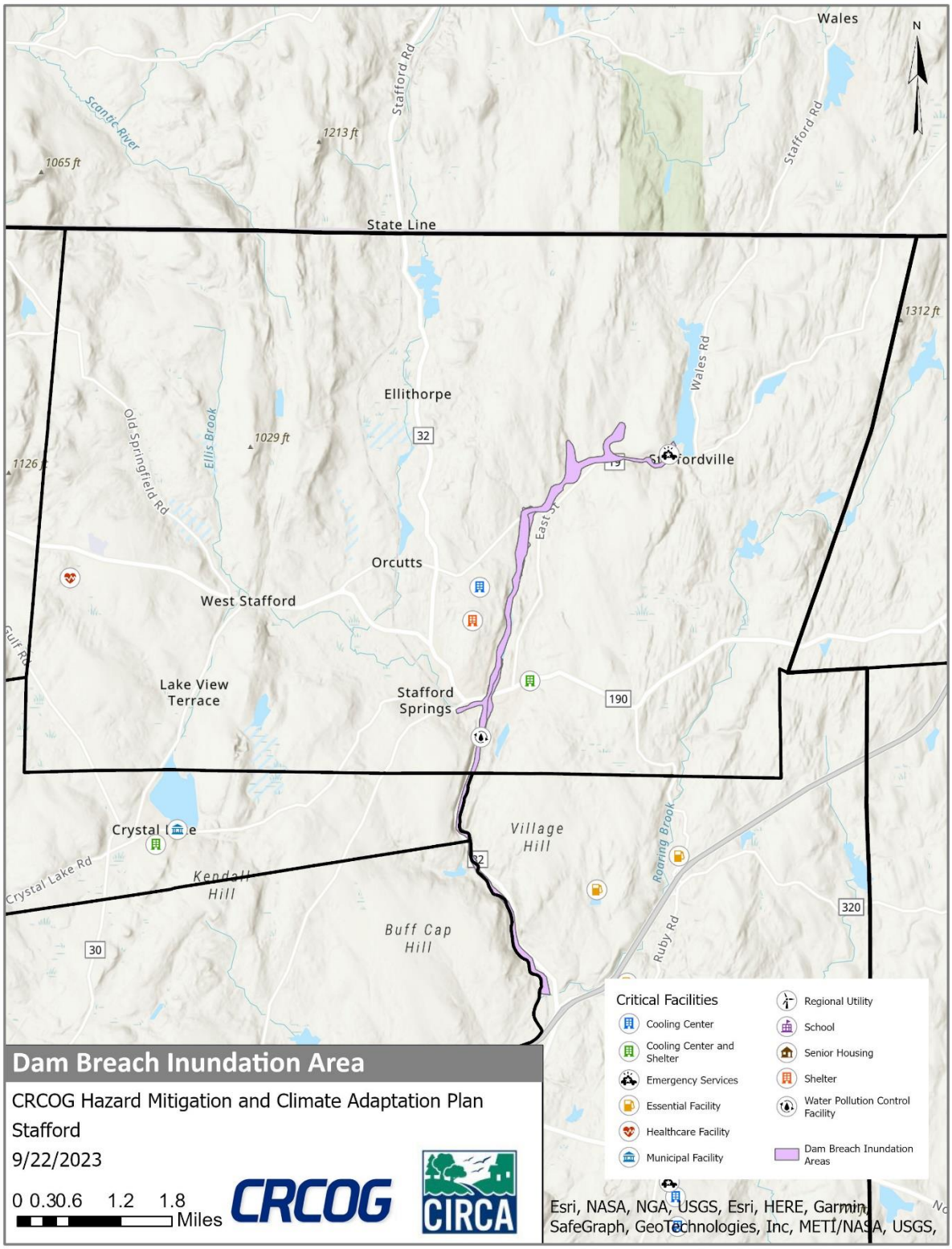
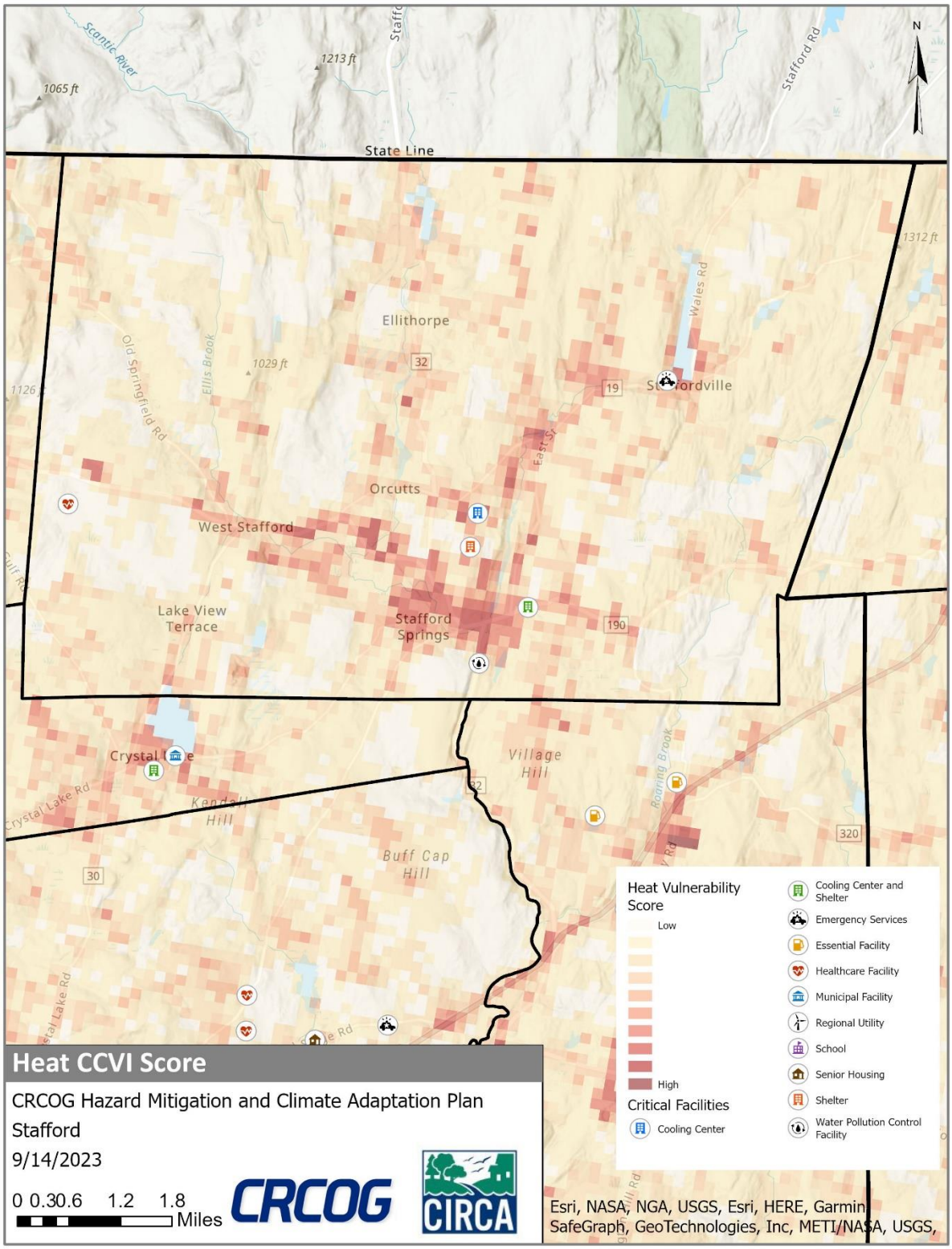


Figure 30-5: CIRCA Heat CCVI and Critical Facilities, Stafford



31 Suffield

Community Overview

Suffield is a rural community encompassing about 42.2 square miles with a population of about 15,752. Suffield's terrain rises from an elevation of 22 feet above sea level at the Connecticut River to its highest point of 691 feet above sea level on West Suffield Mountain. Suffield's land area contributes to three watersheds: the Farmington River Watershed to the west, the Stony Brook Watershed centrally and the mainstem of the Connecticut River Watershed to the east. The Connecticut River runs the length of the eastern boundary of Town. Other major watercourses include Clay, Deep, Fourmile, Mountain Brook, Muddy, Philo, Rawlins and Stony Brooks. State routes 75, 168, 187 and 190 provide major transportation routes through town.

Approximately 40% of the Town is served by public water; Connecticut Water serves the east side of Town, Aquarian serves a portion of the west, and the rest of the Town is on wells. The east side of Town has a sewer system, and the rest of Town uses septic systems. Historically, sewer pumping stations would be installed in developments larger than 25-30 homes, and individual grinder pumps would not generally be permitted. This has changed in recent years, and now pressurized sewer systems with grinder units are installed in every new home that cannot reach the sewer system by gravity flow. This change is expected to open the way for new residential development.

Agriculture, manufacture of ice cream, industrial gases, and small tools, and warehousing are the principal industries. The largest employers are MacDougall-Walker Prison, Cadence Laser, HP Hood, Kongsberg Automotive, Praxair, and Suffield House Nursing Home. Part of Bradley International Airport and the entire North Central Connecticut Correctional facility are located in Suffield.

Suffield's development landscape predominantly revolves around single-family residential projects, with minimal concerns regarding flood risk due to limited vulnerable areas. The town's commercial development remains relatively stagnant, and the industrial zone has only witnessed the construction of a single new building in recent years. Suffield experiences light and sporadic development, primarily concentrated within the residential sector. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Suffield critical facilities include Town Hall, four fire stations, a highway department garage and fuel center, an ambulance building that also serves as the Town's EOC, the Police Department, the Senior Center, the Wastewater Treatment Plant and 20 pumping stations, Suffield High School and Middle School, two Elementary Schools, the private Suffield Academy, three senior housing facilities, the MacDougall-Walker Correctional Facility, and a number of historic sites.

Table 27-6: Critical Facilities, Suffield

Facility	Shelter	Cooling Center	Generator
Town Hall			Yes
4 Fire Stations			Yes
Highway Garage & Fuel Center			Yes
Ambulance Building (EOC)			Yes
Police Department			Yes
Senior Center	Warming Center	X	Yes
WWTP			Yes
20 Pumping Stations			Yes
Suffield High School	Primary		Yes
Suffield Middle School	Secondary		Yes
2 Elementary Schools			Yes
Suffield Academy (private, residential)			Yes
Suffield By the River (Assisted Living)			Yes
Suffield House (Nursing Home)			Yes
Bridge Street Elderly Housing (3 buildings)			
McDougall-Walker Correctional Facility			Unknown
1 Eversource Substation			

During extreme heat events, the Suffield Senior Center can be opened as a public cooling center. This facility has stand by power consisting of generators.

Suffield High School at Sheldon Street is an overnight shelter.

The MacDougall-Walker Correctional Facility is a state facility housing around 1,600 prisoners.

Suffield contains many historic sites important to its community character, including the King House museum, the Hatheway House, First Baptist Church, Hilltop Farm, and Babb's Roller Skating Rink.

All critical facilities have stand by power consisting of generators.

Capabilities

Hazard mitigation is incorporated, to some degree, into Suffield's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

There has not been any construction or demolition in floodplains or other vulnerable areas of Suffield since 2008. In 2008, the Town added Section V.K. Flood Damage Prevention to the Zoning Regulations.

The Town has designated a vacant area on Firestone Drive as an emergency debris storage area, and dumps snow there as needed.

Power lines are installed underground in new subdivisions. Routine tree maintenance is performed by Town personnel, with contractors brought in as necessary.

Suffield staff are proud of their road maintenance capabilities; with a team of eight employees they are able to clear 80 miles of road during snow events, and always plow ahead of first responders to clear the way to emergencies.

Suffield maintains memorandums of agreement at multiple levels (state, regional, municipal) that include all surrounding towns except for Agawam.

The Town has received a grant (with 20% municipal match) to replace the Remington Street Bridge to address clogging of the existing 4-box-culvert structure; this was completed in 2020.

A flooding issue on Phelps Road has been corrected since the adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"). The Town has also added curbs and sub-drains to 50 miles of roadway.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Conduct at least one annual hazard education and outreach campaign to residents using the Town website, Facebook pages, mailers, and information stationed at Town buildings.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Suffield has approximately 5,469 housing units, 27 of which are located in flood hazard zones. There are another 31 non-residential structures located in flood hazard zones. There are a few areas throughout Town prone to street flooding during heavy storm events. Flood issues are tracked in all developed areas, and problematic locations are addressed when possible. Ensuring proper maintenance of drainage structures is a challenge due to decreased staffing and budget levels.

Suffield faces a significant concern with the escalating severity of thunderstorms. The thunderstorms of 2021 resulted in extensive tree damage and extended power outages, with a pronounced impact on Griffin Road. During such storms, this area can become isolated due to fallen trees blocking the road. Griffin Road hosts a high density of old pine trees on private property, which Eversource can not access and remove. The town is actively collaborating with Eversource to find solutions and alleviate the recurrent power outages in this specific locality.

Suffield's primary drought and extreme weather concerns revolve around disruptions to agriculture.

The town staff report notes an increase in early-season water quality issues in local lakes.

Town staff are actively assessing sewer and infrastructure issues, primarily related to flooding from Stony Brook. The concern centers around the vulnerability of the sewer interceptor at Stony Brook.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Suffield. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 31-2: Average Annualized Losses, Suffield

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$40,479.94
	NRI	$616,590.43
	FEMA PA	$10,271.30
Tornados/High Winds	NCEI	$15,154.95
	NRI	$161,685.54
Winter Storms	NCEI	$12,005.43
	NRI	$9,035.71
	FEMA PA	$6,693.14
Flood	NCEI	$12,270.05
	NRI	$13,086.24
	NFIP	$114.67
Drought	NRI	$659,372.70
	USDA	$470,156.85
Extreme Heat	NRI	$19,354.24
Wildfire	NRI	$1,012.82
Earthquakes	NRI	$40,335.86
Dam Failure	HMP	$28.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Suffield 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should continue to work with Eversource to remove hazardous trees. The town could investigate investing in underground power lines to reduce storm-related power outages on Griffin Road.
- The town should consider implementing drought-resistant farming practices, offer support for water conservation, and explore the development of irrigation systems or water storage solutions for agricultural purposes.
- Enhance water quality monitoring and management protocols, promote responsible land use around lakes, and engage in community education on reducing pollution to maintain the health of local lakes.
- The town should continue to conduct regular maintenance of the sewer interceptor at Stony Brook and look into funding to replace the interceptor.
- Conduct a study to identify the worst areas of surface flooding and develop methods to alleviate the problem areas.

Status of Previous Mitigation Strategies and Actions

The Town of Suffield reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Suffield

No.	Action	Notes	Status
8	Conduct a study to identify the worst areas of surface flooding and develop methods to alleviate the problem areas.	Town staff said they do not believe a town wide study has been done. This action likely came from the former engineer. However, the town evaluates and deals with specific areas as needed. The town would like to keep this action in case funding becomes available for town wide studies.	Carry Forward
1	Develop a list of flood prone areas and share that list with police and fire.	Town staff are aware of the areas where potential flooding occurs. There is one area near Stony Brook on Hale St before Taintor St, that they keep an eye on. If this area floods, the town can experience some traffic issues but this is affects farmers more than residential areas. The same stream crosses under Taintor St which causes some small flooding issues.	Complete/ Retire
3	Preemptively clean debris out of select drainage structures before and during heavy storm events, particularly on Susan & Diane Lanes.	Town staff said this is has been happening and is still in process. Town would like to check on Susan and Diane lanes specifically.	Carry Forward
10	Encourage property owners to refrain from dumping debris into stream channels and drainage culverts.	Town staff said they are unsure if anyone in town specifically deals with this but the town staff think this action can be retired.	No Longer Needed/R etire
9	Encourage low impact development techniques in new development in accordance with the POCD.	Town staff said they adopted their most recent POCD last year. Zoning commission is supportive of LID but there has been no move to change regulations. However, LID is happening in town and the intent of this action has been met.	Complete/ Retire
5	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.	Town staff said they are compliant with MS4.	Complete/ Retire
6	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they participate in some trainings. This is a capability.	Capability/ Retire
4	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.	Town staff said they haven't done much with this, but they don't have a lot of businesses that might have releases. The town does have a lot of farms/nurseries where runoff could be an issue. Revise to watch the DEEP training video.	Carry Forward with Revisions

No.	Action	Notes	Status
7	Conduct at least one annual hazard education and outreach campaign to residents using the Town website, Facebook pages, mailers, and information stationed at Town buildings.	Town staff said that if there is a threat of severe weather there is a notice that goes out on the website/social media. If there are heat concerns, the town uses the website to notify people and let them know about cooling centers. The town does not have a CERT team but have an Emergency Management website with info. This is a capability.	Intent is complete/ Retire
11	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff said they worked with SHPO and conducted two rounds of historic and cultural research surveys (one finished in the last 5 years) with a couple hundred properties, most residential, that were looked at. However, they don't think the focus of these studies were on floodplains. Given that the Town has demonstrated experience participating in resource surveys, CIRCA advises to change this action to acquire and review SHPO layer.	Carry Forward with Revisions
2	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff said they have entered the SCT program and bronze certified. They would like to move forward in the program and obtain silver certification.	Complete/ Retire

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.

Table 27-4: Active Mitigation Strategies and Actions, Suffield

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SU1	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
SU2	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
SU3	Complete a design plan for the sewer Interceptor at Stony Brook which is causing flooding concerns.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SU4	Conduct a study to identify the worst areas of surface flooding and develop methods to alleviate the problem areas.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
SU5	Preemptively clean debris out of select drainage structures before and during heavy storm events, particularly on Susan & Diane Lanes.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	8	144
SU6	Collaborate with Eversource to develop a comprehensive plan for addressing power outages in the Griffin Road area during storms, and implement a strategy to provide access to houses when the roadway is blocked by downed trees.	Reduce losses from other hazards.	Preparedness & Emergency Response	Emergency Management	$0-$10,000	Municipal Operating Budget	07/2025 - 06/2026	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	17	7	119
SU7	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
SU8	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
SU9	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
SU10	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
SU11	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Information Technology	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 31-5: CIRCA Environmental Justice Rank and Critical Facilities, Suffield

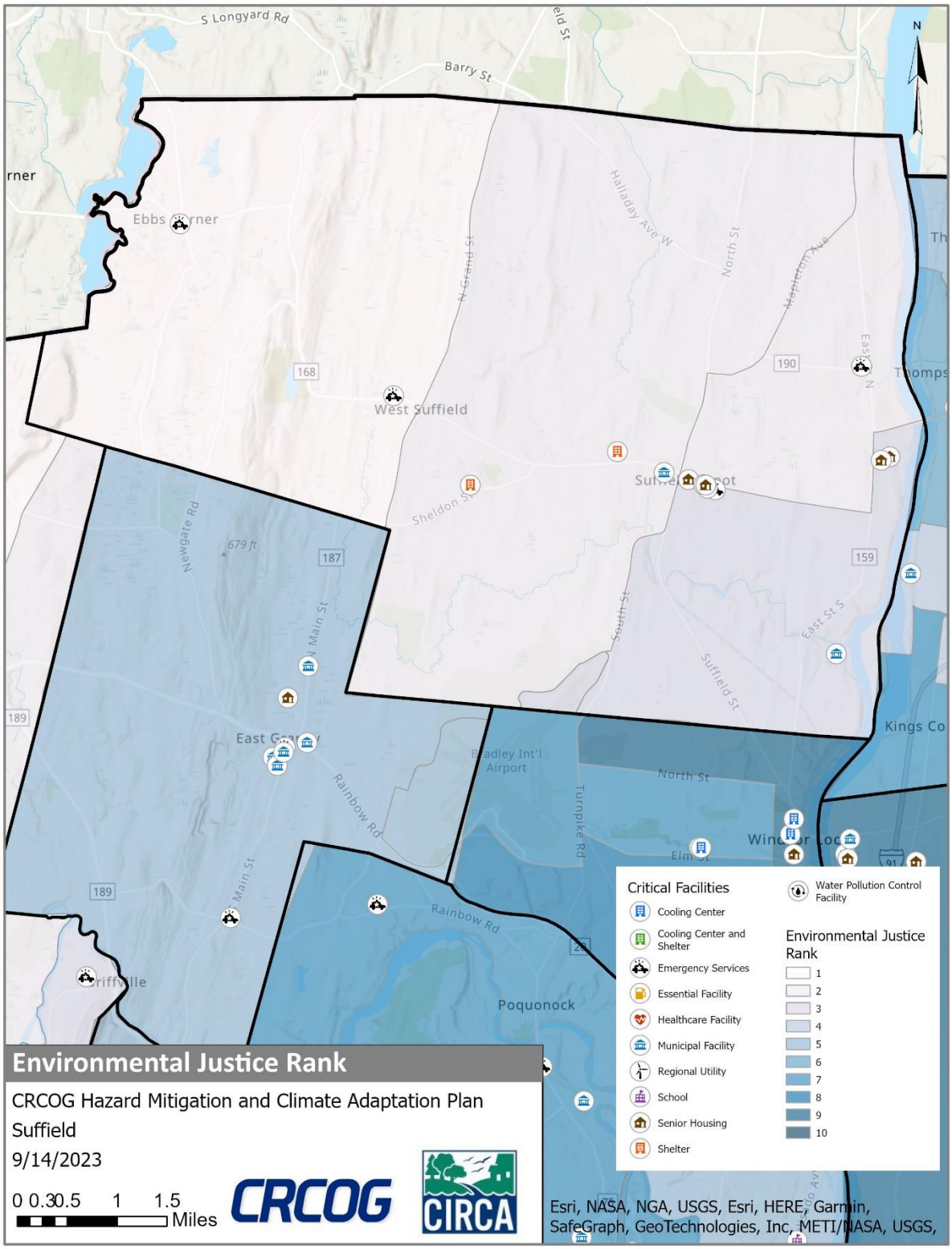


Figure 31-2: FEMA Flood Zones and Critical Facilities, Suffield

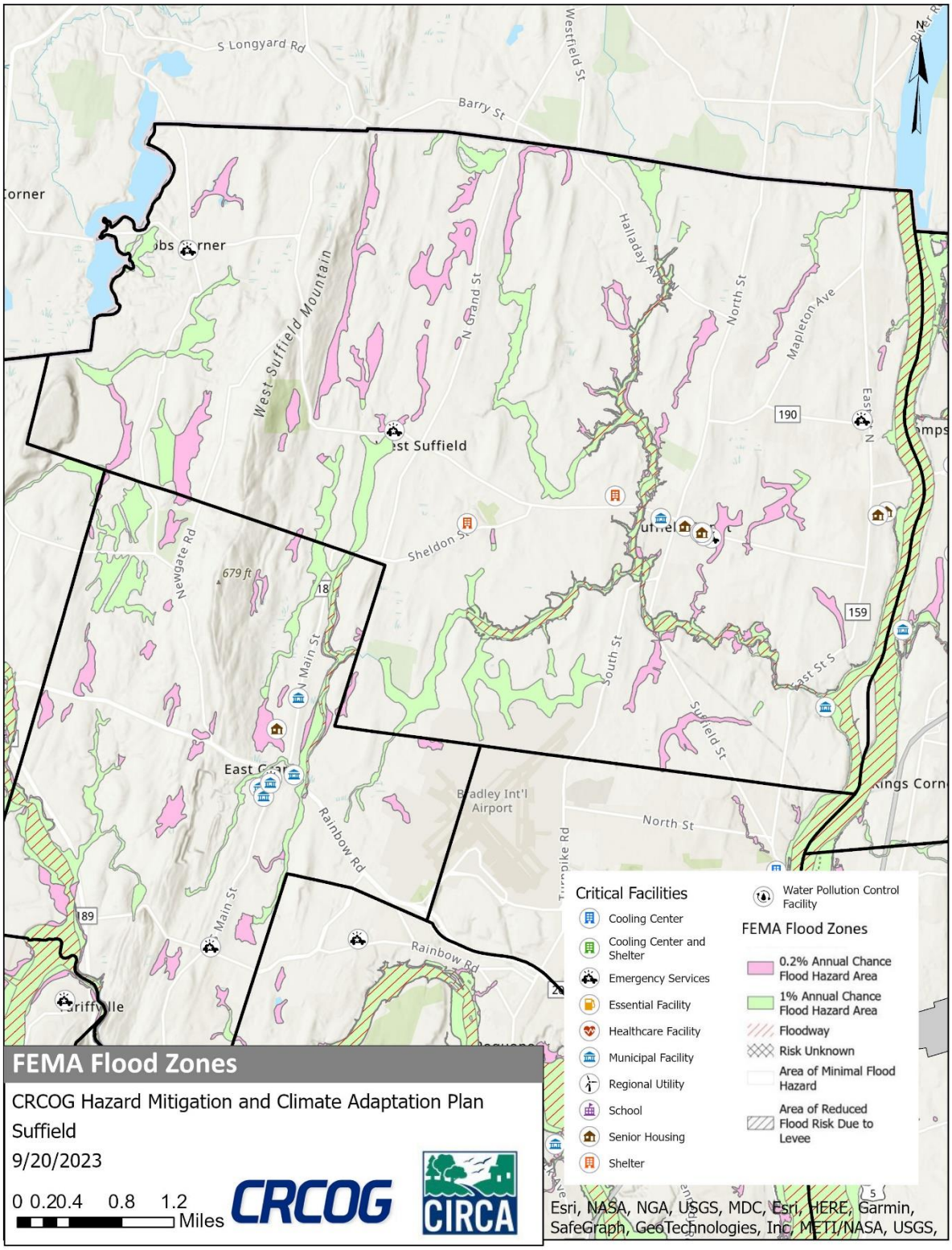


Figure 31-3: CIRCA Flood CCVI and Critical Facilities, Suffield

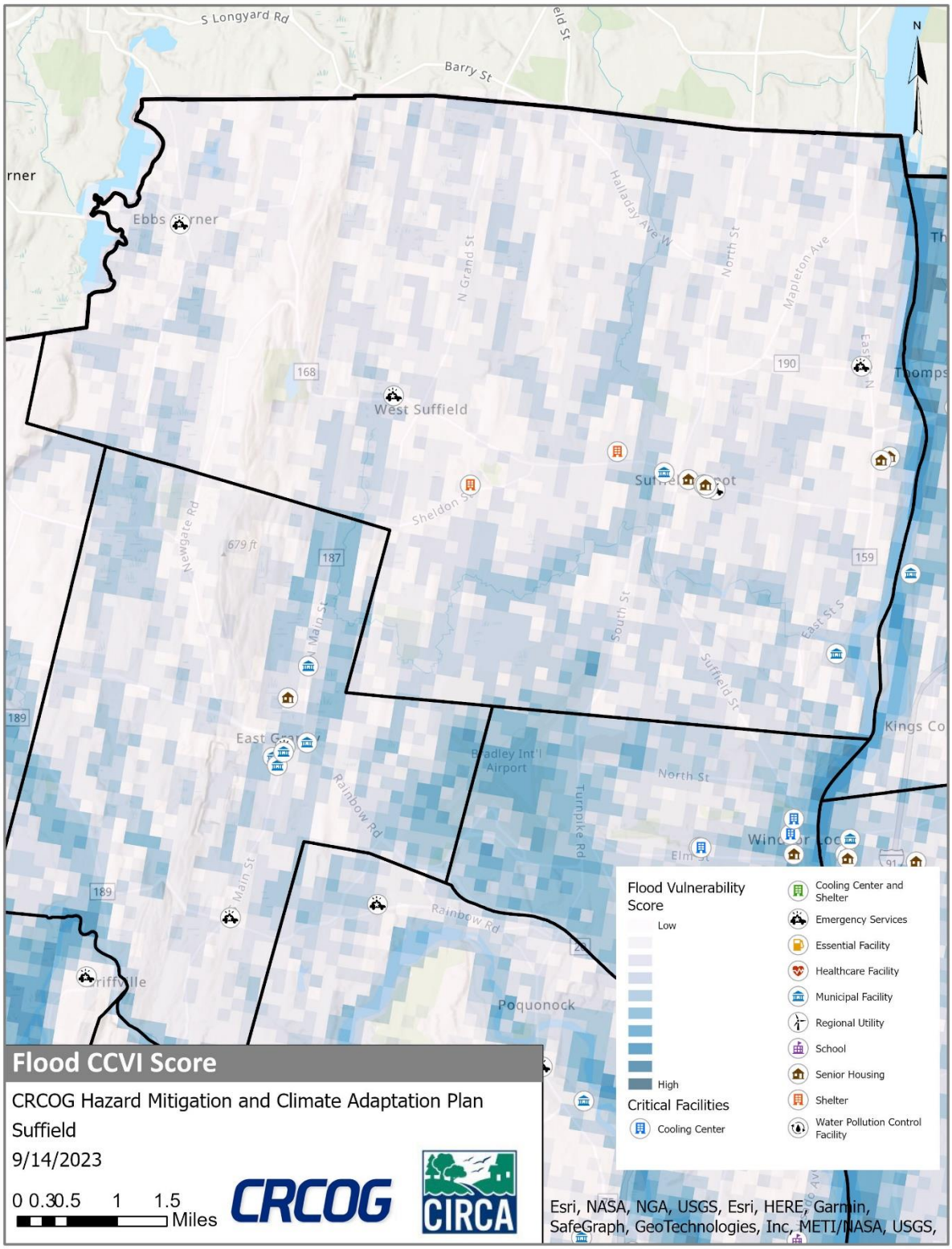
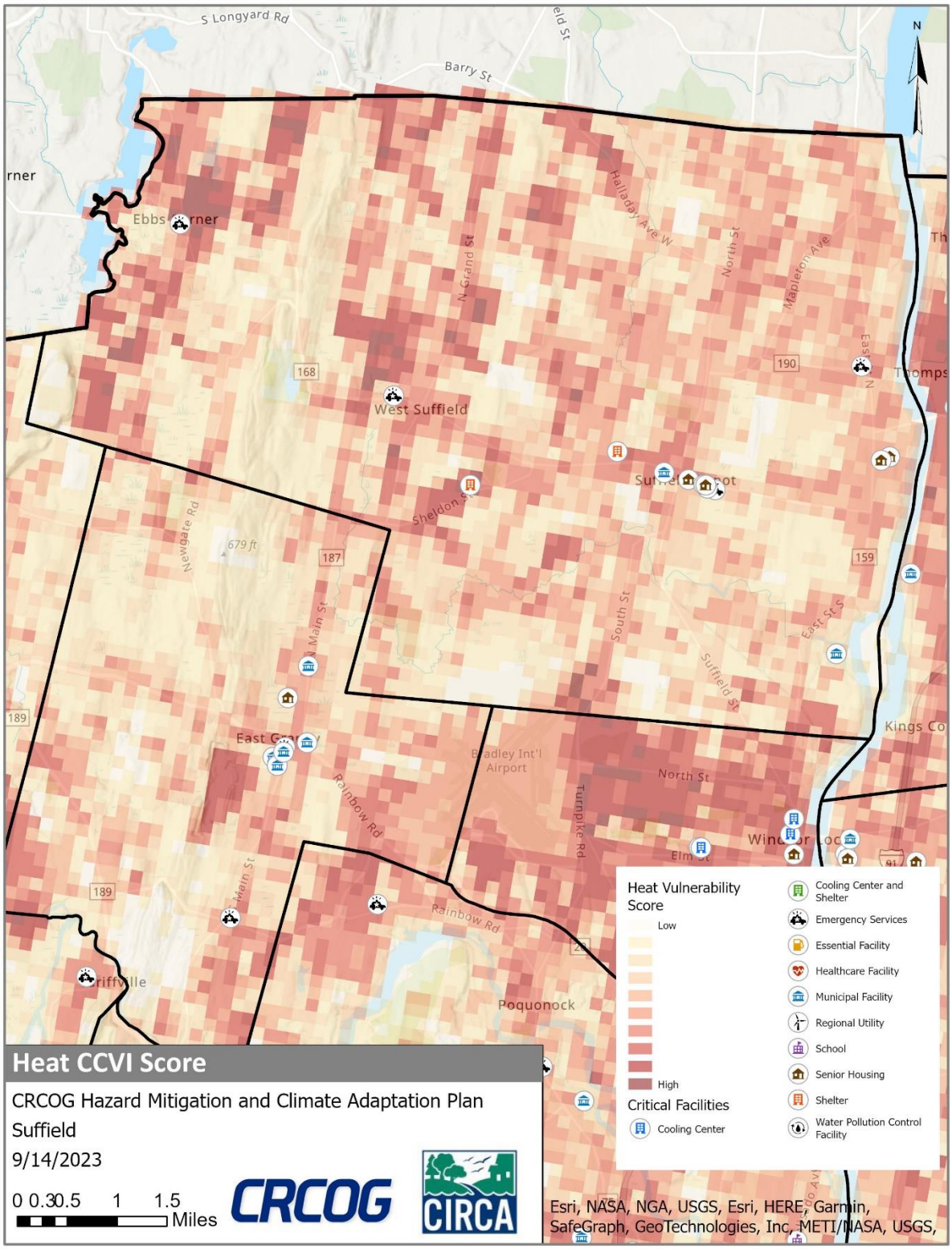


Figure 31-4: CIRCA Heat CCVI and Critical Facilities, Suffield



32 Tolland

Community Overview

Tolland is a rural community with a land area of 39.7 square miles and an estimated population of 14,563 according to the 2020 Census. Elevation ranges from about 500 to over 1,000 feet above sea level. Its land area contributes primarily to the Willimantic River Watershed to the east, but also to the Hockanum River Watershed to the west. The Willimantic River forms the eastern boundary of Tolland, and numerous smaller watercourses flow through town, including Browns, Chapin Meadow, Charter, Clark, Clough, Green, Grover, Labonte, Polk, Spice, Sucker, and West Brooks, as well as the Skungamaug River. Main transportation routes include Interstate 84 and routes 30, 74 and 195. Principal industry in Tolland includes manufacturing and professional services.

Tolland is currently witnessing two significant developments. Firstly, a 240-unit multi-family project located behind the Big Y grocery store off Rt 195 is underway, positioned uphill and outside of flood-prone areas near the Tolland Marsh. Secondly, there's an 83-unit development on Rt 195. It's important to note that if these projects also involve multi-family units without proper fire partitions, the town might face challenges in meeting the necessary annual inspection demands due to limited staff capacity. Beyond these developments, there are no other major subdivisions currently planned in the town. New development has generally not been in the floodplains or other notable hazard areas.

Critical Facilities

Critical Facilities in Tolland include the Town Hall (in which the Resident State Trooper Office is located), Senior Center (a shelter), Tolland High School (shelter), Birch Grove (shelter), the Tolland Fire Training Center (EOC), State Police Barracks, the Tolland County Mutual Aid Fire Service Inc. (a regional emergency dispatch center), the Woodlake at Tolland Nursing and Rehabilitation Center, Old Post Village and Winding River elderly housing complexes, one age-restricted development, group homes, and multiple communication towers.

Table 27-7: Critical Facilities, Tolland

Facility	Shelter	Cooling Center	Generator
Tolland Town Hall (Resident State Trooper Office)		X	
Tolland Senior Center	X	X	X
Tolland High School	Primary		X
Birch Grove Primary School	Primary		Partial
Tolland Fire Training Center (EOC)			X
State Police Barracks			X
Tolland County Mutual Aid Fire Service Inc.			X
Woodlake at Tolland Nursing & Rehabilitation Center			X
Old Post Village Elderly Housing			Partial
Winding River Elderly Housing			X
Group Homes			
Communication Towers			X
Library		X	X
1 Eversource Area Work Center			

During extreme heat events, Tolland Town Hall, Tolland Town Senior Center and Tolland Library can all be opened as public cooling centers. Tolland Town Hall and Senior Center have generators and the senior center is used as a shelter in town. It is unknown if the library have generator.

The capital improvement plan includes replacing the 60-year-old generator at the highway garage, which is the central fueling station for the town emergency and public vehicles. The town reports that the Highway Generator is slated for 2024-2025.

Capabilities

Hazard mitigation is incorporated into Tolland's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards, specifically flooding and drought.

The Town has not permitted any new construction in hazard prone areas since 2008.

The DPW maintains a list of bridges and culverts that needs attention. It prioritizes efforts based on the list.

Tolland has a limited dry-hydrant program to make sure firefighting water is available throughout Town. Public water with hydrants covers a small portion of Tolland.

Tree maintenance in Tolland is addressed in large part by Eversource. Tolland has a modest annual budget for tree trimming on a case-by-case basis. The Town maintains a contract with a tree company for tree removal, as needed and the contractor is available for after-hours work.

Tolland has added fiber-optic cables and back up capabilities for electronic assets, improving its communication capabilities.

The Town has expanded its GIS capabilities. It now has agricultural mapping data that help provide information useful for drought planning.

Tolland has adopted Low Impact Development (LID) regulations, though enforcing maintenance can be a challenge.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Tolland it will cover, is unknown.

CT DOT and DEEP have replaced the Route 74 bridge at South River Road.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Educate commissioners, developers and the community on Low Impact Development requirements on an ongoing basis.
- 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.
- Develop a list of private contractors that can be utilized for emergency tree service work.
- Develop a system for servicing/dredging fire ponds and dry hydrants periodically.
- Update list of special needs populations to include 37 new units and any other new additions to the population.
- Develop a plan to increase municipal sheltering capacity to meet 7% requirement.

- Add a link to the Emergency Management page on the Town Website with information about the National Flood Insurance Program.
- Conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster plans and kits, and improving their disaster readiness. Include notifications on the Town website.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

The Town maintains a list of vulnerable persons that is updated annually. Additionally, the Public Safety Director coordinates with Eversource to ensure that our lists are coordinated.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Poor-drainage flooding caused by rapid rainfall is a primary concern for the Town. Inundation of flood zones by flooded waterways is a lesser concern due to the relatively small amount of land that falls within those flood zones.

Gages Brook and portions of the Industrial Park are in the 1-percent annual-chance flood zone.

One of Tolland's primary concerns is its susceptibility to severe weather events. Hurricane Isaias led to extensive tree and pole damage on key roadways, causing widespread power outages. Due to frequent wind-related damage, its unique topography, and elevation change from Vernon to Tolland which locals refer to Tolland as the "Tolland Triangle," which contribute to relatively higher storm damages and increased vulnerability.

During the 2022 drought, Shenipsit Lake experienced a significant drop in water levels, prompting the town to act. The town suspended all irrigation on municipal properties. Additionally, the Connecticut Water Company requested voluntary water conservation efforts from the community in response to the drought.

In 2021, Tolland faced significant challenges related to its gravel roads, spanning 8.3 miles throughout the town, which required rebuilding three to four times during the year. These roads lack a proper drainage system, causing water to run over and through them. During two or three of the storms that year, the town had to evacuate a campground due to road washouts (located on private property), which was later sold and is names Quarry Campground which has improved roadways. Localized flooding concerns have emerged off Rt 30, specifically on Kingsbury Avenue, where town staff suspect the undersized pipe under Rt 30 contributes to flooding during heavy rain events, affecting businesses in the area. A property near the intersection of Old Stafford Road and Slater Street experienced driveway flooding twice due to a stream flowing under it, with three to four corrugated pipes. When the receiving body across Stafford Road became full, it resulted in driveway flooding.

Tolland staff report a unique weather pattern where, when neighboring areas receive rain, Tolland tends to experience snow. This geographical influence on weather events is a concern for the town.

Town staff report that most of the accidents that occur on 84, occur between exits 66 – 69 in Tolland.

Vulnerable populations in Tolland are located at Parker Place, Winding River Village, and Old Post Village. These are all elderly housing, and residents could be at risk for extreme heat. All of these have air-conditioning but the facilities might be vulnerable to power outages.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Tolland. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 32-2: Average Annualized Losses, Tolland

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$37,424.41
	NRI	$872,921.45
	FEMA PA	$28,814.52
Tornados/High Winds	NCEI	$14,011.01
	NRI	$141,232.69
Winter Storms	NCEI	$11,099.23
	NRI	$71,184.38
	FEMA PA	$20,141.44
Flood	NCEI	$11,343.87
	NRI	$12,054.99
	NFIP	$577.77
Drought	NRI	$1,791.00
	USDA	$0.00
Extreme Heat	NRI	$2,408.98
Wildfire	NRI	$1,316.99
Earthquakes	NRI	$13,106.01
Dam Failure	HMP	$925.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Tolland 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.
-

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted.

- The Town must explore options for increasing its sheltering capacity and storage of emergency supplies for vulnerable elderly populations.
- Tolland should continue enhancing its tree-trimming program, potentially by adopting UConn's "Stormwise" forest vegetation management program.
- Complete a town wide assessment of unpaved roads and streams crossing under paved roads and prioritize drainage improvements/culvert upsizing to reduce flooding.

Status of Previous Mitigation Strategies and Actions

The Town of Tolland reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Tolland

No.	Action	Notes	Status
5	Hire engineer to repair or replace center pier on Willimantic River.	Town staff said this is under way. The town has applied for state funding and has gotten a letter saying funding has been awarded. The engineering has been done, and the project is in the next phase. Carry forward with revisions to reflect the next stage of this project.	Carry forward with revisions
8	Update bridge and culvert sizing requirements to allow for passage of larger storm events: utilize the Cornell NRCC Extreme Rainfall figures found at http://precip.eas.cornell.edu/.	As far as town staff know, Tolland has not updated its design manual. Town staff are not sure whether the town offloads some design work to consultants. Revise to replace with NOAA Atlas 14/15 figures rather than Cornell NRCC.	Carry forward with revisions
12	Analyze and make recommendations to improve Gehring Road crossing of Spice Brook.	Town staff said no progress has been made on this action but report no issues with this crossing in the last 8 years.	No longer a need / Retire
13	Analyze and make recommendations to improve natural and artificial drainage in Industrial Park and Gages Brook.	Town staff said there is a grant in process for this, and funding has reportedly been awarded. Engineering stage is underway. Two structures on Industrial Road East and one on Industrial Road West are being addressed. Revise to be "complete the improvements."	Carry forward with revisions.
14	Implement recommendations to improve Gehring Road crossing of Spice Brook.	See action 12	No longer a need / Retire
19	Develop a scope of work for making recommended improvements, developed as a separate action, to the Industrial Park and Gages Brook.	See action 13.	Combine with 13 / Carry forward with revisions.
21	Identify private bridges that may need repair, and reach out to owners to determine best means of evaluating and implementing necessary upgrades. Because this is expected to be a long term, multi-year project, for the current Plan period, the action to be taken is to develop a scope of work for the project.	Town staff are not aware of any outreach related to private bridges, such as those which would cross driveways. Town staff do not anticipate that capacity and authority would be present to enable this.	No longer a need / Retire
16	Educate commissioners, developers and the community on Low Impact Development requirements on an ongoing basis.	Town staff said there is LID guidance in place and this is done on an ongoing basis. This is a capability.	Complete/ Capability/ Retire

No.	Action	Notes	Status
7	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.	The town staff they are compliant with MS4.	Complete/ Capability/ Retire
1	Develop a list of private contractors that can be utilized for emergency tree service work.	Town staff said the town goes out to bid on an annual basis with the possibility of contract extension. Currently wrapping up first year of a contract with a local tree contractor, and will extend another year.	Complete/ Capability/ Retire
2	Develop a system for servicing/dredging fire ponds and dry hydrants periodically.	Town staff said the town does this on an ongoing basis.	Complete/ Capability/ Retire
3	Update list of special needs populations to include 37 new units and any other new additions to the population.	Town staff said the town maintains this list. Not clear what the 37 units is referring to, but it could reflect a phase of Parker Place (low-income senior housing) that was underway in 2018-2019.	Complete/ Capability/ Retire
4	Develop a plan to increase municipal sheltering capacity to meet 7% requirement.	Town staff is not sure of this but it sounds like the sheltering capability is well-established. The intent may have been met.	Complete/ Capability/ Retire
9	Add a link to the Emergency Management page on the Town Website with information about the National Flood Insurance Program.	Town staff said there is info on the town website.	Complete/ Capability/ Retire
20	Explore creation of a new EOC with improved capabilities and technologies	Town staff said the town is still using the same EOC they've been using for years. Chief John Littlel has been looking for a larger facility – check with him to see if a larger facility is still desirable.	Check with Chief John Littell and carry forward if needed
6	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.	Town staff said there is not much development located in the FEMA floodplain areas in Tolland, and there are no businesses within or adjacent to the floodplain.	No longer a need / Retire.
11	Conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster plans and kits, and improving their disaster readiness. Include notifications on the Town website.	Town staff said Tolland has a CERT team and the town sends out emergency alerts.	Capability / Retire

No.	Action	Notes	Status
18	Coordinate with CT SHPO to conduct historic resource surveys to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff report that most of the historic structures are on the town green, which is relatively high and outside flood zones. Town staff are not aware of any historic structures in floodplains, given how little development is in the floodplains. Revise to the new SHPO layer action)	Perhaps retire entirely or Carry Forward with Revisions
10	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they attend trainings, although may not be specific to flood management.	Complete/ Capability / Retire
15	Send out email blasts with information about the National Flood Insurance Program.	Town staff said Tolland has very little development in flood plains, which leads to a very low flood insurance policy count, so this need is not relevant.	No longer a need / Retire
17	Seek Certification within the Sustainable CT program and make progress with the hazard mitigation goals associated with SustainableCT certified actions.	The town staff reported that they have considered doing this but decided that “the juice was not worth the squeeze”. May decide to seek in the future.	No longer a need / Retire

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.

Table 27-4: Active Mitigation Strategies and Actions, Tolland

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
TL1	Explore creation of a new EOC with improved capabilities and technologies	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	>$1M	FEMA HMA	07/2025 - 06/2026	Medium	All Hazards	No	18	2	36
TL2	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
TL3	Complete the repair or replacement of center pier on the Willimantic River.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	STEAP; Municipal CIP Budget	07/2025 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	4	72
TL4	Update bridge and culvert sizing requirements to allow for passage of larger storm events: utilize the NOAA Atlas 14/15 figures found at: https://toolkit.climate.gov/d	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP; STEAP	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	ashboard-noaa-atlas-14-precipitation-frequency-data-server	increases frequency and severity of floods.											
TL5	Complete the natural and artificial drainage improvements in Industrial Park and Gages Brook.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	STEAP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
TL6	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
TL7	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0- $10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
TL8	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Public Works	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
TL9	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate	More than one goal.	More than one type	Public Works	$0- $10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Ex	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).								treme Heat				
TL10	Develop and implement a comprehensive tree management plan and coordinate with Eversource and local contractors to ensure removal of dead/dying trees	Reduce losses from other hazards..	Prevention	Planning	$10,000 - $50,000	Municipal Operating Budget	07/2025 - 06/2026	Medium	Hurricanes and Tropical Storms/Tornadoes and High Winds/Severe Winter Storms	No	18	5	90
TL11	Conduct a study to characterize the risks caused by the unique geographically weather challenges.	Reduce losses from other hazards.	Prevention	Planning	$0- $10,000	FEMA HMA	07/2025 - 06/2027	High	All Hazards	No	19	7	133
TL12	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0- $10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
TL13	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 32-6: CIRCA Environmental Justice Rank and Critical Facilities, Tolland

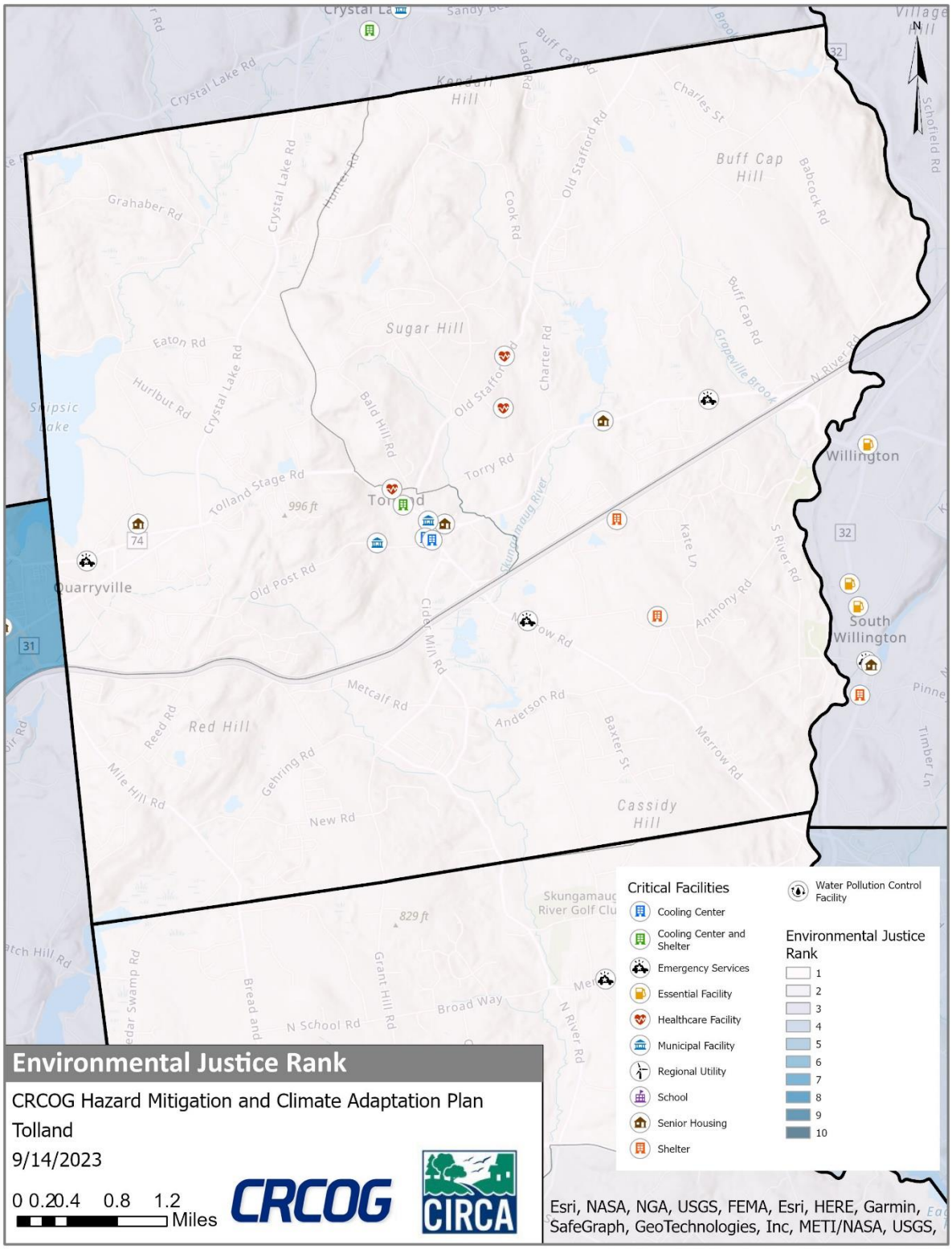


Figure 32-2: FEMA Flood Zones and Critical Facilities, Tolland

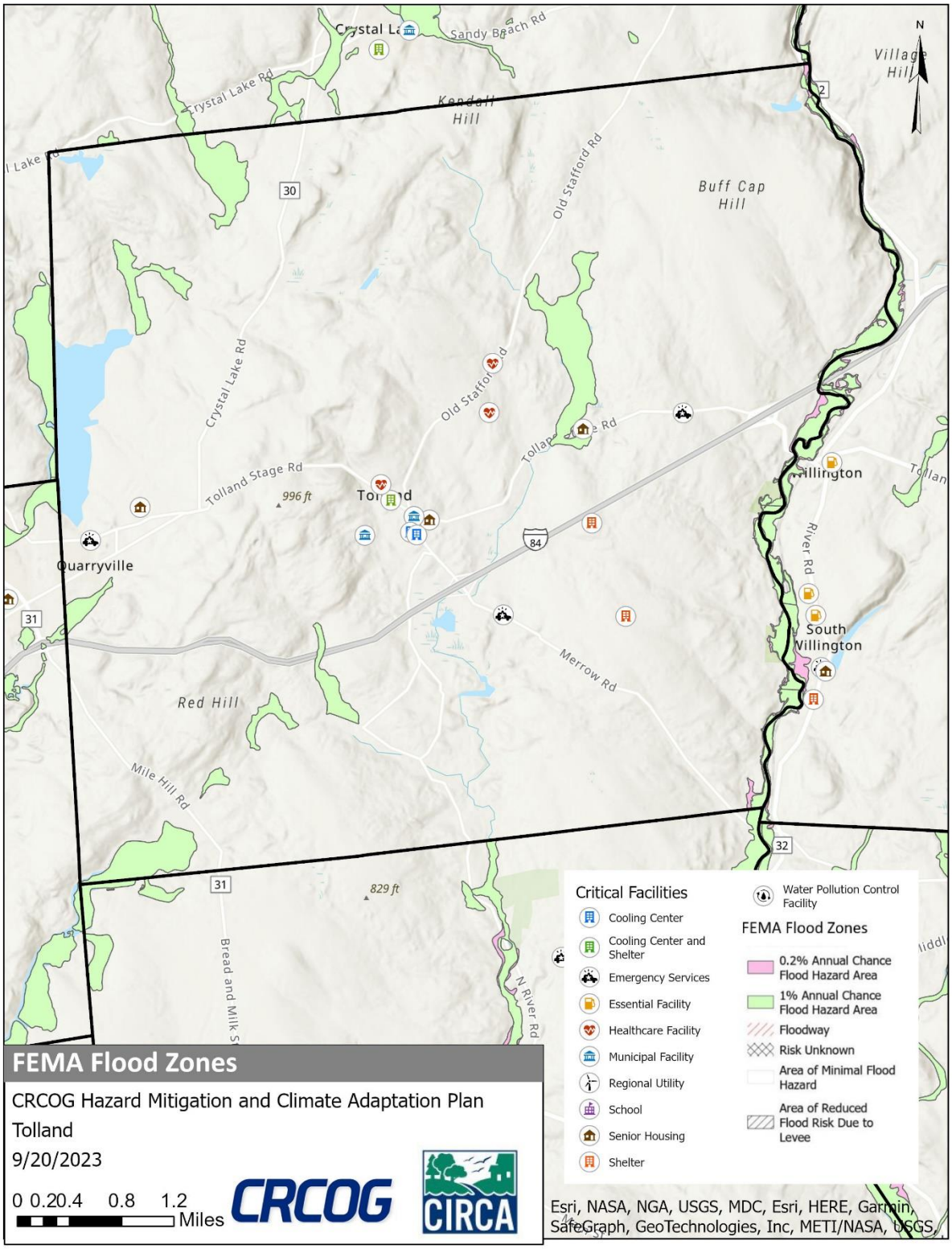


Figure 32-3: CIRCA Flood CCVI and Critical Facilities, Tolland

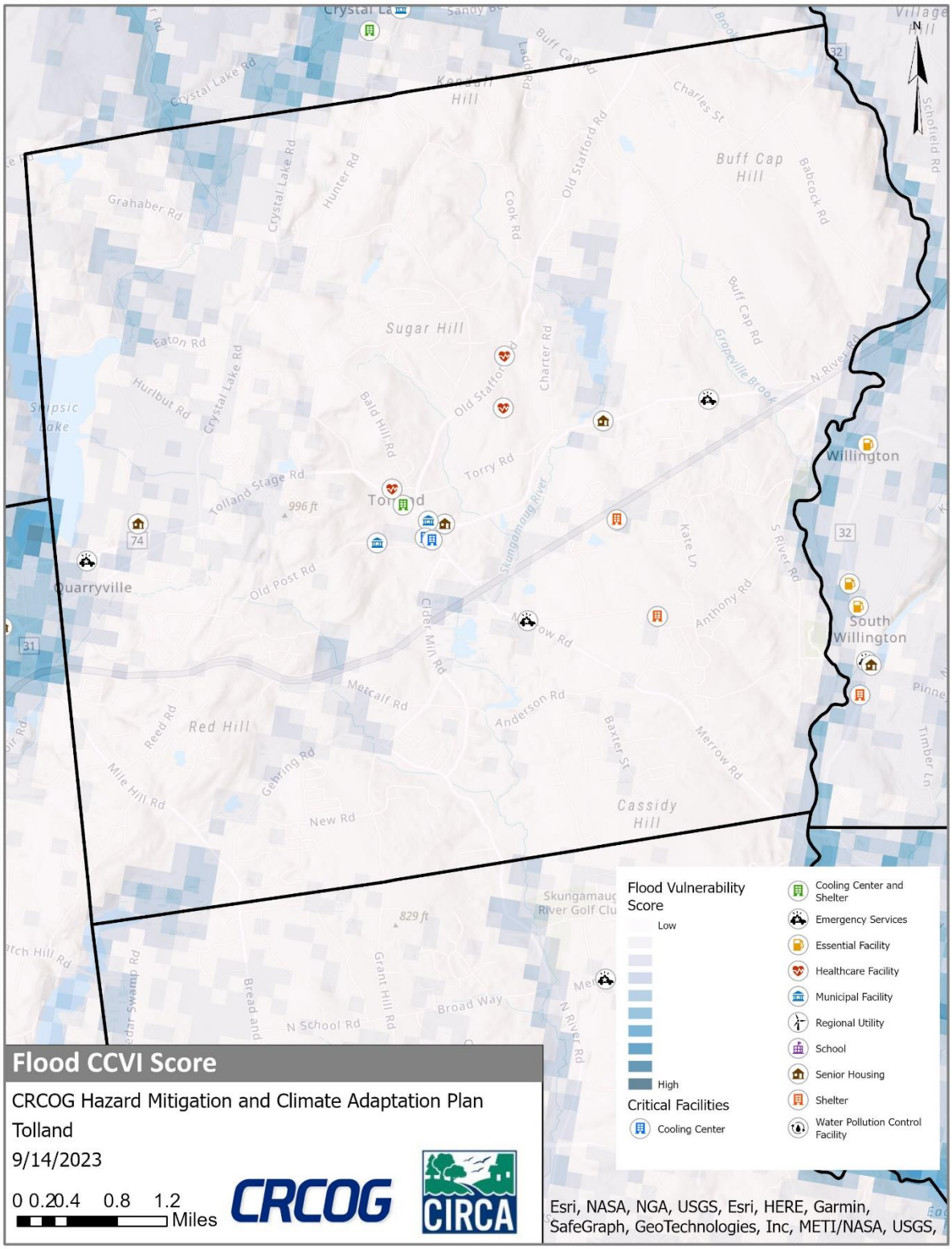
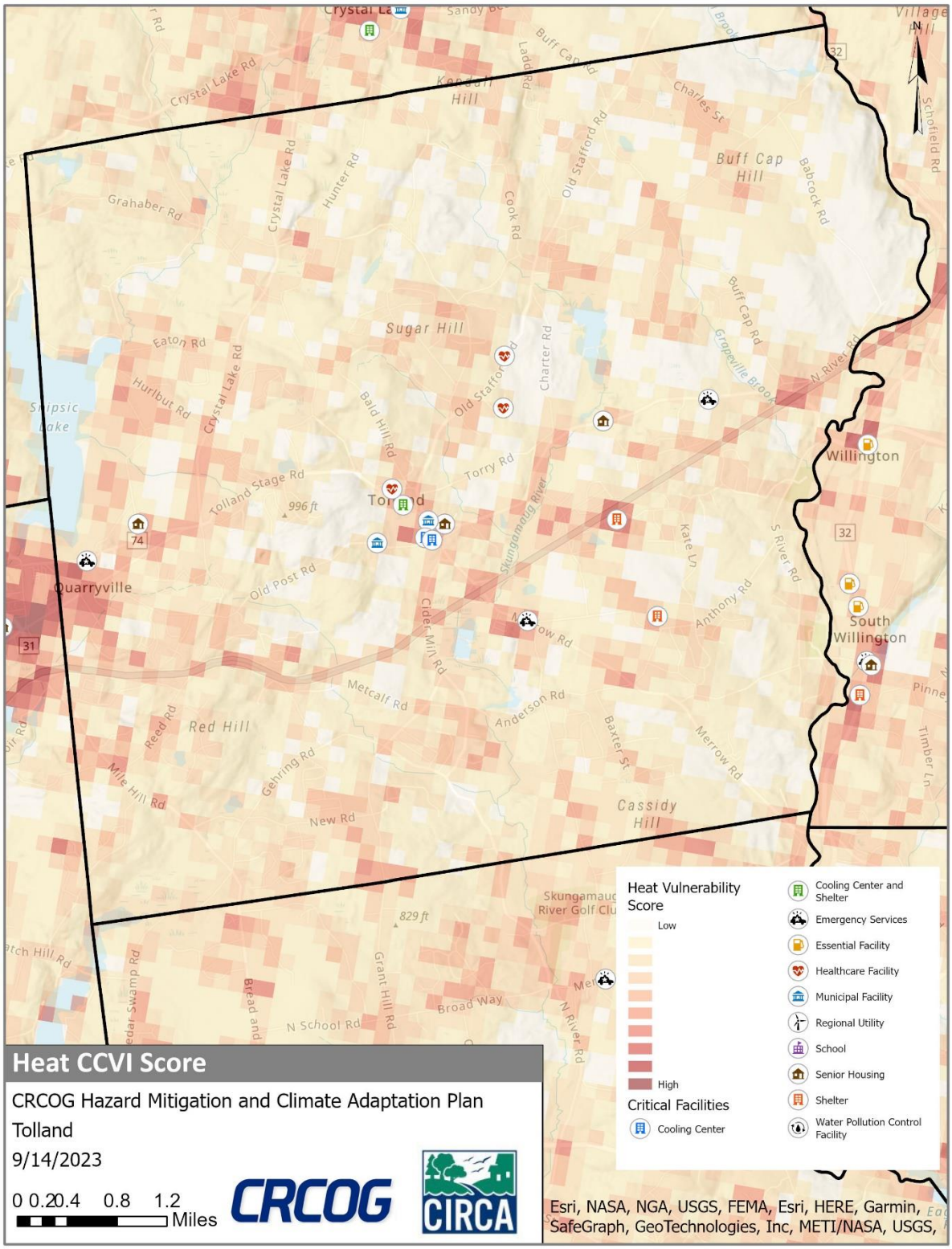


Figure 32-4: CIRCA Heat CCVI and Critical Facilities, Tolland



33 Vernon

Community Overview

The Town of Vernon is a fully suburban community that encompasses 18.4 square miles of land and has a population of approximately 30,215. Elevation ranges from about 150 feet in the west to over 800 feet in the east. Vernon's lies primarily within the Hockanum River Watershed, however, the southeastern corner of town drains to the Willimantic River. Major watercourses include the Hockanum and Tankerhoosen Rivers, as well as Clarks and Railroad Brooks. Vernon is bisected by Interstate 84 which travels east-west. Other major thoroughfares include state routes 30, 31, 74 and 83. Strong business sectors include retail, professional, medical, commercial-industrial, and agricultural and horticultural enterprises.

There has been a significant amount of development and re-development in Vernon in the last five years. The main economic corridors are Routes 83 & 30 which have seen a significant amount of private development. Apartments and commercial development have been developed from the 200 block to the 800 block on Route 83. Some open space and vacant land have been acquired and developed and this development has included steps for flood mitigation, including the grading of the parcels to allow water flow back to the river. While some development/redevelopment will occur in areas of flood risk, strict adherence to state and local flood regulations and the state building code will reduce overall risks.

Critical Facilities

In Vernon critical facilities include the Bolton Road Senior Center, Town Hall Annex, Parks and Recreation Facility at Henry Park, the Communications Tower, Rockville Public Library, Fire Stations, Police Department, Rockville General Hospital, and a Regional Dialysis Center.

Table 27-8: Critical Facilities, Vernon

Facility	Shelter	Cooling Center	Generator
Bolton Road Senior Center	X	X	X
Town Hall Annex			X
Parks and Recreation Facility			X
Vernon Center Middle School	Primary		X
Rockville High School	Secondary		X
Communications Tower			X
Rockville Public Library		X	
Fire Stations			
Police Department			
Rockville General Hospital			
Regional Dialysis Center			

During extreme heat events, Rockville Public Library and Vernon Senior Center on Bolton Rd can both be opened as public cooling centers. The senior center has a generator but the library does not.

Vernon Center Middle School is Vernon's primary emergency shelter has a generator capable of powering most of the building; this is a regional shelter that provides mass care and qualifies for American Red Cross approval.

Over the past 5 years, the town has upgraded the Communications Tower. The tower sits in the same location and is of regional significance. This tower provides regional emergency communications for fire and EMS.

Capabilities

Hazard mitigation is incorporated, to some degree, as a specific element in Vernon's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards. In 2013, the Town incorporated low impact development (LID) requirements into its Zoning Regulations to aid in reducing its vulnerability to flooding. The Town has not permitted any new development in the flood plain since 2008. Redevelopment projects in flood plains adhere to strict regulations.

Vernon has a tree warden and conducts tree maintenance annually, along with Eversource.

Since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"), Vernon has built redundancy into its IT systems.

The redevelopment project at Amerbelle Mill Complex included relocation of an onsite dam, which is believed to have alleviated flooding problems on the site. The Talcottville Mill redevelopment included a bank stabilization project.

Vernon has continued to expand its public water system, and the majority of the Town is now on public water with hydrants. The Connecticut Water Company (CWC) recently added hydrants on South Street, High Street, and Merline Road.

The Town has actively worked to address tree maintenance issues in recent years. The Town owns a bucket truck and a 72-foot four-by-four lift truck. Since the 2014 HMP, the Town purchased a grappling hook for debris cleanup.

A map modernization effort by FEMA is currently underway for Tolland County.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- 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.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- The local weather service has been a tremendous asset to the town. Vernon is one of the few municipalities that has invested in Hyper Local Weather Forecasting. This has helped the town to alert the public (tornado warning to flooding), prepare for storms, and schedule town events.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

The town faced wind damage and prolonged power outages from T.S. Isaias, primarily due to coordination challenges with Eversource utility workers. The East St section endured 3-4 days without power, with downed utility poles and failing transformers. Flooding was not a significant issue during this event, but the storm caused substantial infrastructure damage from numerous fallen trees.

The summer storms of 2021 impacted Vernon significantly, leading to a reevaluation of the town's flood vulnerability priorities. The most affected areas included East St, stretching from the Northeast School to the cemetery, West Street, Skinner Rd area, Hockanum Bld, Route 83, Welles Street, and Main Street. Overbrook Road is also a concern related primarily to stormwater concerns. Windsorville Road, including the regional water pollution control facility and regional animal control facility, were also concerns related to road overtopping and stormwater flooding. These storms, exacerbated by saturated ground from earlier rainfall, resulted in a significant volume of stormwater runoff, necessitating a critical focus on addressing flood vulnerabilities.

Vernon staff continue to address the welfare of the town's vulnerable populations, encompassing the elderly, special needs individuals, and young children. The town has several daycares serving not only Vernon but also neighboring communities.

A notable concern in downtown Vernon is the clustering of critical facilities within close proximity. The hospital, court system, and board of education are all situated within a single city block. While flooding has not posed a significant threat to these facilities thus far, the concentration of vital public services in such close quarters raises potential risks. The town has taken steps to address potential risks. For example, the town has established a redundant IT network and cloud-based systems for accessing and securing vital information.

A pressing concern for Vernon pertains to the sewer infrastructure in the downtown area, which is an aging system. Recognizing the need for maintenance and upgrades, the town did an extensive lining program on the sewer mains in the Rockville Section, in which they cleaned out the pipes and installed a liner in the pipes. The project has been a great success and the town plans on expanding this effort to additional areas of the sewer system.

There are 26 registered dams in Town; none of which are a major concern.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Vernon. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was

downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 33-2: Average Annualized Losses, Vernon

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$77,647.37
	NRI	$1,381,434.35
	FEMA PA	$15,481.14
Tornados/High Winds	NCEI	$29,069.75
	NRI	$248,009.65
Winter Storms	NCEI	$23,028.44
	NRI	$116,965.28
	FEMA PA	$17,083.22
Flood	NCEI	$23,536.02
	NRI	$86,234.06
	NFIP	$4,704.65
Drought	NRI	$4,449.08
	USDA	$0.00
Extreme Heat	NRI	$4,845.20
Wildfire	NRI	$1,409.93
Earthquakes	NRI	$44,480.97
Dam Failure	HMP	$1,793.00

Losses Summary

A review of the above loss estimates demonstrates that the community 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.

- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

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

- Continue to work with Eversource to ensure timely tree removal and decrease power outages during storm events.
- Enhance stormwater management systems to mitigate flooding in vulnerable areas, conduct regular maintenance of drainage infrastructure to ensure its effectiveness.
- Invest in flood-resistant infrastructure for critical facilities clustered in downtown Vernon.
- Update and maintain a comprehensive registry of vulnerable residents to assist in evacuation and assistance efforts during emergencies.
- Collaborate with local businesses to help ensure they have robust disaster plans in place, including evacuation procedures and staff training.
- Continue the sewer lining program to address aging infrastructure throughout the town.

Status of Previous Mitigation Strategies and Actions

The Town of Vernon reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Vernon

No.	Action	Notes	Status
2	Develop a scope of work and a request for proposals to study improvements to the Manchester Flats area, around Route 83 and Welles and Main Streets, to alleviate flooding issues.	This area is still very much a concern for the Town. Town staff reported that in recent years there have been multiple 100-year storms (particularly the summer of 2021) which have resulted in flooding in this area. There has been also been a significant amount of private sector development in this area on both sides of the river. There were some losses involved with new property owner in the areas around the bank, including loss of equipment. The work of the private development on both sides of the river has mitigated some of the flooding and risks in the area. On the side of the river where the Golf Land golf course used to be, actions were taken by developers to mitigate flooding. This is redevelopment with an eye on maintaining flood capacity that was there while developing some previously-open space. There are still some stormwater choke points. Repeated storms have resulted in flooding in this area. Vernon Public Works has done what they can to update and maintain stormwater systems but the system gets overwhelmed easily. A lot of land in this area is privately owned, which makes it more complicated to implement flood mitigation strategies. In the recent July 2023 storms this area did not experience much flooding. The town would like to carry this forward.	Carry Forward with revisions to reflect redevelopment. Also, the town would like this to say the Vernon - Manchester Flats.
3	Develop a scope of work and a request for proposals to study improvements to Frederick Road to alleviate flooding issues.	Town staff said they were unaware of flooding on Frederick Rd and this is not one of their priority flooding areas. The Frederick Rd does back up to the Tankerhoosen River and causes some localized flooding. Town staff would like to revise this action to focus on their priority areas for flooding, which include: - East St from the Northeast School to the cemetery - Overbrook Road - Windsorville Road (includes regional water treatment facility and regional animal control facility) West Street	Carry Forward with Revisions to reflect the other priority areas.

No.	Action	Notes	Status
8	Review water level monitoring systems that can provide real-time data and alerts to inform critical decision making to identify those appropriate for the Town. Explore grant funding options.	Town staff said there has been some discussion of having an alert system in place, specifically, flow monitoring or water level monitoring. Replacing culverts and stormwater infrastructure and sewers became more of a priority for the Town, so this action has not yet been achieved. Town is still interested. Town staff suggested that perhaps CRCOG could take the lead on this project for multiple towns in the region, and Vernon could be a pilot area.	Carry Forward with revisions to note that this might be better suited as a regional project with CRCOG as the leader
4	Complete upgrades to the generators at the Town Hall Annex and Parks & Recreation Facility	The town has made progress on generators, including installing a new generator at the Parks & Rec Facility and the Fox Hill Radio Tower. This tower provides regional emergency communications for fire and EMS, and is a critical asset for the region. There are also up-to-date generators at other locations: senior center, middle school. Generators meet operational and planning needs for the shelter and the other buildings. Town staff said the town is currently looking to upgrade the generator at the Police Department and the generators at the fire stations, which all date back to 70s and 80s. Town is seeking grants for these upgrades. The new police accountability law that was passed requires police departments to be accredited, which includes building requirements.	Revise to Fire Department and Police Departments.
13	Pursue grants to purchase portable generators and modify buildings for hook-up.	Town staff said they have enough portable generators. The current needs are being met with what they have.	Complete/ Remove

No.	Action	Notes	Status
9	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff has gone above and beyond the wording of this action and has done more than mailing letters. Town regularly proactively sends Public Works out to floodprone properties, and the town gives out sandbags free of charge at Public Works. In some cases when the Town knows there is a higher risk for flooding, the town will drop off pallets of sandbags for property owners. Town staff also report that the Town is taking steps to address the causes of some of the flooding experienced in RL area. On Overbrook Road, the town is doing internal engineering to redirect some of the flow that is causing some of the back-up along the storm water management system. Town staff also express a regional concern, as water from neighboring towns is reportedly flowing into the waterways in Vernon and contributing to the burden on the waterways/systems. For example, town staff report that increased development in South Windsor and Ellington has increased flooding in the Skinner Rd area and Hockanum Boulevward. This action will be carried forward according to FEMA requirements since Vernon has RLP. A new action will be added to capture the regional water flow concern.	Carry Forward but add another action for the regional action to address the flooding
12	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Town staff said this has not been completed.	Carry Forward
6	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.	Town staff said they still need help with MS4 and would like to keep this action.	Carry Forward
5	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.	Town staff said they maintain hazardous materials as required. The town staff believe they mitigated most of this and started a program to inspect businesses which has given them a handle on the quantities and types of materials that are stored. This is a capability.	Capability/ Remove
7	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff said they participate in training regularly. This is a capability.	Capability/ Remove

No.	Action	Notes	Status
10	Evaluate the costs and benefits of joining the FEMA Community Rating System.	Town staff said this is still on their to-do list.	Carry Forward
11	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Town staff reported that they are aware of their historical resources along flood zones and are comfortable retiring this action.	Complete/ Retire
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Town staff said this has been a priority and a significant accomplishment, and Vernon's success has reportedly motivated neighboring towns to do the same. The town has been Silver Certified since 2019 and was recertified in 2022. The town is continuing to push forward.	Complete/ Retire

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.

Table 27-4: Active Mitigation Strategies and Actions, Vernon

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
VN1	Complete upgrades to the generators at the Police and Fire Departments.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2024 - 06/2027	High	All Hazards	No	19	4	76
VN2	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2024 - 06/2025	High	All Hazards	No	19	5	95
VN3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
VN4	Undertake a study in the Vernon -Manchester Flats area, around Route 83 and Welles and Main Streets, that identifies potential redevelopment opportunities and other improvements to alleviate flooding issues.	More than one goal.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2025 - 06/2027	High	Riverine and Pluvial Floods	No	19	6	114
VN5	Develop a scope of work and a request for proposals to study improvements to; East St from the Northeast	Reduce flood and erosion risks by reducing vulnerabilities and	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; CWSRF	07/2025 - 06/2028	High	Riverine and Pluvial Floods	No	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	School to the cemetery, Overbrook Road, Windsorville Road (includes regional water treatment facility and regional animal control facility), and West Street to alleviate flooding issues.	consequences, even as climate change increases frequency and severity of floods.											
VN6	Work with CRCOG to explore the feasibility of installing a water level monitoring systems that can provide real-time data and alerts to inform critical decision making, with Vernon as a pilot case for the region.	More than one goal.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	STEAP; CRCOG; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
VN7	Work with CRCOG and neighboring towns to address the regional concern of the influx of water from neighboring towns into Vernon's waterways, contributing to increased flooding in areas such as Skinner Rd and Hockanum Boulevard.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; CRCOG	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
VN8	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning and Development	$0- $10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
VN9	Work with CT DEEP to complete a formal validation of the Repetitive Loss	Reduce flood and erosion risks by reducing	Property Protection	Planning and Development	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and	No	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Property list and update the mitigation status of each listed property.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods				
VN10	Coordinate with CLEAR/NEMO 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.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Public Works	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Medium	Riverine and Pluvial Floods	No	18	7	126
VN11	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
VN12	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	7	126
VN13	Evaluate the costs and benefits of joining the FEMA Community Rating System.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & emergency response	Public Works	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	Low	Riverine and Pluvial Floods	No	17	3	51

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
VN14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning and Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 33-7: CIRCA Environmental Justice Rank and Critical Facilities, Vernon

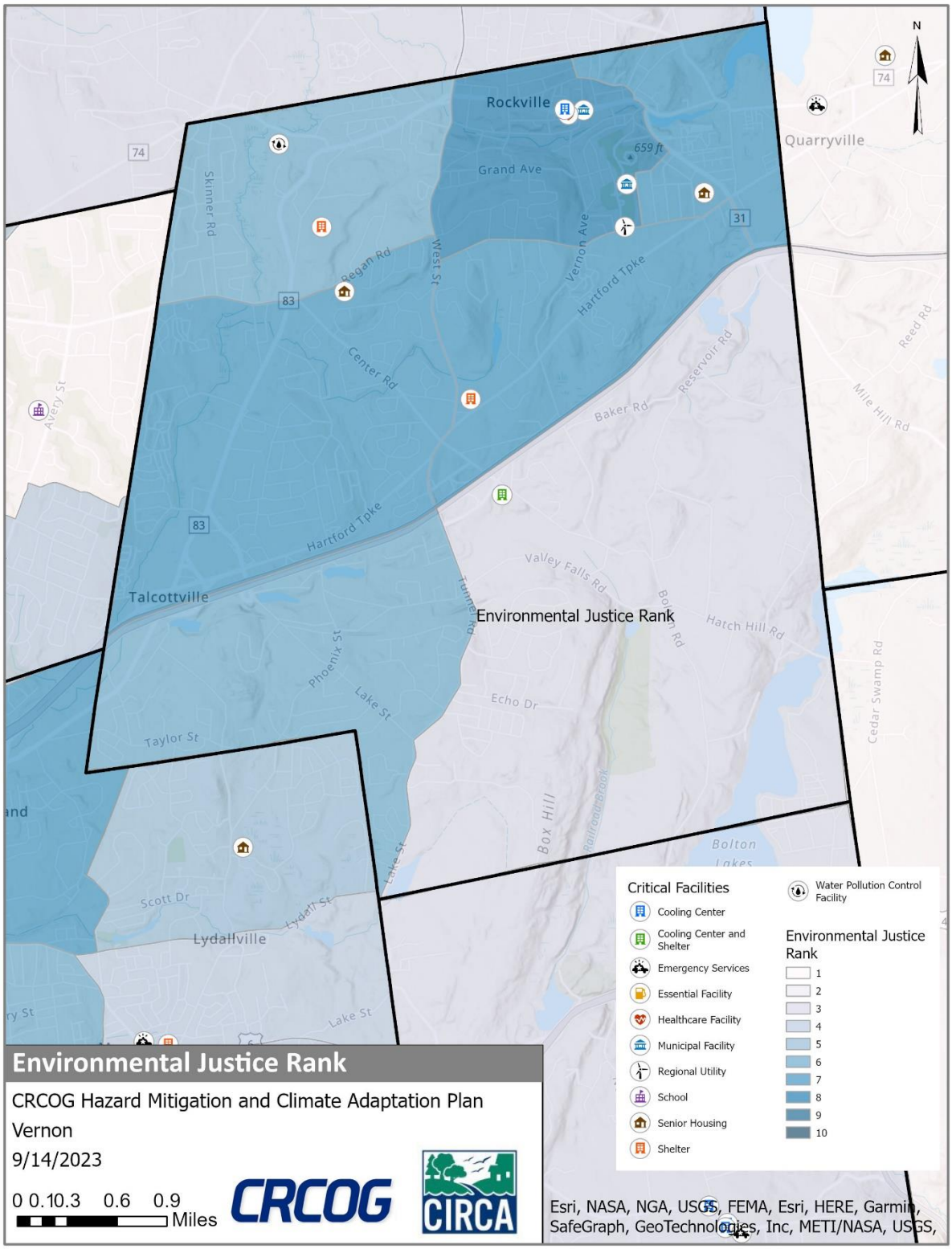


Figure 33-2: FEMA Flood Zones and Critical Facilities, Vernon

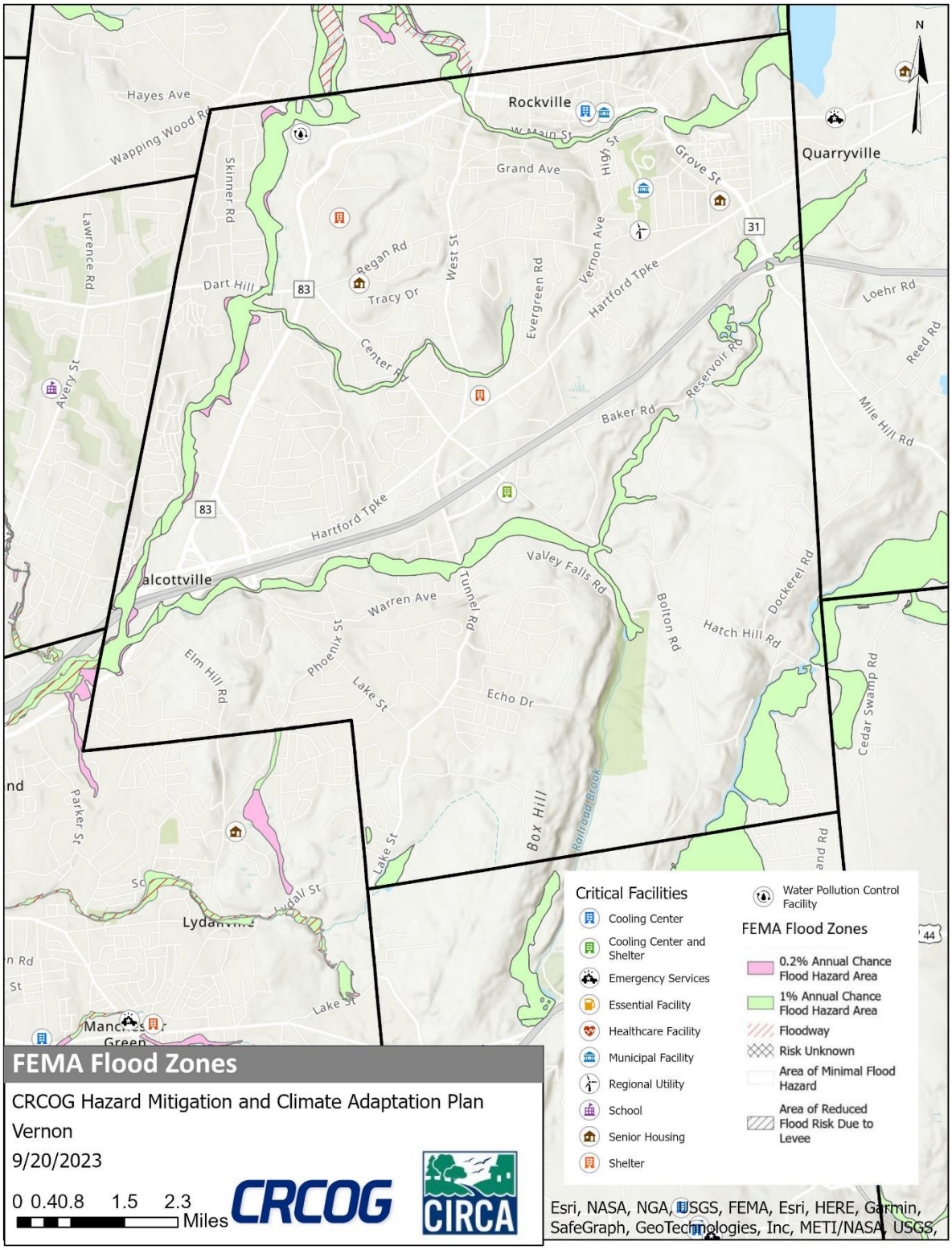


Figure 33-3: CIRCA Flood CCVI and Critical Facilities, Vernon

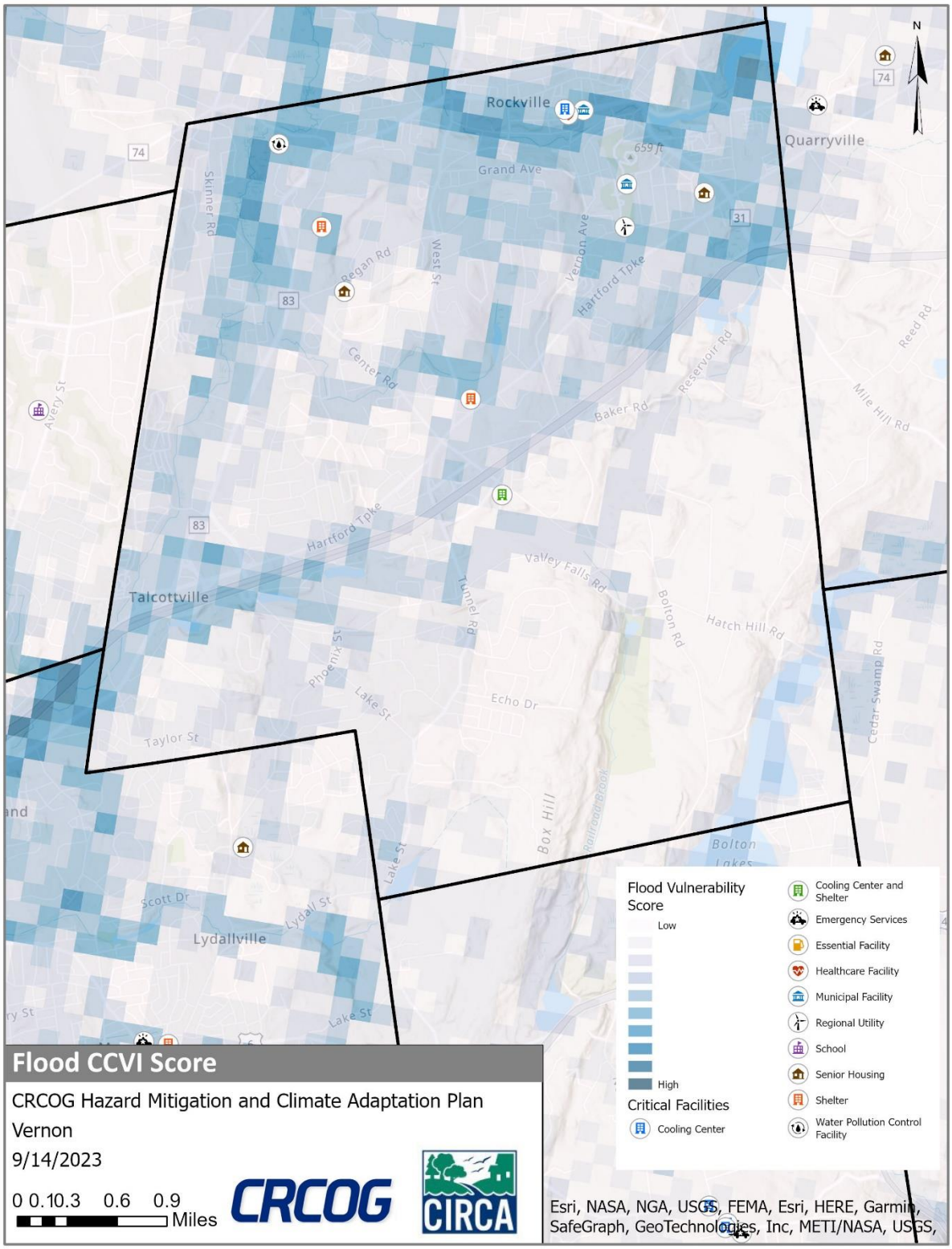


Figure 33-4: Dam Inundation Area and Critical Facilities, Vernon

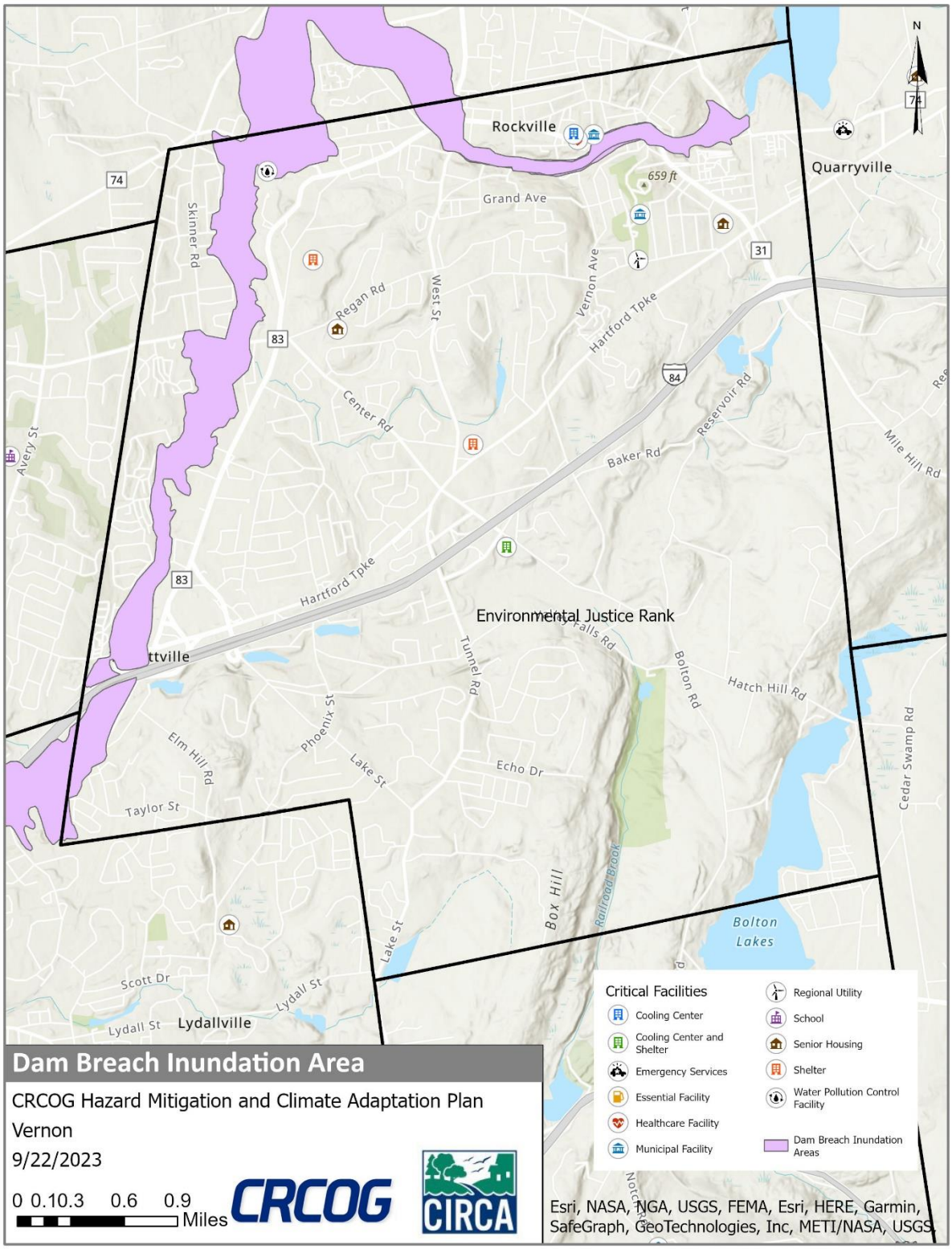
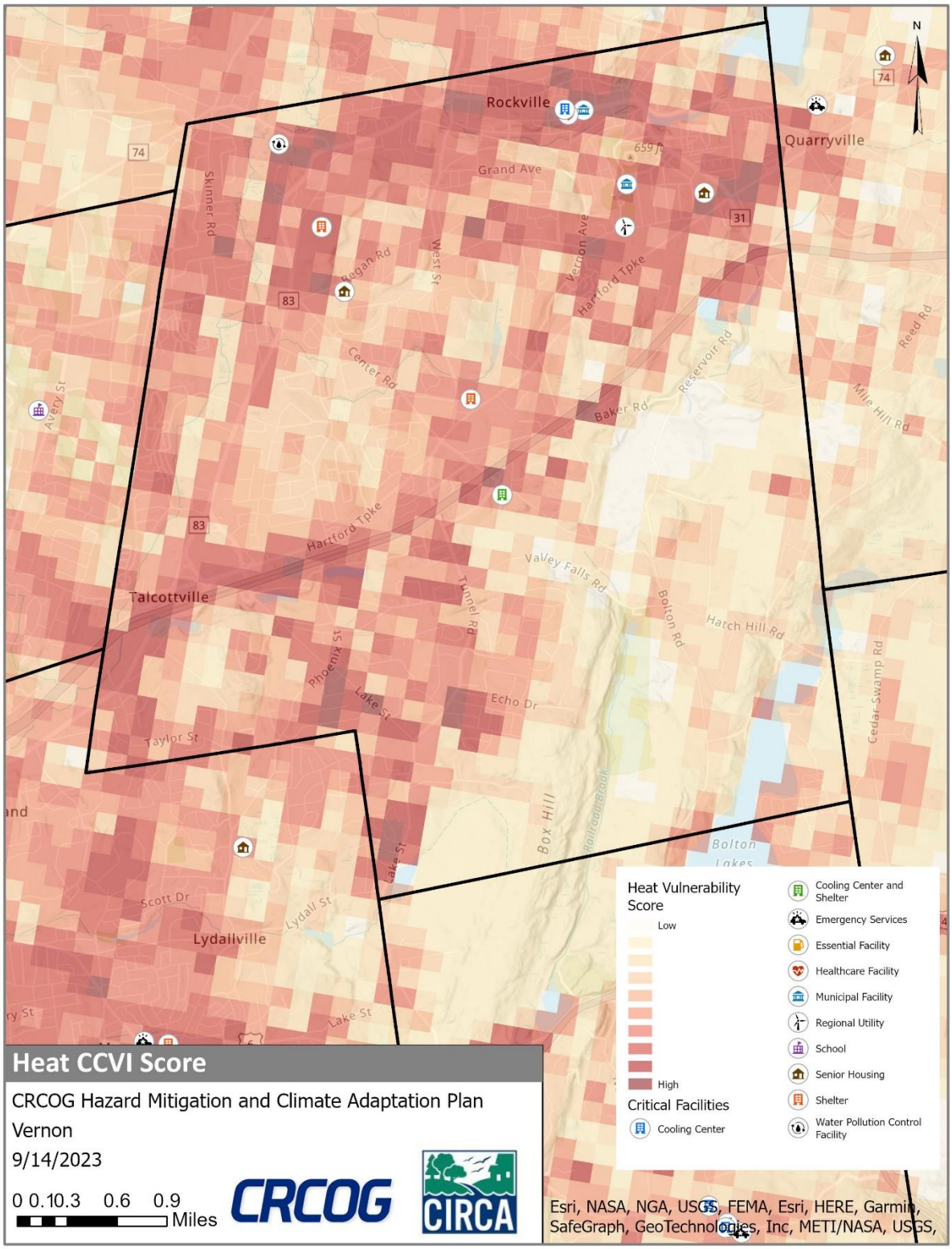


Figure 33-5: CIRCA Heat CCVI and Critical Facilities, Vernon



34 West Hartford

Community Overview

West Hartford is a fully suburbanized community that encompasses a land area of 22 square miles with a population of approximately 64,083. Major transportation routes to and through Town include Interstate 84, State Routes 4, 44, 71, 173, 185, 189 and 218. CT*fastrak*, a regional Bus Rapid Transit System, has two stations in West Hartford, and a Hartford Line commuter rail station is proposed for West Hartford near Flatbush Avenue.

West Hartford is within the Park River Watershed, and contains several reservoirs that supply the Metropolitan District Commission's system. Major watercourses in town include Tumble, Meadow, Piper, Rockledge, and Trout Brooks, and the North Branch of the Park River.

About 21% of the Town's non-agricultural employment is in manufacturing. The Town has several large established commercial districts. New Park Avenue continues to be an area of redevelopment; a new apartment complex constructed on that road adjacent to Trout Brook received state funding and therefore is elevated above the 0.2% annual-chance flood elevation. A redevelopment project is nearly complete at the intersection of Park Road and Prospect Avenue, at the site of an old convent. This site is close to a stream that crosses into Hartford and protective measures were constructed to preserve flood capacity.

The Town hosts the University of Hartford, St. Joseph College and the American School for the Deaf. In August of 2017, the University of Connecticut relocated operations from its West Hartford Campus to downtown Hartford, leaving behind a 58-acre property that is under review for redevelopment. The west parcel, 1800 Asylum Avenue, is proposed for mixed land uses while the east parcel, 1700 Asylum Avenue is proposed for high density apartments. The Town had considered acquisition of the property but has instead decided to allow it to be sold on the public market. Part of the campus is in a Special Flood Hazard Area (SFHA). Since a portion of the property is in a FEMA flood zone, the wetland permit application for this project was withdrawn and then re-submitted to reflect a revised plan.

A new apartment complex at the former convent at the Southwest corner of Park and Prospect is completed but not open. It was under construction during the 2021 storms, which impacted that property and the adjacent stream.

While some development/redevelopment will occur in areas of flood risk, strict adherence to state and local flood regulations and state building codes will reduce overall risk.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In West Hartford these include the Elmwood Community Center (a shelter) and two public high schools (also shelters), the Police Department, Fire Department, and Public Works Department. The Police Department is the Emergency Operations Center (EOC) and the Public Works facility is the backup EOC. The high schools do not have permanent generators, but do have connective capabilities for portable generators. This is also the case for the Town Hall. The Fire Department provides Emergency Medical Services.

Table 27-9: Critical Facilities, West Hartford

Facility	Shelter	Cooling Center	Generator
Elmwood Community Center	X	X	Yes
2 High Schools	X		Portable
Town Hall			Portable
Police Department (EOC)			Yes
Public Works			Yes
Fire Department			Yes
3 Public Libraries		X	
West Farms Mall		X	
Mayflower St Community Center			
MDC Facility on New Britain/Hillcrest Ave			
MDC Facility on Talcott			
3 Eversource Substations			

During extreme heat events, Elmwood Community Center, Noah Webster Library, Bishops Corner Library, Faxon Branch Library and West Farms Mall can all be opened as public cooling centers. The Elmwood Community Center currently has a generator and is also used as a town shelter. The Town is planning for, the Elmwood Community Center and Faxon Library to merge into a new community center on Mayflower Street, and the existing Elmwood Community Center building will no longer be used as such. Noah Webster Library, Bishops Corner Library, Faxon Branch Library and West Farms Mall do not have generators.

Town staff also reported that pump stations should be included as critical facilities, although locations are not listed for security purposes.

Capabilities

Hazard mitigation is addressed specifically in West Hartford's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

The Town has experienced significant flooding events in the past and has worked to mitigate the problem over the course of many years. West Hartford participates in the FEMA Community Rating System (CRS), and therefore has many flood-mitigation capabilities and programs in place. The Town was upgraded to Class-7 CRS community during the last 5-year cycle.

The Town of West Hartford undertook significant structural mitigation projects in the early 1980s, including rechanneling the Trout Brook to remove 238 houses from the floodplain. Additional work has been completed in recent years.

In 2001, the Town adopted a Repetitive Flood Loss Plan (RFLP),and has consistently worked to implement the action plan contained within. Recent flood-mitigation work on Trout Brook is expected to help mitigate flooding at RFLP sites. The Town periodically ensures that repetitive flood loss property owners have adequate information for retro-fitting flood-prone structures. The Town also holds regular meetings with residents to provide technical advice on flood protection and flood preparedness. In 2008, in order to remain eligible for participation in the National Flood Insurance Program, the Town revised its floodplain ordinance using adopting language that meets or exceeds federal or state requirements. The revised ordinance improves the Town's ability to restrict new development in flood

prone areas, and requires buildings in the floodplain be elevated or floodproofed to at least one foot above the base flood elevation (freeboard).

Very little development occurs in flood zones. Since 2008, the Town's Inland Wetlands and Watercourses Commission has approved some regulated activities in areas either identified as floodplain or wetlands. Most of these approvals were for work in regulated inland wetlands areas outside of the floodplain, or for minor structural renovations and site improvements in regulated areas, in accordance with the Town's flood hazard reduction and resource compensation standards. No new structures have been approved in the special flood hazard area. Permitted activities did not result in increased vulnerabilities to flooding and in some cases reduced the community's flood risk. For example, permitted activities included structural stormwater drainage improvements, stream bank stabilization and removal of sediment and debris in floodplain and wetlands that help mitigate flood risks.

West Hartford works closely with the regional energy provider, Eversource, to mitigate power outages caused by natural hazards. Additional mitigation work on Trout Brook, including tree and debris removal, has been completed since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"). Four North Branch Trout Brook Studies were completed by consultants between 2018 and 2023. A fifth study is planned for the Kane and Kennedy Brook watershed area with funding from CTDEEP Climate Resilience Fund. A shack at the Buena Vista Golf Course that was located within a FEMA floodway has been replaced by a new structure outside the floodplain.

The West Hartford Public Works has acquired new snow-removal equipment since adoption of the 2014 HMP, improving its ability to clear streets following storms.

West Hartford was awarded the Bronze Certification level within the SustainableCT program in October 2018.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.
- 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.
- Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.
- Increase the ability of residents and visitors to safely shelter in place and when necessary, evacuate to safer locations, through education, trainings, and warnings.
- Improve transportation access for residents and visitors to emergency shelters.
- Provide specific incident action plan development training to positions and functions of EOC representatives.
- Provide Incident Command training to all personnel for position and function.
- West Hartford was awarded a DCRF award for Kane Brook/Kennedy Brook.
- A recurring Flood Mitigation CIP was created budgeting $5 Million per year

- Designs are underway to replace Trout Brook culverts located between Route 44 (Albany Avenue) and Asylum Avenue with culverts sized to convey a 100 year storm event
- Flood Mitigation projects are in design for the storm drainage systems near Asylum Avenue/Ballard Drive and Albany Avenue/Wiltshire Lane
- A table top exercise is scheduled in January 2024 for the New Park Avenue Levee Emergency Action Plan

Capabilities to address natural hazards and the losses that they have caused have increased since the last plan has been adopted

Challenges

Challenges Overview

Town officials report that flooding continues to be a major concern and was widespread during the 2021 storms throughout the town.

Some of the flooding issues in West Hartford result from sanitary sewer service back-ups. The Metropolitan District Commission (MDC) owns and operates the sewer system in West Hartford. The town is in contact with MDC about disconnecting some residents from combined water/sewer so that their stormwater flows to the stormwater drainage system instead of combined systems. However, town officials report that this can result in street or basement flooding unless additional infrastructure improvements are completed.

In West Hartford, winter storm concerns persist as town staff emphasize the challenge of keeping people warm during extreme weather, while acknowledging the potential shifts in this dynamic because of climate change.

In West Hartford, high winds and downed trees presents a major concern for the community. Any disruption to power supply is a critical issue, with far-reaching consequences that trigger a chain reaction of problems, prompting residents to call upon the town for generators and shelter options. According to the emergency management team, a persistent and significant challenge is the loss of power during storms, exacerbated by a lack of cell service, especially in areas like Avon Mountain and Farmington Avenue near the Farmington town line. While carriers typically advise people to switch to Wi-Fi when they lose cell service, this solution falls short when the loss of power coincides with the loss of cell service, leaving residents in a more vulnerable position.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact West Hartford. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50

year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 34-2: Average Annualized Losses, West Hartford

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$164,682.32
	NRI	$2,376,293.93
	FEMA PA	$74,118.13
Tornados/High Winds	NCEI	$61,654.04
	NRI	$643,130.91
Winter Storms	NCEI	$48,841.03
	NRI	$37,031.07
	FEMA PA	$21,507.99
Flood	NCEI	$49,917.56
	NRI	$48,723.32
	NFIP	$32,127.05
Drought	NRI	$4,553.49
	USDA	$0.00
Extreme Heat	NRI	$72,917.44
Wildfire	NRI	$2,756.68
Earthquakes	NRI	$172,366.21
Dam Failure	HMP	$113.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of West Hartford 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.

- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During Plan development, specific hazard mitigation needs of West Hartford were noted.

- To address flooding concerns in West Hartford, the town should focus on improving stormwater drainage systems and enhancing flood mitigation measures. Regular maintenance of existing drainage infrastructure can help manage excess water. Furthermore, educating residents on flood preparedness and offering resources such as sandbags can reduce the impact of flooding.
- The town should continue to work closely with the Metropolitan District Commission (MDC) to find a balanced approach to disconnecting residents from combined storm/sewer systems. This should be done carefully, considering the potential for basement flooding.
- Given the potential challenges posed by climate change, West Hartford can enhance emergency response plans, expand emergency shelter options, and providing resources to vulnerable populations during winter storms as needed.
- To mitigate the impact of high winds and downed trees, the town should invest in proactive tree maintenance and trimming near power lines, especially in areas prone to outages. Additionally, the town should continue to work with Eversource to improve infrastructure resilience can reduce the duration of power outages.

Status of Previous Mitigation Strategies and Actions

The Town of West Hartford reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 34-3: Status of Previous Mitigation Strategies and Actions, West Hartford

No.	Action	Notes	Status
10	Define a set of actions to be taken by the Town to increase its Community Rating System rating by at least one tier.	CIRCA staff reviewed the CRS verification report. Since the Town is only 18 points above the threshold for Class 7, the Town should consider an action to add one more CRS activities such as 520 or 610.	Complete; potentially revise and carry forward
26	Perform a Repetitive Loss Area Analysis (RLAA).	Partially complete. One analysis was completed by the Town's consultant, for two adjoining residential properties. The East Branch Trout Brook culvert replacement will reduce risks in the largest RL area.	Complete
23	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	To be completed August 2023. Retire action, as it will be complete before the HMCAP is reviewed by FEMA.	Will be complete before 2024/Retire
20	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Conducted annually. This is a capability and can be retired.	Complete/ Capability
9	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.	Conducted as needed. This is a capability and can be retired.	Complete/ Capability
25	Send property owners along streams a mailer with information about ordinances against, and dangers of, dumping and placing obstructions into streams.	Conducted as annual outreach to all properties in flood zones. This is a capability and can be retired.	Complete/ Capability
7	Complete the North Branch Trout Brook flood study.	This study is complete. The town conducted a culvert capacity study as well as a watershed-scale hydrologic study. The town is moving forward with culvert improvement designs.	Complete/ Retire

No.	Action	Notes	Status
27	Replace undersized and/or degraded culverts on Trout Brook.	CDM Smith is working on designs for three of these culverts. Two are at 60% design, one at Trout Brook and Asylum Avenue and another at the West side of Trout Brook drive, near former UConn campus. The third is at 30% design, at the intersection of Trout Brook at Lawler, up to Lindy Lane. Fourth one is a state culvert (Route 44/Albany Avenue), so nothing more than concept design has been done for this yet. For the two culverts at 60% design, the permitting process will start soon, funding is in place, and construction will hopefully start next year.	Perhaps carry forward with revisions to indicate progress and specify next steps
28	Stabilize unstable streambanks along Trout Brook.	Not yet done. Town staff said they have reached an agreement with DEEP. DEEP is responsible for maintaining the watercourse banks. With regards to the other tributary branches, the town has not done anything.	Carry forward with revisions.
29	Replace the Fern Street Bridge over Trout Brook to ensure continued operation during future emergency events.	This is in process, with SLR as the consultant to design the bridge. One complication is that they need to replace the water main, which is $3 million. The total bridge cost is $7 million. Additional funding will be obtained from CTDOT through CRCOG SLR will do the water main design. At the earliest construction will happen in 2024. In heavy rain events water will actually overtop Fern Road here. Raising the bridge was considered but not implemented because of the houses nearby. They realigned the water course approaching the bridge to reduce scour, but there will still be some flooding during heavy rain events.	Carry forward with revisions to complete this project.
2	Incorporate Low Impact Development requirements into the Subdivision and Zoning Regulations.	In process, but nothing to bring to the Council just yet. Town is actively working on this. This is in POCD and the town would like to get this done.	Carry forward
11	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.	The town is compliant with MS4, so this is likely not needed.	Complete / Retire

No.	Action	Notes	Status
13	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	This should include the two new facilities MDC just constructed, one at New Britain Ave / Hillcrest Ave and the other on Talcott. Pump stations should also be included, although the town staff don't know locations offhand.	Remove, addressed in the Critical Facilities section of the annex
14	Develop a list of local resources, including non-profits, volunteers, and gas-stations and grocery stores with emergency generators, to distribute to residents prior to forecast hazard events.	This is a moving target, but this generally happens on a case-by-case basis.	Complete/ Retire
1	Develop a prioritized list of emergency generator acquisition, upgrade, or maintenance needs.	This is complete. Town Hall, two high schools, and a fire station all need generators. The town has applied for a grant to fund generators. Revise so that this action calls for completing the installation.	Carry forward with revisions
8	Implement needed improvements to the Emergency Operations Center to withstand high wind and other natural and manmade disasters.	The town is doing a study about relocating the EOC to town hall.	Carry Forward with revisions
18	Explore feasibility and cost/benefit balance of developing a microgrid for the Town Hall and Police Department.	Feasibility review is ongoing.	Carry Forward
19	Construct a new fueling facility for municipal vehicles.	This project is in design with funding in place. Construction is anticipated in 2024.	Carry Forward
6	Determine sheltering supplies needs and increase supplies if needed (cots, water, food, etc.).	Completed. Town entered into an agreement with Red Cross for the high school to be a regional shelter. The town is also part of the response protocol for if there's an issue at Millstone.	Complete / Retire
17	Provide shelter management training to all personnel for position and function.	Competed. CERT team has been established.	Complete / Retire
3	Establish pet sheltering alternatives.	Completed. CERT team will assist.	Complete / Retire
4	Increase the ability of residents and visitors to safely shelter in place and when necessary, evacuate to safer locations, through education, trainings, and warnings.	Ongoing	Capability / Retire
5	Improve transportation access for residents and visitors to emergency shelters.	This isn't something the town has a ton of control over, but could theoretically use fire station vehicles to move people if needed.	Capability/ Retire
15	Provide specific incident action plan development training to positions and functions of EOC representatives.	Ongoing, as new hires continue to come onboard.	Capability/ Retire

No.	Action	Notes	Status
16	Provide Incident Command training to all personnel for position and function.	Ongoing, as new hires continue to come onboard.	Capability/ Retire
12	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Staff to participate in courses ad funding and schedules permit.	Carry Forward with Revisions
22	Make progress with the hazard mitigation goals associated with SustainableCT certified actions.	Did not discuss this with town staff but see the footnote below.	Check with town staff.
21	Coordinate with CT SHPO to conduct outreach to historic property owners to educate them on methods of retrofitting their properties to be more hazard-resilient while maintaining historic character.	Conducted as annual outreach to all properties in flood zones. This is a capability and can be retired.	Complete/ Capability
24	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Staff to pursue SHPO coordination for historic resource survey	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.

Table 34-4: Active Mitigation Strategies and Actions, West Hartford

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
WH1	Install generators at the Town Hall, the two high schools, and a fire station.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness and Emergency Response	Emergency Management	$100,000 - $500,000	FEMA HMA	07/2025 - 06/2026	High	All Hazards	Benefits an EJ tract	19	5	95
WH2	Initiate and complete a study to assess the feasibility of relocating the Emergency Operations Center (EOC) to the town hall.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness and Emergency Response	Emergency Management	$10,000 - $50,000	FEMA HMA	07/2024 - 06/2026	Medium	All Hazards	Benefits an EJ tract	18	4	72
WH3	Explore feasibility and cost/benefit balance of developing a microgrid for the Town Hall and Police Department.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness and Emergency Response	Town Manager	$10,000 - $50,000	DCRF; FEMA HMA	07/2025 - 06/2026	Medium	All Hazards	Benefits an EJ tract	18	4	72
WH4	Construct a new fueling facility for municipal vehicles.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness and Emergency Response	Public Works	$100,000 - $500,000	Municipal CIP Budget	07/2025 - 06/2026	Medium	All Hazards	Serves an EJ tract	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
WH5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness and Emergency Response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57
WH6	Complete the replacement of undersized and/or degraded culverts on Trout Brook at the following locations: 1. Trout Brook and Asylum Avenue 2. West side of Trout Brook drive, near former UConn campus, 3. the intersection of Trout Brook at Lawler, up to Lindy Lane, 4.Route 44/Albany Avenue.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2025-06/2028	High	Riverine and Pluvial Floods	Serves an EJ tract	20	5	100
WH7	Work with DEEP to stabilize unstable streambanks along Trout Brook.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Public Works	$500,000 - $1M	DEEP; NOAA/NFWF; FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	4	76
WH8	Execute the DEEP Climate Resilience Fund (Kennedy/Kane Brook) project and apply for funds	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate	Structural Project	Public Works	$50,000 - $100,000	DCRF	07/2024 - 06/2026	High	Riverine and Pluvial Floods	Benefits an EJ tract	20	6	120

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	to pursue the recommendations.	change increases frequency and severity of floods.											
WH9	Complete the project to replace the Fern Street Bridge over Trout Brook to ensure continued operation during future emergency events.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	4	76
WH10	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
WH11	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	High	Riverine and Pluvial Floods/Extreme Heat	Benefits an EJ tract	20	7	140
WH12	Pursue additional CRS points in activity 610: flood emergency response.	Reduce flood and erosion risks by reducing	Preparedness and	Community Development	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2026	Low	Riverine and	Benefits an EJ tract	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Emergency Response						Pluvial Floods				
WH13	Incorporate Low Impact Development requirements into the Subdivision and Zoning Regulations.	More than one goal.	Prevention	Community Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	All Hazards	Benefits an EJ tract	20	11	220
WH14	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Community Development	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	Benefits an EJ tract	19	6	114
WH15	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Community Development	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	Benefits an EJ tract	19	9	171
WH16	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections	More than one goal.	Education and Awareness	Public Relations	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	corresponding to each hazard considered in this Plan Update.												

Figure 34-1: CIRCA Environmental Justice Rank and Critical Facilities, West Hartford

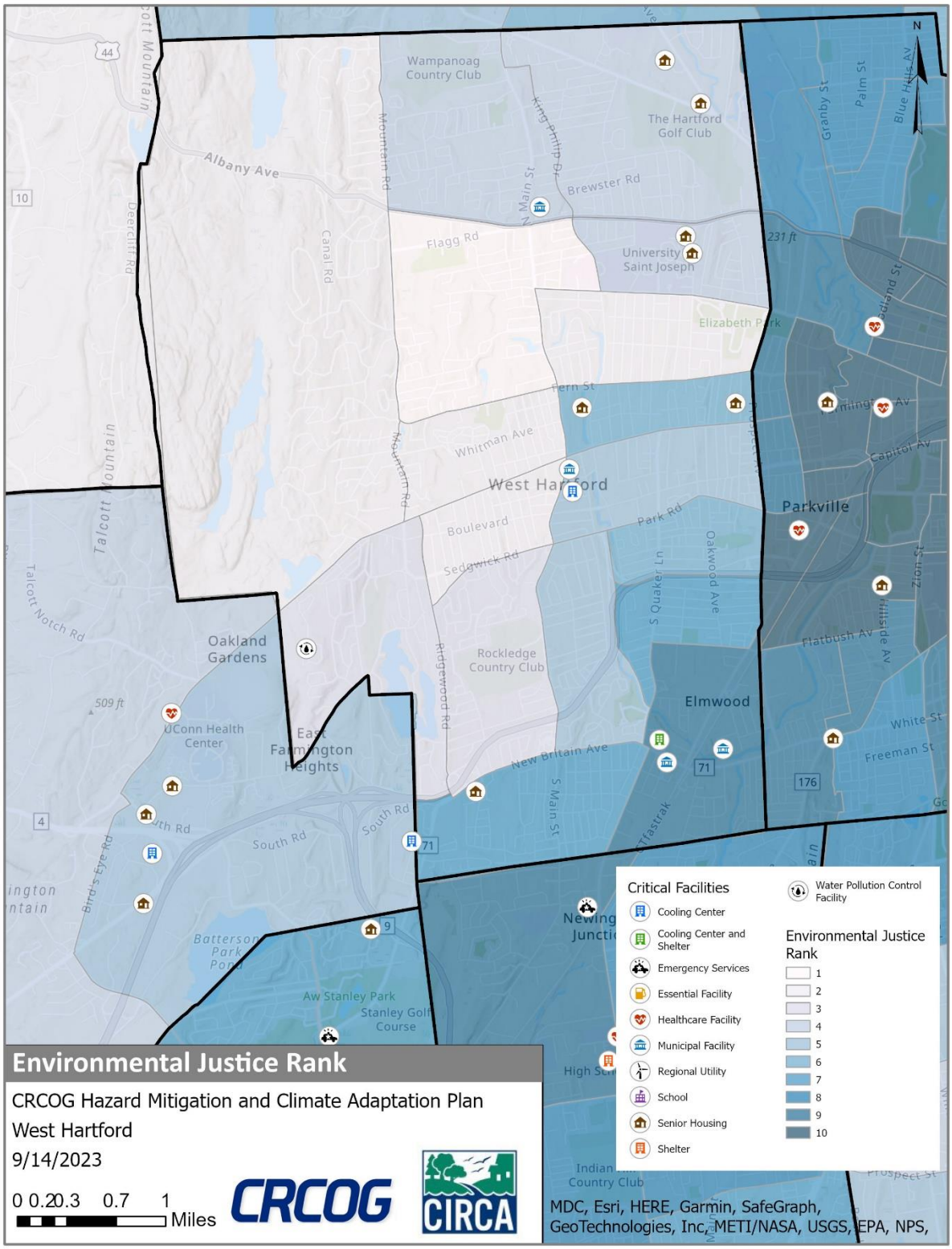


Figure 34-2: FEMA Flood Zones and Critical Facilities, West Hartford

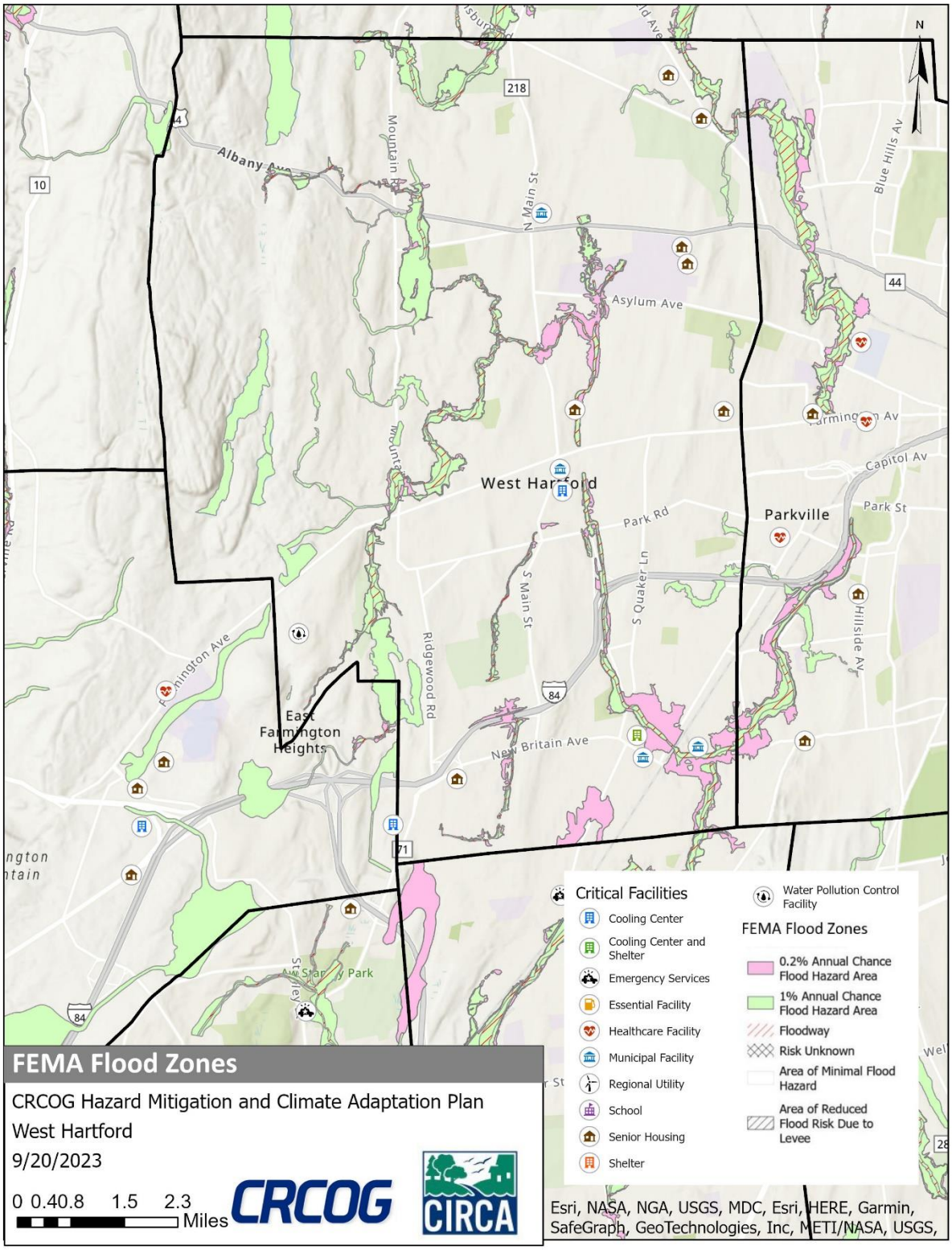


Figure 34-3: CIRCA Flood CCVI and Critical Facilities, West Hartford

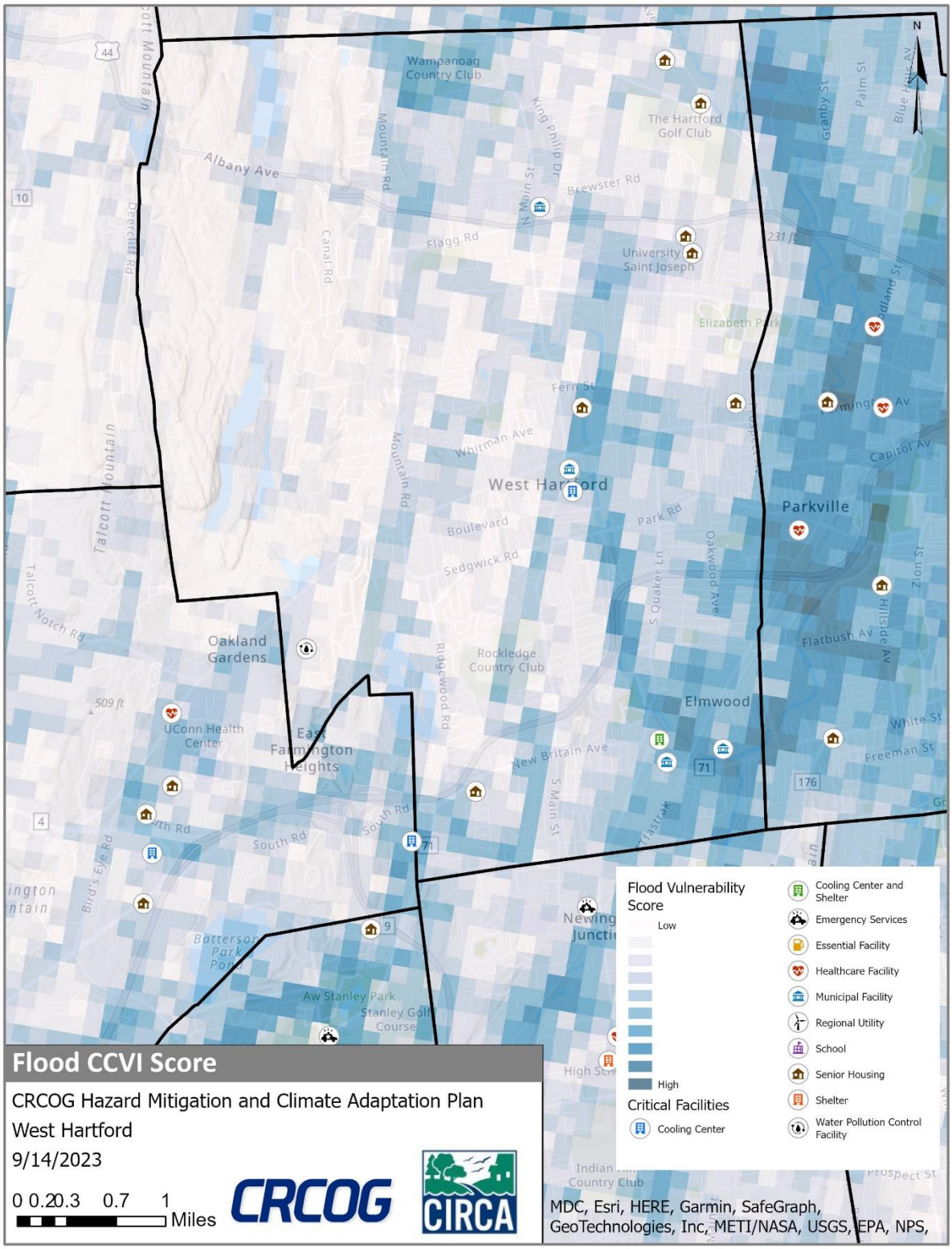


Figure 34-4: Dam Inundation Area and Critical Facilities, West Hartford

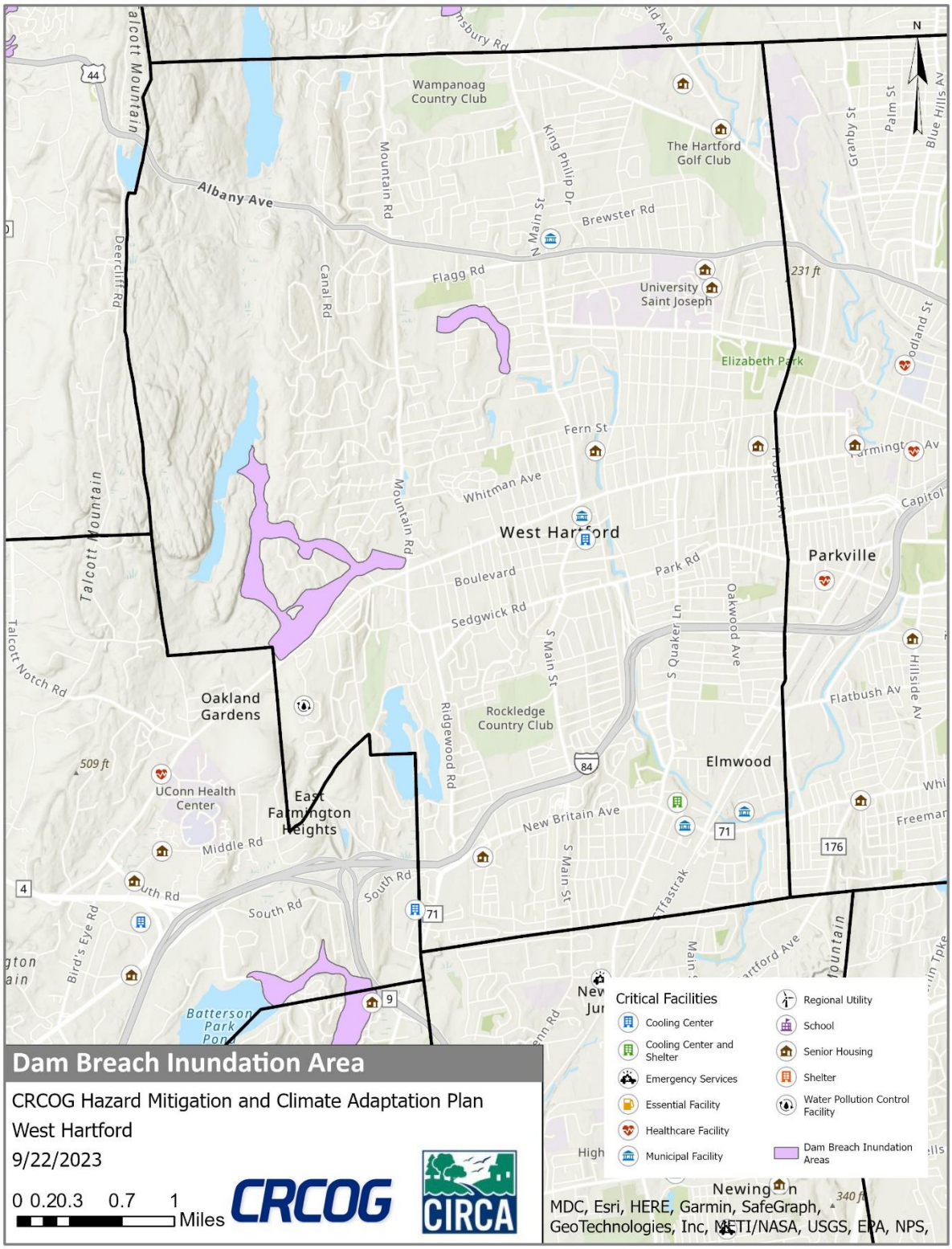
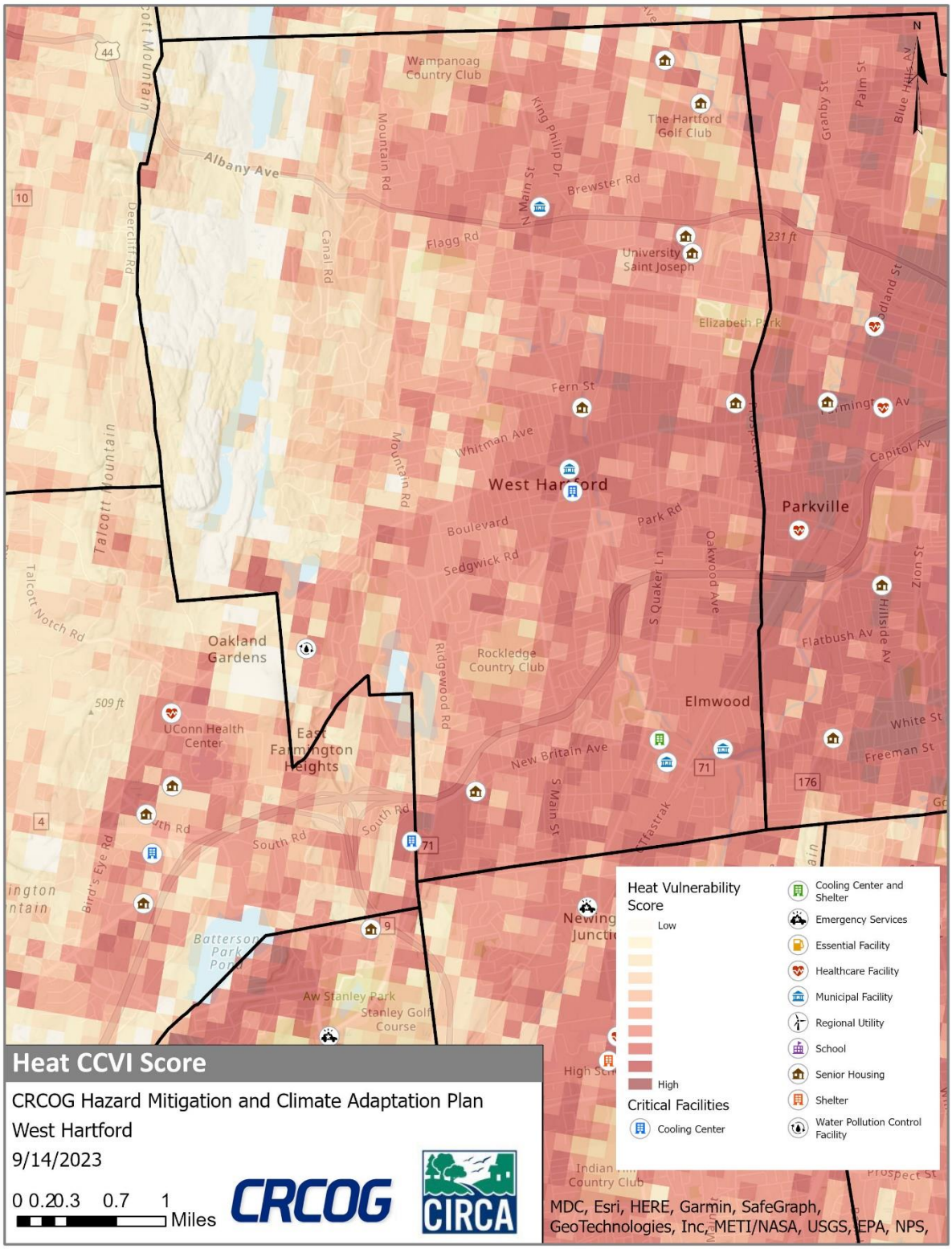


Figure 34-5: CIRCA Heat CCVI and Critical Facilities, West Hartford



35 Wethersfield

Community Overview

Wethersfield encompasses a land area of 12.4 square miles and has a population around 27,298 (2020 Census). Wethersfield's land area falls primarily in the Connecticut River mainstem Watershed, although the northeast corner lies in the Park River Watershed. The Connecticut River flows along the eastern boundary. Other watercourses include Beaver, Folly, Two Stone, Collier and Goff Brooks. Major transportation routes in Town include Interstate 91 and State Routes 3, 5/15, 99, 175, 287, and 314. Principal industries include professional offices, retail, restaurants, Kell-Strom, printing, medical offices, and State offices including the Departments of Corrections, Labor, and Motor Vehicles, and the Connecticut Judicial Branch. A Capitol Region Education Council (CREC) School was constructed on what was previously the Northeast Utilities Headquarters.

Development/redevelopment in Wethersfield primarily centers around the commercial corridors along Silas Deane Highway and Berlin Turnpike. There have been a few minor residential expansions near floodplains, with one such instance occurring on Elm Street. However, residential areas have seen limited overall development. A mixed-use residential development project, the Borden Development, located at 1160 and 1178 Silas Deane Highway, exists in a floodplain and necessitated compensatory flood measures due to the potential for flooding. The Town mandates a comprehensive analysis with compensatory mitigation for any development or redevelopment within FEMA flood zones.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In Wethersfield these include the Town Hall, High School, Community Center, library, three Fire Stations, a volunteer ambulance facility, the Nature Center, the Public Works building, a fueling station, library, and the new CREC School. The Emergency Operations Center (EOC) is housed in the Town Hall.

Table 27-10: Critical Facilities, Wethersfield

Facility	Shelter	Cooling Center	Generator
Town Hall (EOC)			X
Community Center	Primary	X	X
High School	Secondary	X	X
CREC School			
3 Fire Stations			X
Nature Center	Animal		X
Volunteer Ambulance			X
Public Works			X
Fueling Station			X
Library		X	
2 Eversource Substations			

During extreme heat events, Wethersfield Community Center, Wethersfield High School and Wethersfield Public Library can all be opened as public cooling centers. Wethersfield Community Center

and Wethersfield High School have generators and are used as shelters in town. Wethersfield Public Library does not currently have a generator.

The Wethersfield High School was recently renovated and is used as the back-up shelter. The renovation to the high school did not change the location of the building.

The town has previously received $750,000 from FEMA to put generators in eight facilities.

Capabilities

Hazard mitigation is incorporated, to some degree, into Wethersfield's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

Since the 2014 HMP, the High School has been designated as a secondary shelter and the Nature Center has been fitted with an emergency animal shelter. The Town's shelters are considered to be adequate. FEMA mitigation grant funds were used to acquire eight generators for critical facilities, including the three fire stations and the volunteer ambulance facility. The generator at the Public Works is elevated above the BFE, and the fueling station was upgraded in 2017.

Much of the area of Wethersfield at risk of flooding is within the Connecticut River floodplain and is zoned for agricultural use (Zone AG). The AG Zone limits uses to those associated with farming, open space, and municipal recreation; a limited number of other uses are allowed by special permit only. The Town has completed several drainage improvements to address localized flooding and continues to address problems, primarily through the annually-reviewed capital improvements program. Since 2008, the Town has not permitted any new homes within the 1-percent annual-chance floodplain. Applications for construction of minor improvements have been permitted contingent on no loss of flood storage. The Town Engineer is the Town's Floodplain Manager.

Wethersfield works closely with the energy provider Eversource to mitigate power outages caused by natural hazards. The Town's Tree Warden is responsible for tree maintenance and trimming, and reports to the Physical Services Department. Wethersfield shares a tree truck with two other towns.

Wethersfield uses salt, not sand, for winter road maintenance. The Town watches buildings carefully during heavy snow events to ensure their roofs do not collapse. Tremco roofing is used on Town Buildings to mitigate snow and wind damage.

In 2016 the Town provided FEMA with comments about areas that appear to be inaccurate on flood maps; the Town is waiting for FEMA to determine whether a Letter of Map Revision (LOMR) is warranted.

Wethersfield is in the process of implementing new MS4 stormwater management guidelines; the Town believes this will result in increased green infrastructure, improved water quality, reduced flood risks, and increased outreach and education about flood risks, particularly online. The MDC water and sewer company is conducting projects to reduce Combined Sewer Overflow (CSO) to Goff Brook; this work is expected to have secondary flood mitigation impacts.

The Cloverdale Pond dam was rehabilitated in 2017, with the spillway capacity improved. This may limit flooding of the Town's property and has lowered the risk of dam failure. The consultant GZA has completed inspections of the eight other Town-owned dams and the Town will use that information to

guide future dam-hazard mitigation actions. State Bond and local capital funds have been allocated to address maintenance and repair needs at Bell Pond Dam, which is currently under design.

CT DOT has recently installed standpipes along I-91 for fire protection, at the Town's request.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Identify strategies for making expansion of capacity for public works trucks and equipment storage more achievable.
- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is a continuous hazard for Wethersfield. Thirty percent of the Town lies within 1-percent annual-chance floodplains associated with watercourses such as Folly, Beaver, Cemetery and Goff Brooks, and the Connecticut River. However, town staff report that, in general, floodplain issues are predictable and have not led to any significant issues, apart from the recent major storms of 2023.

The Public Works facility is located within the Connecticut River SFHA and much of it is below the BFE. The facility is somewhat constricted by I-91 and other developed areas and its hazard-event response capabilities are hindered by limited space.

The Bell Pond Dam still needs maintenance and repair.

High winds are a concern for the Town. During T.S. Isaias, there was some tree damages to private properties as well as downed trees over roads.

In 1995 the town completed a town-wide flood study that identified upwards of 60 projects, many of which have not been completed. This is now believed to be quite dated and local capital funds are being sought to update the study. The town still has a long list of drainage and flood-improvement projects that need to be funded. Funding is the main obstacle to getting these done and staff capacity is also a concern.

Silas Deane and Berlin Turnpike both have hotels and motels that are increasingly utilized by people as regular living arrangements, to the point of schoolchildren coming from these addresses. Town staff report that the police have been responding to these areas more frequently than in the past.

Silas Deane Highway overtops during 100-year storms to the south of Mill Street. The town applied to the CT DEEP Climate and Resiliency Fund (DCRF) to address these areas as well as areas near the Borden complex and Mill Woods Park, but did not get selected.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Wethersfield. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 35-2: Average Annualized Losses, Wethersfield

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$70,151.18
	NRI	$981,994.04
	FEMA PA	$57,377.82
Tornados/High Winds	NCEI	$26,263.32
	NRI	$267,779.55
Winter Storms	NCEI	$20,805.24
	NRI	$15,564.20
	FEMA PA	$18,367.00
Flood	NCEI	$21,263.82
	NRI	$74,359.93
	NFIP	$7,357.50
Drought	NRI	$26,038.26
	USDA	$0.00
Extreme Heat	NRI	$31,123.41
Wildfire	NRI	$1,131.55
Earthquakes	NRI	$62,991.12
Dam Failure	HMP	$48.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Wethersfield 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

During development of this plan, specific hazard mitigation needs of Wethersfield were noted.

- Consider relocating or raising the Public Works facility to bring it above the Base Flood Elevation (BFE) and improve hazard-event response capabilities. Explore adjacent areas or other suitable locations for a more spacious and less flood-prone site.
- Continue to look for funds to repair Town-owned dams to ensure its structural integrity and prevent potential flooding hazards.
- Implement proactive tree maintenance programs to reduce the risk of tree damage during high-wind events.
- Collaborate with social services and housing authorities to find alternative housing solutions for individuals using hotels/motels are permanent living facilities.
- Pursue alternative funding sources or grant opportunities to address the flooding issues on Silas Deane Highway, including the areas near Mill Street. Explore innovative flood mitigation strategies and community engagement.

Status of Previous Mitigation Strategies and Actions

The Town of Wethersfield reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Wethersfield

No.	Action	Notes	Status
4	Repair washout around the east abutment for Jenson Dam at 45 Highland Street.	Town staff said the Jenson Dam issue was reportedly addressed by the private property owner a few years ago.	Intent of this action is complete / Retire
5	Add a double catch basin at 222 Ridge Road to address road flooding, which overflows and floods downstream homes in Ridge Crest Place (requires CCTV inspection first).	Town staff said this was completed.	Complete / Retire
6	Perform the necessary repairs to the spillway at Wintergreen Woods.	Town staff said this was completed.	Compete / Retire
7	Reconstruct the earthen berm at Spring Street Skate Pond Dam, perform emergency spillway and outlet improvements (compare to Dam Inspection Report).	Town staff said this has not yet been addressed, but the town has been awarded state funding to address this. The design still needs to be completed. Revise this action to reflect that the design will be happening next.	Carry forward with revisions.
24	Install an underdrain on Olney Road behind eastern curb line to protect road base and alleviate flooding.	Town staff said this has not yet been addressed, and the town received a recent complaint about it so is currently looking into it again. Prior to this most recent complaint there were no issues for several years.	Carry forward
13	Dredge sediment from Griswold Pond to improve the water quality.	Town staff said this has not yet been done. CIRCA Staff facilitated a brief discussion about dredging rarely helping to mitigate flooding, but in some cases where lateral removal occurs, a pond will gain some extra flood capacity. Town staff would like to keep this action. CIRCA Staff suggested a change to make the action achievable by revising it to “conduct study and prepare plans” for addressing this issue.	Carry forward with revisions.
14	Olsen House Ditch improvements: design and construct a 24" RCP to replace an open rip rap ditch and backfill the area to eliminate the need for guiderail.	Town staff said the Olsen House is 105 Marsh Street, the former television station. This has not been done. Revise action to include the address so that it’s easier to remember what this is referring to in the future.	Carry forward with revisions

No.	Action	Notes	Status
15	Perform design and permitting for Bell Pond dredging and reconstruction of Bell Pond Dam spillway with miscellaneous improvements to improve water quality and protect downstream properties (Moderate Hazard Class Dam per DEEP).	Town staff said the town does have funding to complete dam improvements; however, pond dredging may require additional funding. Revise this action to act on the recommendation.	Carry forward with revisions.
16	Complete Culvert Replacements listed in the CIP: Carriage Hill Drive, Coppermill Road, Fox Hill Road, Highland Street, and Lantern Lane.	Town staff said the town has allocated capital funding for design of the Coppermill Road culvert project as well as some funds for construction. The town also hired a consultant to evaluate the listed crossings; Coppermill was identified as a high priority during this evaluation. Revise action to reflect this progress and continue demonstrating a need to address the other culverts.	Carry forward with revisions
17	Complete extension of storm drainage (piping & CBs) in Nott St and reconstructing a portion of Heather Dr with new underdrains to address persistent icing problem.	Town staff reported that this is complete. The icing problem no longer seems to be an issue.	Complete / Retire
18	Install 2 CBs and piping at intersection of Timber Trail with Cornish Rd to address issues with flooding homes on Timber Trail.	Town staff said nothing has been done to date, but there are no longer complaints here.	No Longer Needed/Retire
25	Perform actions listed in the 1995 Town Wide Drainage Study as listed in the CIP: Goff Road Detention Pond Construction, Sunset Boulevard, Surrey Drive Swale, Tanglewood construction.	Town staff said some work has been completed. Sunset had flooding issues during the 2021 storms and some hydraulic analysis and pipe cleaning has been done to help address this issue. The town provided CIRCA with additional documentation. Based off this documentation this action will be carried forward.	Carry Forward
1	Identify strategies for making expansion of capacity for public works trucks and equipment storage more achievable.	Town staff said Public Works has a new salt shed that provides appropriate capture and redirection of runoff and drainage around the structure, also has a covered storage area for the trucks, and has instituted truck-washing practice so trucks have a longer life. Town staff discussed perhaps including the purchase of another property for more storage space and vehicle parking. The possible property in question is in the floodplain. Add an action in general terms for this need.	The action as written is a capability / retire, but add an action to capture the second part of the discussion.
2	Identify strategies for making replacement or enlargement of sand/salt storage facility more achievable. Track damages to sand/salt storage facility so that a BCA can be completed.	See above. The intent of this is complete / the BCA is not needed because no FEMA funding is going to be pursued for this.	Intent is complete / Retire

No.	Action	Notes	Status
3	Develop a long-range plan for expansion of the Public Works building capacity and relocation outside of flood zone.	Town staff said relocation is not an option right now, but the town staff still expresses "we would love it" because the property floods on a regular basis and would not be well-suited to weathering large events. Town staff say that it's possible some state facilities might become available for purchase in the future. Attendees agreed to carry forward this action in case some funding for exploring options becomes available, with some revisions to reflect the discussion.	Carry forward with revisions
11	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Town staff said that as part of the MS4 program, the town does annual stormwater sampling. There is one connection between Wethersfield and Hartford in which there is a water quality concern from the stormwater coming from Hartford. The town has alerted Hartford and MDC to this issue. CIRCA will ask MDC for the list of MDC facilities.	Carry forward with revisions to reflect the culvert / water quality concern?
19	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Town staff said this outreach has not happened. Town staff isn't sure whether they have this list, but would be interested in acquiring it.	Carry forward
22	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	See above. Carry forward	Carry forward.
8	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.	Town staff are not aware of any work done on this. Town staff estimate there are probably a few dozen businesses for whom this would be relevant. Replace with revision to watch the virtual DEEP training.	Carry forward with revisions.
9	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.	Town staff said the town is compliant with MS4.	Complete / Retire
10	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff will attend webinars or meetings from time to time related to this.	Capability / Retire

No.	Action	Notes	Status
12	Complete an analysis of costs and benefits of joining the FEMA Community Rating System. If benefits outweigh the costs, perform outreach to gain public and stakeholder support for joining FEMA CRS.	Town staff were uncertain how many property owners have flood insurance in town, although they estimated that there are probably a lot due to the large floodplain area within town. Town staff want to carry this forward.	Carry forward
20	Identify additional space for snow storage and disposal.	Town staff reported the salt shed has been enclosed so less salt washes away. This action was likely related to removing snow from densely developed areas. Town staff report that the intent of this action has been completed, and they have worked with engineering staff to figure this out when needed when intense storms occur.	Intent is complete / Retire
21	Seek Certification within the Sustainable CT program and make progress with the hazard mitigation goals associated with SustainableCT certified actions.	Town staff reported that the town has joined Sustainable CT	Complete / Retire
23	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	CIRCA Staff explained that of all the CRCOG towns, this action was meant to be most beneficial to a community like Wethersfield with a large group of historic and cultural resources. Town staff report that they believe they have a good handle on this challenge, but because historic structures are a large part of Wethersfield identity, they don't want to remove this action. Carry forward with revisions, perhaps to emphasize using new GIS data from SHPO and working with property owners as needed to reduce risks.	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.

Table 27-4: Active Mitigation Strategies and Actions, Wethersfield

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
WF1	Acquire a generator for the town library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
WF2	Evaluate and plan for additional storage and parking needs for public works trucks and equipment, including potential property acquisition.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Natural Resources Protection	Public Works	$10,000 - $50,000	Municipal Operating Budget	07/2024 - 06/2026	High	All Hazards	No	19	4	76
WF3	Develop a long-range plan for the expansion of the Public Works building capacity, and relocation outside of flood zone. Periodically reassess the action based on funding availability and the potential acquisition of state facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Public Works	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	Riverine and Pluvial Floods	No	17	6	102
WF4	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
WF5	Complete the earthen berm design at Spring	Reduce flood and erosion risks by	Structural Project	Public Works	>$1M	Municipal CIP Budget	07/2025 - 06/2027	High	Dam Failure	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Street Pond Dam, perform emergency spillway and outlet improvements (compare to Dam Inspection Report).	reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.											
WF6	Install an underdrain on Olney Road behind eastern curb line to protect road base and alleviate flooding.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	STEAP; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
WF7	Olsen House (105 Marsh St) Ditch improvements: design and construct a 24" RCP to replace an open rip rap ditch and backfill the area to eliminate the need for guiderail.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	STEAP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	4	72
WF8	Implement recommendations for Bell Pond dredging and reconstruction of Bell Pond Dam spillway with miscellaneous improvements to improve water quality and protect downstream properties (Moderate Hazard Class Dam per DEEP).	More than one goal.	Structural Project	Public Works	>$1M	NOAA/NFWF; Municipal CIP Budget	07/2024 - 06/2027	Medium	Dam Failure	No	18	4	72
WF9	Complete the design and seek additional	Reduce flood and erosion risks by	Structural Project	Public Works	>$1M	IIJA AOP; FEMA	07/2024 - 06/2029	High	Riverine and	No	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	funding for the construction of the culvert at Coppermill Rd. Continue to work to replace culverts listed in the CIP: Carriage Hill Drive, Fox Hill Road, Highland Street, and Lantern Lane. Carriage Hill Drive, Coppermill Road, Fox Hill Road, Highland Street, and Lantern Lane.	reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.				HMA; Municipal CIP Budget			Pluvial Floods				
WF10	Perform actions listed in the 1995 Town Wide Drainage Study as listed in the CIP: Goff Road Detention Pond Construction, Sunset Boulevard, Surrey Drive Swale, Tanglewood construction.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	>$1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2029	High	Riverine and Pluvial Floods	No	19	4	76
WF11	Conduct study and prepare plans to improve water quality at Griswold Pond.	Reduce losses to other hazards.	Water & Wastewater Utility Projects	Public Works	$10,000 - $50,000	NOAA/NF WF	07/2024 - 06/2026	Low	Riverine and Pluvial Floods	No	18	6	108
WF12	Seek funding to address the areas of concerns listed in the DCRF application as well as the Borden complex and Mill Woods Park.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	6	114
WF13	Conduct a town wide assessment of stream crossings to identify	Reduce flood and erosion risks by reducing	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	vulnerabilities and develop a priority list for maintenance and upsizing.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Floods/Tidal Connecticut River Flooding				
WF14	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat/Tidal Connecticut River Flooding	No	18	7	126
WF15	Work with MDC to address the water quality concerns related to the stormwater coming from Hartford.	More than one goal.	Water & Wastewater Utility Projects	Public Works	$0-$10,000	Municipal Operating Budget; NOAA/NFWF	07/2024 - 06/2027	High	Riverine and Pluvial Floods	No	19	7	133
WF16	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
WF17	Work with CT DEEP to complete a formal validation of the	Reduce flood and erosion risks by reducing	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and	No	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	Repetitive Loss Property list and update the mitigation status of each listed property.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods				
WF18	Watch the DEEP Chemical Management and Climate Resilience Webinar: https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025-12/2025	Low	Riverine and Pluvial Floods/Tidal Connecticut River Flooding	No	17	7	119
WF19	Complete an analysis of costs and benefits of joining the FEMA Community Rating System. If benefits outweigh the costs, perform outreach to gain public and stakeholder support for joining FEMA CRS.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Low	Riverine and Pluvial Floods	No	17	7	119
WF20	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
WF21	Update town website to include hazard mitigation and	More than one goal.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.												

Figure 35-8: CIRCA Environmental Justice Rank and Critical Facilities, Wethersfield

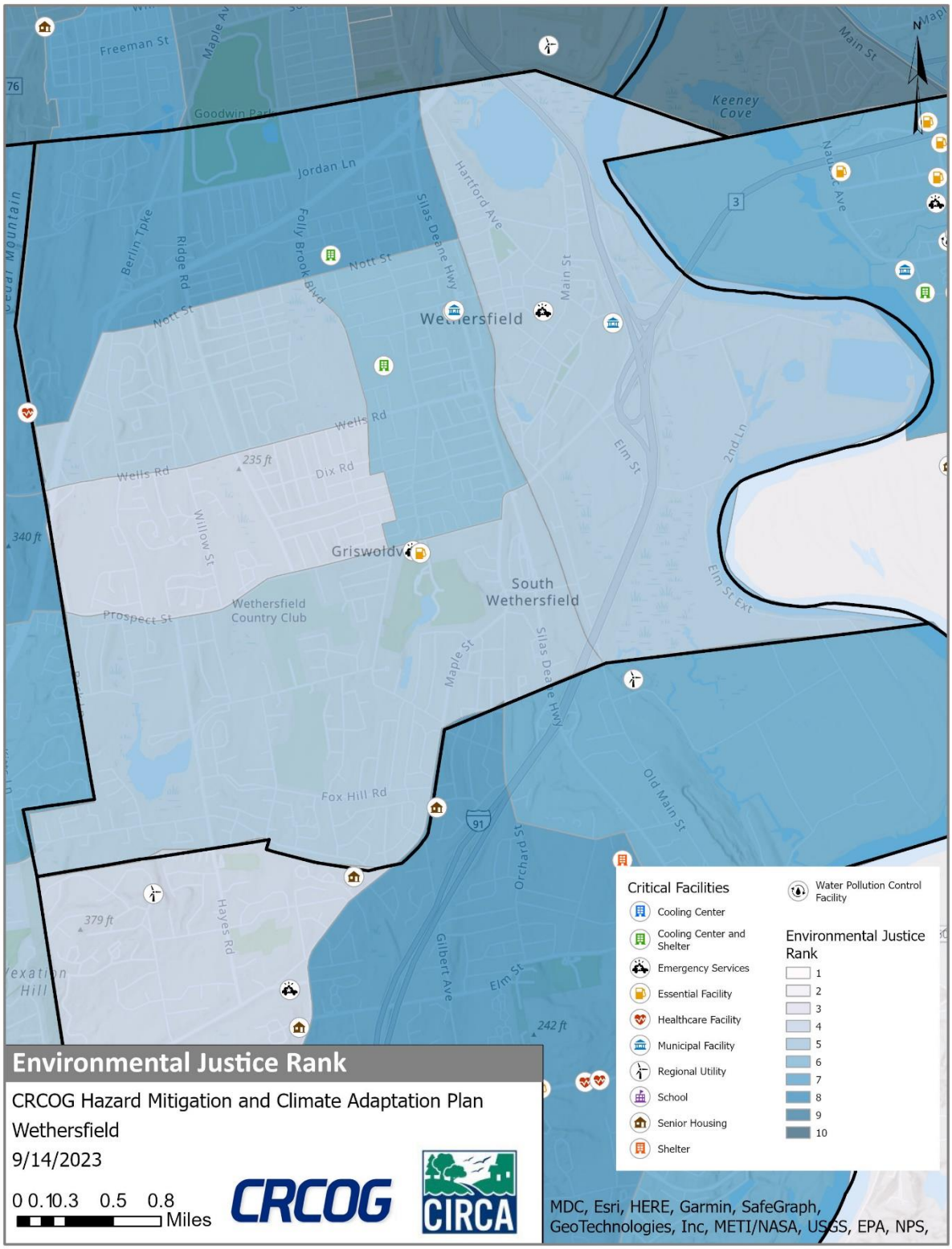


Figure 35-2: FEMA Flood Zones and Critical Facilities, Wethersfield

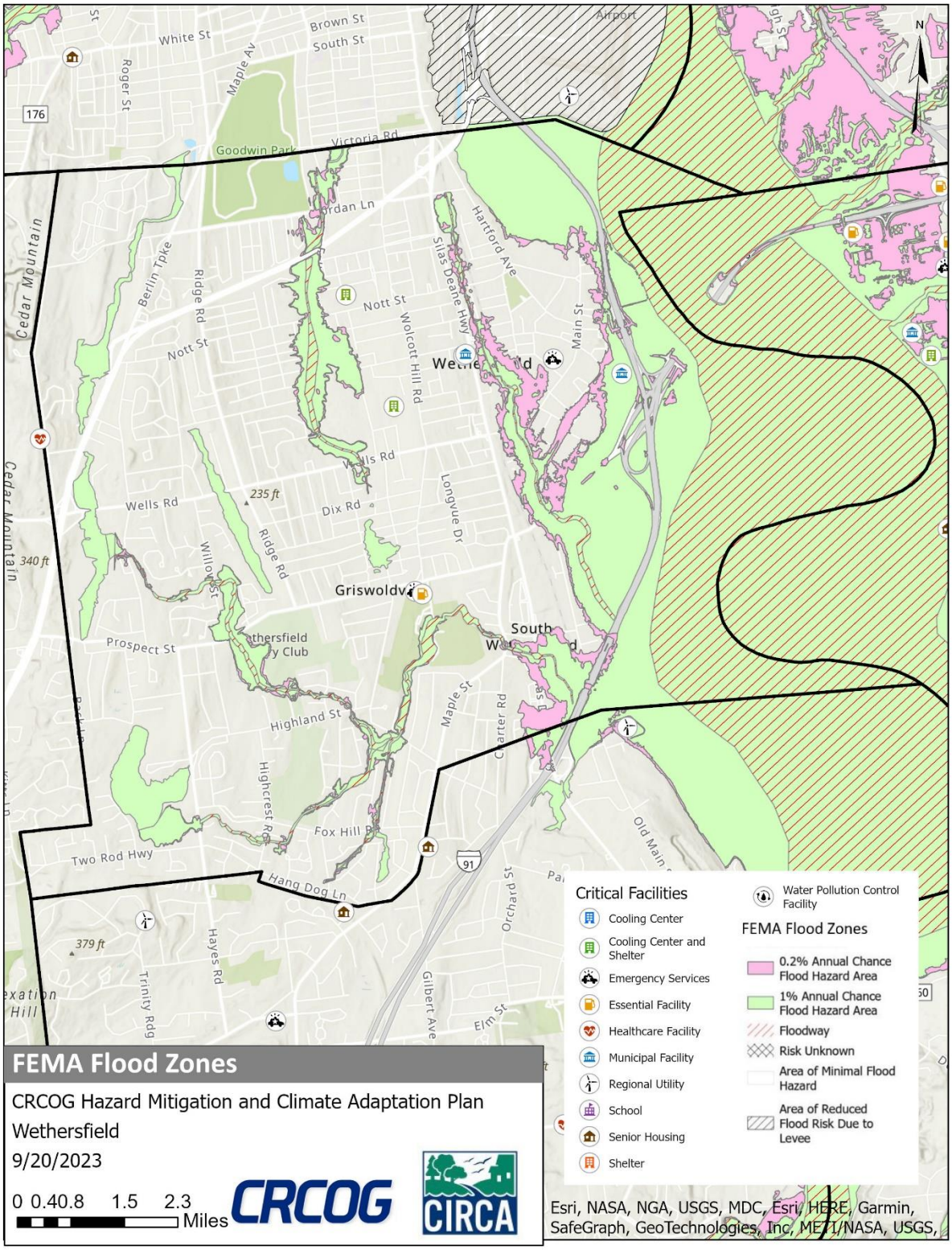


Figure 35-3: CIRCA Flood CCVI and Critical Facilities, Wethersfield

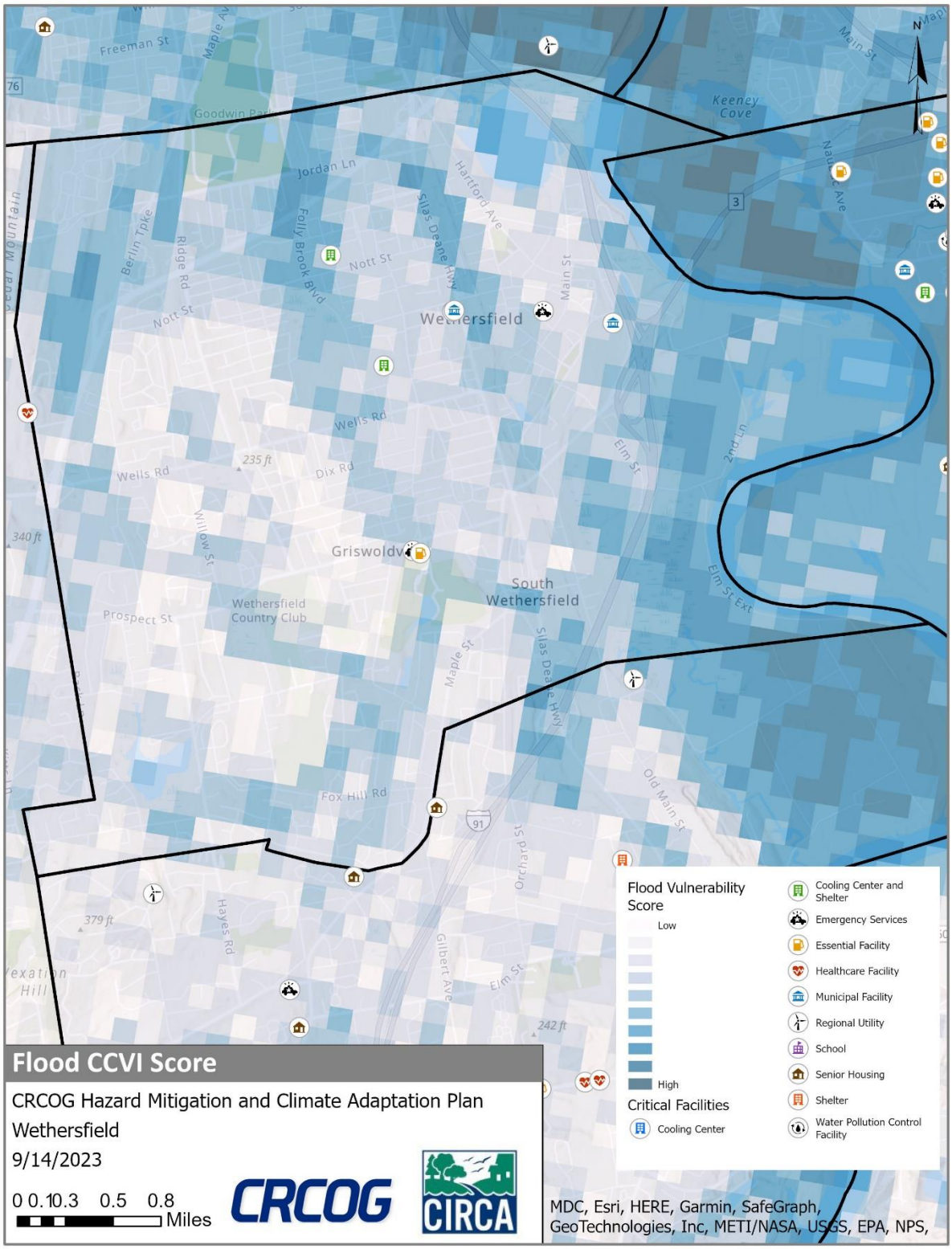
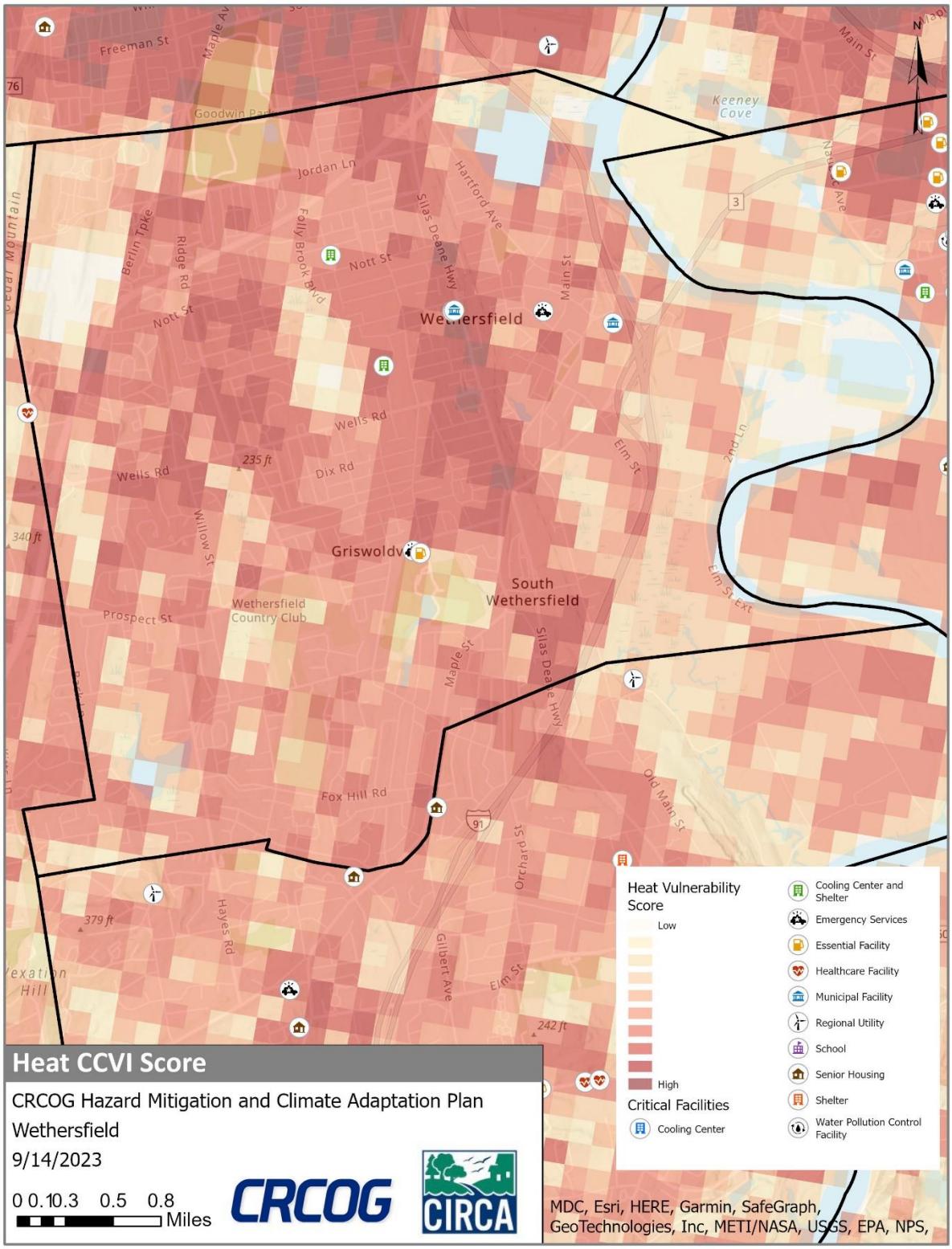


Figure 35-4: CIRCA Heat CCVI and Critical Facilities, Wethersfield



36 Willington

Community Overview

Willington has a total area of 34.8 square miles and a population of 5,566 persons (2020 Census). Willington also has two seasonal campgrounds, the Moose Meadow Camp Resort and the Wilderness Campground and Resort, that boost its population in the summer.

Willington is approximately 77% forested; large wooded areas include a portion of the Nipmuck and Nye-Holman State Forests. Other land cover in the town includes: developed (10%), agricultural and other grasses (6%), turf and grass (4%), water (2%), barren (2%), non-forested wetlands (<1%), and utility right-of-way (<1%). The approximately 900 acres of the town occupied by water bodies includes Halls Pond, Parizek Pond, Bissonette Pond, Drobney Pond, Wilderness Lake, Ruby Lake, Pelican Pond and many smaller ponds. Willington's elevations range from about 310 feet in the southwest corner of town on the Willimantic River to about 1010 feet in the northeast corner of town.

A portion of Interstate 84 crosses the town, as well as state Route 44 and Route 7. Willington's primary commercial areas are located on Phelps Way and near Route I-84. Willington's recent development landscape remains relatively stable, with no new subdivisions currently underway. Notable additions since the last HMP include the establishment of a Dollar General store on Route 74 and the introduction of Love's truck stop. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

Critical and important facilities and cultural resources in Willington include two volunteer fire departments, five schools, a hazardous material storage site, an animal clinic, a dog pound, two elderly and special needs housing areas, sixteen apartment buildings, two camps and campgrounds, three churches, a library, two public telephone facilities, two commercially developed areas, an historic district, a Town Office Building, a town garage, a town-owned water facility operation, several privately owned water operations, and five significant hazard dams.

Table 27-11: Critical Facilities, Willington

Facility	Shelter	Cooling Center	Generator
Three Fire Stations			
Town Hall		X	
Town Office Building			
Town Garage			
The Center School			
Hall Memorial School	X/No AC		X
Willington Nursery School			
Willington Public Library		X	
Kids Kingdom			
Mid-NEROC Haz-Mat Recycling Facility			
Willington Transfer Station			
Willington Veterinary Clinic			
Dog Pound			

Facility	Shelter	Cooling Center	Generator
Two Public Telephone Facilities at CT DOT Rest Areas on I-84			
Phelps Plaza at 11 Phelps Way			
Truck Stop on Ruby Road at Route I-84			
Love's Truck Stop at 3 Polster Road			
Water Facility Operation at the Senior Housing Complex			
Several Privately Owned Water Operations			
Willington Senior Center & Senior Housing		X	
Lyon Manor			
Moose Meadow Camp Resort			
Wilderness Lake Campground & Resort			
The Federated Church of Willington			
St. Jude Church			
Willington Baptist Church			
Historic District			
Cedar Ridge Apartments			
Deer Park Apartments			

During extreme heat events, Willington Town Hall, Willington Public Library and Willington Senior Center & Senior Housing can all be opened as public cooling centers. All facilities do not have generators.

Capabilities

Hazard mitigation is incorporated into Willington's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards.

The Town of Willington has consistently participated in the National Flood Insurance Program (NFIP) since June 15, 1982. The most recent Flood Insurance Rate Map (FIRM) was published on June 15, 1982. The current Town of Willington Flood Insurance Study (FIS) was published on December 15, 1981. Willington's zoning regulations (August 1, 1996), include a requirement that buildings be elevated or floodproofed to at least one foot above the Base Flood Elevation (BFE). New buildings are constructed to more recent building codes (and generally away from floodplains) and are considered to be less vulnerable to natural hazards than older buildings.

The Town maintains shelters and provides plowing services through Public Works. The Town performs debris management through Public Works with the assistance of the local electrical utility when necessary. Tree maintenance is largely addressed by Eversourse, though the Town has a small annual budget for tree trimming on an as-needed basis.

Re-routing plans are in place all along Interstate 84 should a disaster affect any portion of the corridor.

Small cleared areas around homes in wooded areas generally provide enough of a barrier to stop brushfires from reaching them. The Town uses a variety of regulatory, preparedness, and public information programs to mitigate the effect of wildfires, including the Open Burning Program, maintenance of dry hydrants and cisterns, and educational programs on fire safety. Public water with

pressurized hydrants cover a small section of South Willington and the Town Hall area. Around 25 dry-hydrants provide firefighting water to other areas of Town.

Authorities in the Town of Willington who play advisory, supervisory, or direct roles in hazard mitigation for the Town include:

Authorities	Role			Hazard Mitigated
	Advisory	Supervisory	Direct	
Board of Selectmen		X	X	All
Building Official	X		X	All except drought
Conservation Commission	X			Flooding
Fire Department			X	Wildfire
Emergency Services Efficiency Committee	X			All
Inland Wetlands & Watercourses Commission			X	Flooding
Fire Marshall / Burning Official	X		X	Wildfire
First Selectman		X		All
Land Use Department	X		X	Flooding
Planning and Zoning Commission	X		X	Flooding
Public Works Department	X	X	X	All except drought
Zoning Board of Appeals			X	Flooding

Willington primarily stores important municipal data on a server at the Town Hall, but has recently moved some of that to the Hall Memorial School server; this site is less susceptible to the impacts of natural hazards and has a backup generator.

The Town has adopted Low Impact Development (LID) regulations within the last five years. Drainage systems on Turnpike Road and Turnpike Road Extension have been replaced and upsized, correcting poor-drainage flooding issues in that area. Additionally the Route 74 Bridge over the Willimantic and the Daleville School Bridge have each been replaced recently.

Willington has changed its winter road treatment material to use far less sand than previously. Pretreatment is now a much larger focus. The buildup of sand in catch basins and other drainage features has been reduced.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Willington it will cover, is unknown.

Since the 2019 HMP, no new actions have been incorporated as capabilities thus, capabilities to address natural hazards and the losses that they have caused, have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Willington is facing increased flooding problems, affecting previously unaffected areas like Mason Road and Cowles Road. These issues stem from an unnamed stream that flows into the Fenton River, causing persistent concerns related to flooding and road washouts.

The large wooded areas in Town are potential wildfire or brushfire areas. Homes are scattered within forested areas. Most of Willington is not covered by public water, and therefore the Town has very few pressurized hydrants. Municipal staff report that dry-hydrant coverage, while significant, is currently insufficient.

There are 37 dams in Willington: twenty-seven are either unclassified or classified as low hazard (Class A), seven are classified as moderate hazard (Class BB), and three are significant hazard (Class B). The three significant hazard dams include Halls Pond Dam (off Route 32), Wasilewski Pond Dam (off Route 74), and Halchek Pond Dam (off Village Hill Road). Except for Halchek Pond Dam, these dams are located either adjacent to or in close proximity to major roadways (either State or local) where bridges and traffic could be disrupted. Halchek Pond Dam, although located well off Village Hill Road, could impact downstream residential areas (such as the subdivision on Pinecrest Road) and road bridge crossings at Village Hill Road and Route 32. The Wilderness Campground has a pond with a significant hazard dam which if it failed during a storm event could impede access. Engineering plans / emergency action plans have been completed for Halls Pond and Wilderness Lake Campground. Wasilewski Pond Dam off Rt 74, reportedly does not yet have a plan.

Timber management in Willington raises concerns primarily related to the potential for tree debris to enter streams, clog culverts and bridges, resulting in overtopping and washouts. Wildfire risks are a secondary but noteworthy concern. The state's Best Management Practices (BMP) recommend leaving debris in place to aid forest regeneration and wildlife preservation while avoiding more destructive hauling operations. Many local properties employ selective harvesting, leaving slash on-site. Willington is one of 11 towns in the state with local regulations for timber activities. Rather than requiring a town-wide forestry management plan, the town can address properties on a case-by-case basis and develop specific management plans as needed, with an existing plan in place for the Town Ridge property adjacent to the UConn forest.

Extreme heat is a Willington. The town occasionally receives requests for cooling centers, but there has been no need for transportation assistance thus far. Willington primarily relies on personal vehicles, with the senior center having an accessible van, and a verbal agreement with the school bus company for transportation during storms. Town staff report a potential challenge during extreme heat, especially after a storm, is road access due to debris blockages, which could hinder transportation efforts.

Tropical Storm Isaias brought a significant debris challenge to Willington, requiring substantial time and financial resources for road clearing, with significant overtime expenses. Power outages occurred but were limited to no more than a week.

Concerning droughts, Willington has experienced occasional requests for the town to provide water to fill private wells, although this is not considered an effective solution.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Willington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 36-2: Average Annualized Losses, Willington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$14,303.67
	NRI	$280,141.57
	FEMA PA	$4,980.73
Tornados/High Winds	NCEI	$5,355.03
	NRI	$48,295.78
Winter Storms	NCEI	$4,242.14
	NRI	$23,133.91
	FEMA PA	$5,285.29
Flood	NCEI	$4,335.64
	NRI	$7,788.89
	NFIP	$224.68
Drought	NRI	$394.37
	USDA	$0.00
Extreme Heat	NRI	$951.18
Wildfire	NRI	$925.58
Earthquakes	NRI	$4,570.78
Dam Failure	HMP	$371.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Willington 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

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

- Installing emergency generators at the Town Hall, senior center and library are priorities.
- To address the flooding problems, Willington should continue to regularly maintain culverts and bridges to prevent overtopping and washouts. Additionally, encouraging property owners to engage in responsible timber management practices can mitigate debris-related flooding.
- Willington can consider establishing a comprehensive heat emergency plan that includes designated cooling centers and transportation options for those in need, especially after storms. Educating the community about heat safety measures and distributing heat-related information can also be effective.
- In addition to filling private wells during droughts, the town can provide educational resources to well owners on how to conserve and manage their water resources during droughts. This can include guidelines for water-saving practices and promoting responsible well maintenance.
- The town should develop an engineering plans / emergency action plans for the Wasilewski Pond Dam off Rt 74.

Status of Previous Mitigation Strategies and Actions

The Town of Willington reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Willington

No.	Action	Notes	Status
1	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	This is still desired, but hasn't happened yet due to lack of resources and time. First Selectwoman says this action should be kept.	Carry forward.
2	Petition FEMA to conduct a detailed flood study of the Willimantic River near Route 74, where currently it is an unnumbered A zone.	FEMA has reached out to all the towns in the area to review their draft maps/plans – this meeting will be happening on June 20th.	Complete
3	Encourage ConnDOT to improve drainage culverts and road grading on Route 320 to prevent periodic flooding and icing at the intersection of Hancock Road, at the culvert crossing of Ruby Pond discharge south of the Truck Stop facility just off I-84, at the culvert just south of the Town bus parking area, at the wetland beaver areas north of Cisar Road and north of Eldredge and Pinney Hill Roads, and at the culvert crossing at the north side of the Cosgrove Road intersection.	CIRCA will check with DOT about these projects – from town staff it sounds like some progress has happened but not all. First selectwoman does not think that Hancock Rd project has happened. Town staff reported that DOT does not participate in tabletop exercises for emergency management and does not communicate frequently with the town.	Carry Forward
4	Install generators at Town Hall and Public Works.	Town Hall does not yet have generator. Waiting on generator for Public Works but this is in progress, using ARPA funds. The three fire houses have generators, and the school (used as shelter) also has a generator. Revise to include additional facilities that need generators (see later discussion in Critical Facilities section).	Carry Forward with Revisions
5	Perform a town-wide drainage study to identify and prioritize locations requiring increased drainage capacity or other drainage-flooding mitigation measures.	This has not yet been done – there is informal knowledge among town staff, but the problems have not been identified using data. The town staff believe this is still a need. CIRCA Staff noted that the Town of Coventry requested DCRF funds to conduct this type of analysis, so including this in the plan is appropriate.	Carry forward

No.	Action	Notes	Status
6	Improve drainage culverts and install new catch basins and drainage systems along Village Hill Road and Schofield Road to reduce flooding and icing problems.	The town submitted Village Hill Road for TRIP, and were #5 of CRCOG's list – only the top 4 were pushed forward. Schofield Road was reportedly washed out twice in rainstorms, with multiple tons of debris. The drainage in this area is poor. The town has spent a lot of money putting rocks back. This is a work in progress. The Town is working with Beta Group to develop a scope of work to figure out what needs to be done and what funding sources might be suitable. CIRCA Staff suggests this might be a HMGP project for next year's round, assuming HMGP is funded soon. These projects have been in capital improvement plans for decades, but haven't moved forward. Funding is always a concern. Split these into two separate actions.	Carry Forward with Revisions
7	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.	The flood management program has been around for decades, since the NFIP was enacted. Most places in the town would not be affected by this action, so there is not a need for this.	No Longer Needed/Retire
8	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.	The town is already working on mapping stormwater with Beta Group as its consultant, and is currently waiting for their report. Separate technical assistance is not needed.	Completed / Remove
9	Add a requirement to subdivision regulations that new developments construct underground cisterns for firefighting.	No changes to the regulations have been made. Town staff suggests revising this action to include subdivision requirements for emergency management in general – truck widths on long driveways, emergency vehicle bypass, etc. In neighboring Ashford they have been requiring cisterns. In Bolton there used to be a regulation for businesses to include fire protection, but later revoked this out of concern it was anti-business. After the water supply pipeline was extended from Tolland into Mansfield, a new water main has been extended to Cedar Ridge Apartments but with only a 4-inch pipe so this only covers domestic water and not firefighting supply.	Carry Forward with Revisions

No.	Action	Notes	Status
10	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Stuart plans to attend the flood awareness workshop on June 13, and the Town participates in various drills with DEMHS. Therefore, some level of continuing education is occurring. However, the first selectwoman suggests leaving the action as a reminder to continue this. Town staff says that what prevents the flood-based information from being communicating is that the town doesn't have digital flood mapping. CIRCA Staff noted that this was changing and digital mapping will be available very soon. Revise to reflect the data concern.	Carry Forward with Revisions
11	Designate and prepare a debris management area.	Town staff has determined that chipping brush on-site is easier than hauling brush. Public Works mutual aid arrangement has been used in the past to provide grapple trucks / help to haul brush. So the town does have a way to manage debris. The town is also working on getting a permit for the site where they bring debris. Overall, the intent of this action has been met and it is considered complete.	No longer needed/Retire
12	Identify or hire a municipal staff member responsible for regularly updating the Town's website and Facebook page with hazard-relevant information.	The intent of this has been completed through existing staff (the part-time web master) and the First Selectwoman (for social media).	No longer needed/Retire
13	Review the LID Manual developed by the Northwest Hills Council of Governments and determine whether LID can be incorporated locally to increase rural resiliency.	The town has not used this manual. Town staff say they try to toe the line between making too many requests of developers while also being mindful of managing runoff appropriately. Town staff suggests avoiding the reference to a specific manual. The town is applying LID techniques when practical, on a case-by-case basis. There is not a lot of commercial development occurring. The intent of this action has been completed.	No Longer Needed/Remove
14	Develop a GIS application to assist town personnel in the event of an emergency or natural disaster, including mitigation plan maps as layers.	The GIS exists, but some of the layers need to be built out. Beta Group will also help with this.	Intent to Complete/ Remove

No.	Action	Notes	Status
15	Identify specific properties located in FEMA flood zone; including the identification of losses that occurred in 2005, 1995, and 1938.	EMD reports that there are limited properties, and the flood zones are known. One new area of concern is the Liska Road bridge, as in past storms floodwaters have come up and over the bridge. Liska Road is a one-way dead-end road so there is an access concern. About 20 houses are affected by this. There was a bridge replacement upstream on the Fenton River and another bridge replacement downstream on the Fenton River, but this middle bridge is now undersized. This will be added to the CIP. Town staff note that it is sometimes easier/cheaper to replace a bridge themselves rather than involve FEMA (although the bridge would not be up to federal standards). Revise to reflect the bridge concern and any other emerging challenges identified in this meeting.	Carry Forward with Revisions
16	Add 6 additional dry hydrants near wildfire susceptible areas of State forest and municipal woodlands within the central portion of the Town.	The town has been installing dry hydrants on an ongoing basis for years. Some progress has been made but some additional dry hydrants are still needed. Keep but drop the number	Carry Forward with Revisions
17	Re-publish all Town ordinances and regulations on Selectmen the Town's website, particularly those dealing with hazard mitigation for storms, flood events, and other natural hazards or disasters.	This is under way.	Intent to Complete/ Remove
18	Coordinate with CT SHPO to conduct historic resource surveys to support identification of vulnerable historic properties 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 initiative by CT SHPO.	This was a top-down action that can be replaced to reflect new SHPO data. CIRCA Staff asked if the Town had some historic structures and the attendees noted that some were present.	Carry Forward with Revisions
19	Use "right tree, right place" model to educate municipal staff, contractors, and the public about planting trees.	CIRCA Staff explained that this action (in 2019) replaced several previous tree-related actions that were in older editions of the plan. The town reportedly does not plant many trees – Willington is already heavily forested. More removal happens than planting. Eversource and the state DOT have both been doing lots of clearing work along roadways. The tree budget has been increasing every year. The ash borer and gypsy moth have both caused damage.	No Longer Needed/R emove
20	Perform a study of municipal buildings to determine their snow load ratings.	Town staff seem aware of the snow load for flat roof buildings, and believe a study would likely not be used for anything additional.	No Longer Needed/R emove

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.

Table 27-4: Active Mitigation Strategies and Actions, Willington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
WI1	Install a generator at Public Works.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	Medium	All Hazards	No	17	4	68
WI2	Acquire generators for the town library, town hall, and senior center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
WI3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
WI4	Add a requirement to subdivision regulations that new developments consider emergency management requirements such as; constructing underground cisterns for firefighting, truck widths on long driveways, emergency vehicle bypass, etc.	More than one goal.	Preparedness & emergency response	Emergency Management	$0- $10,000	Municipal Operating Budget	01/2025 - 12/2025	High	All Hazards	No	18	11	198
WI5	Conduct a town wide assessment of stream crossings to identify	Reduce flood and erosion risks by reducing	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	vulnerabilities and develop a priority list for maintenance and upsizing.	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.							Pluvial Floods				
WI6	Perform a town-wide drainage study to identify and prioritize locations requiring increased drainage capacity or other drainage-flooding mitigation measures.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2024 - 06/2025	Low	Riverine and Pluvial Floods	No	18	6	108
WI7	Improve drainage based on recommendations from Beta Group consultant findings for improving culverts and installing new catch basins and drainage systems along Village Hill Road to reduce flooding and icing problems.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
WI8	Improve drainage based on recommendations from Beta Group consultant findings for improving culverts and installing new catch basins and drainage systems along Schofield Road to reduce flooding and icing problems.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	IIJA AOP; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	High	Riverine and Pluvial Floods	No	19	4	76
WI9	Address the undersized	Invest in resilient corridors to ensure	Structural Project	Public Works	>$1M	LOTCIP; IIJA AOP, BIP;	07/2025 - 06/2026	Medium	Riverine and	No	18	4	72

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	bridge on Liska Road which overtops during storms to ensure access to approximately 20 houses. Include the bridge replacement in the Capital Improvement Plan (CIP).	that people and services are accessible during floods and that development along corridors is resilient over the long term.				STEAP Municipal CIP Budget			Pluvial Floods				
WI10	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	$0-$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
WI11	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards.	Water & Wastewater Utility Projects	Fire Department	>$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/ Wildfire	No	19	8	152
WI12	Complete an Emergency Action Plan for the Wasilewski Pond Dam off Rt 74	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Municipal Operating Budget	07/2024 - 06/2025	High	Dam Failure	No	18	5	90
WI13	Conduct a thorough review of the town's timber regulations to identify and address potential conflicts with flood concerns, such as prohibiting property managers from leaving	Reduce losses from other hazards.	Natural Resources Protection	Fire Department	$0-$10,000	Municipal Operating Budget	01/2025-12/2026	High	Riverine and Pluvial Floods	No	19	9	171

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	slash within a designated distance of a watercourse to enhance flood risk mitigation measures.												
WI14	Add additional dry hydrants near wildfire susceptible areas of State forest and municipal woodlands within the central portion of the Town.	Reduce losses from other hazards.	Prevention	Fire Department	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	High	Wildfires	No	19	7	133
WI15	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers and review digital flood maps as data becomes available.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	No	17	6	102
WI16	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/ Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
WI17	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	hazard considered in this Plan Update.												
WI18	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	More than one goal.	Natural Resources Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Low	All Hazards	No	18	7	126

Figure 36-9: CIRCA Environmental Justice Rank and Critical Facilities, Willington

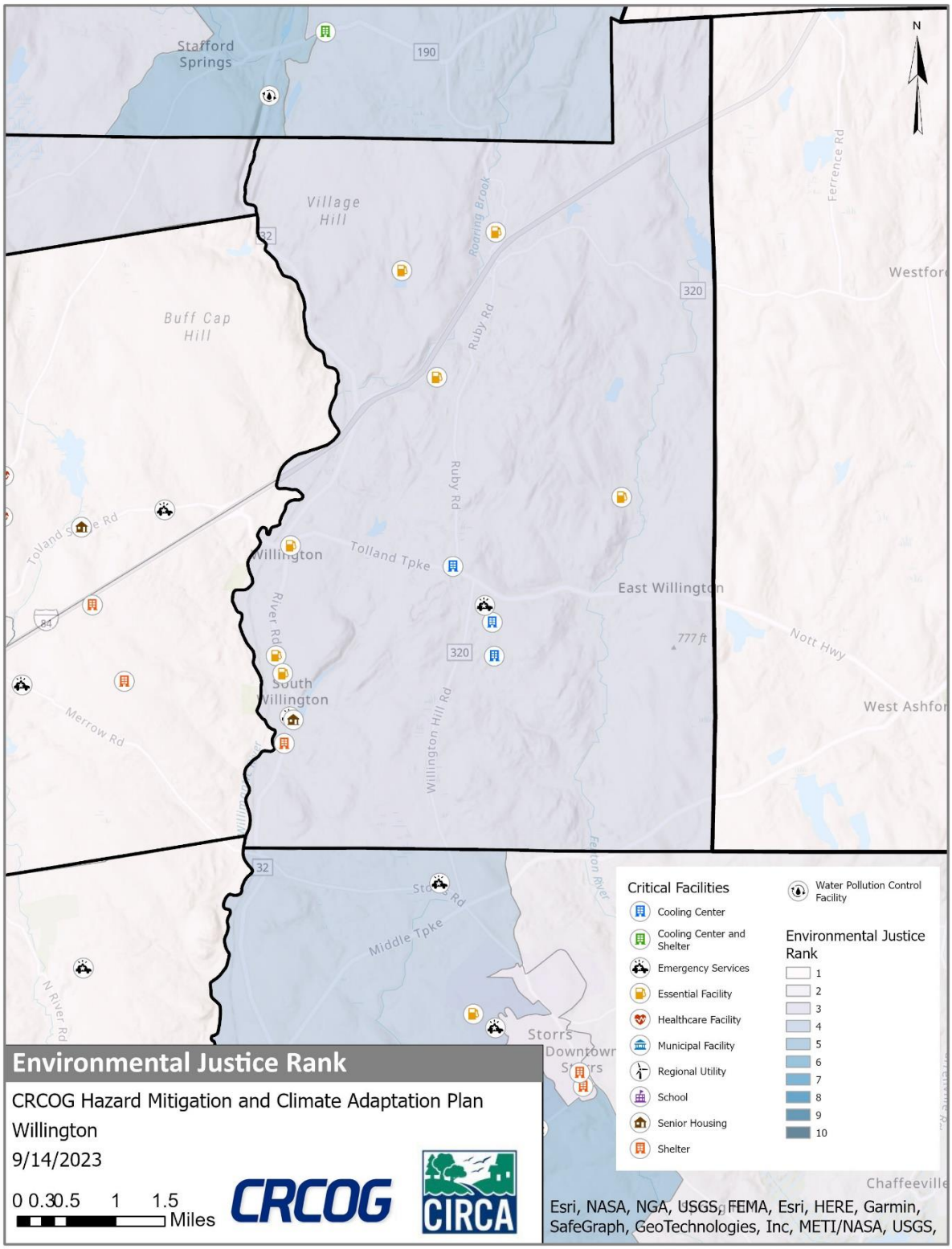


Figure 36-2: FEMA Flood Zones and Critical Facilities, Willington

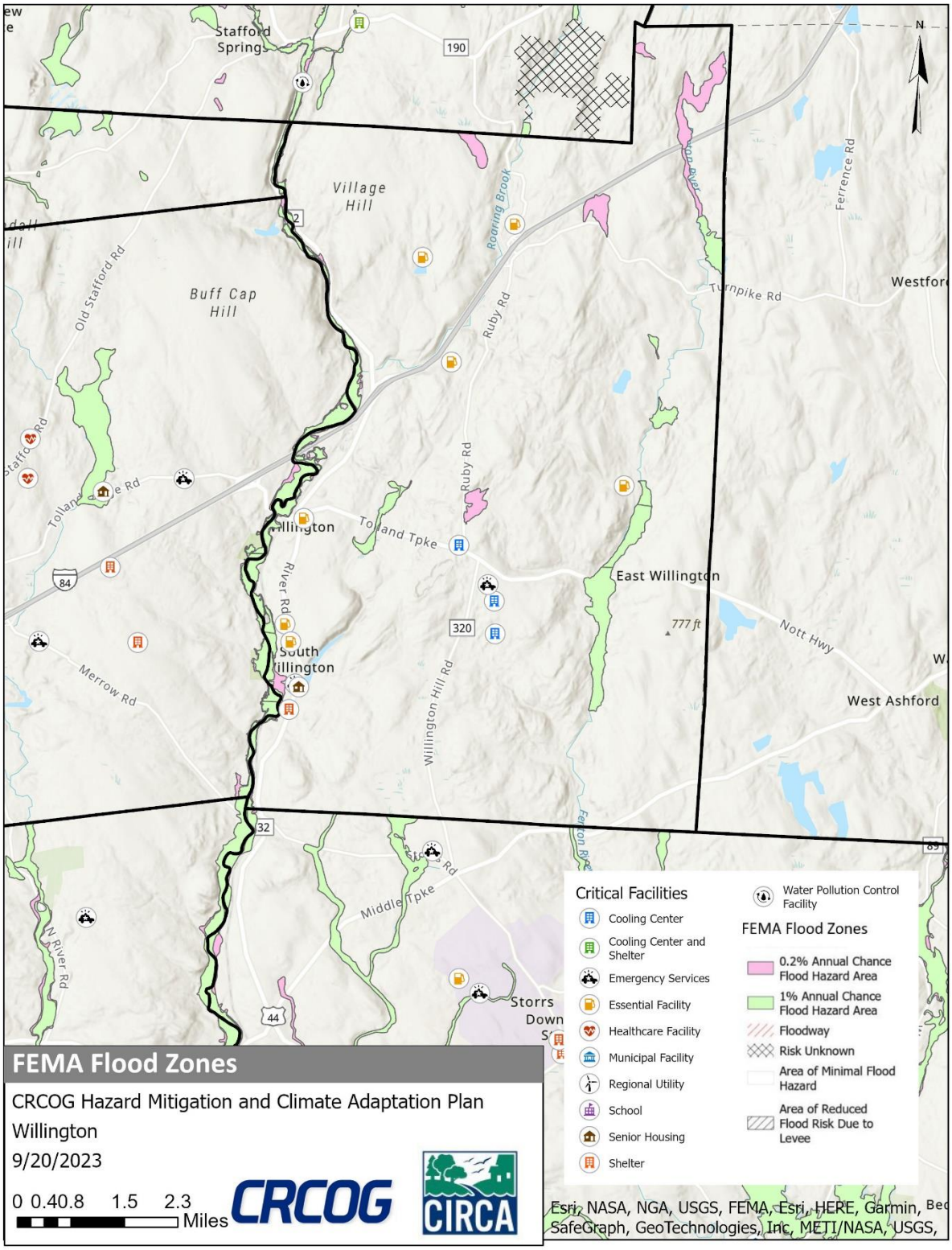


Figure 36-3: CIRCA Flood CCVI and Critical Facilities, Willington

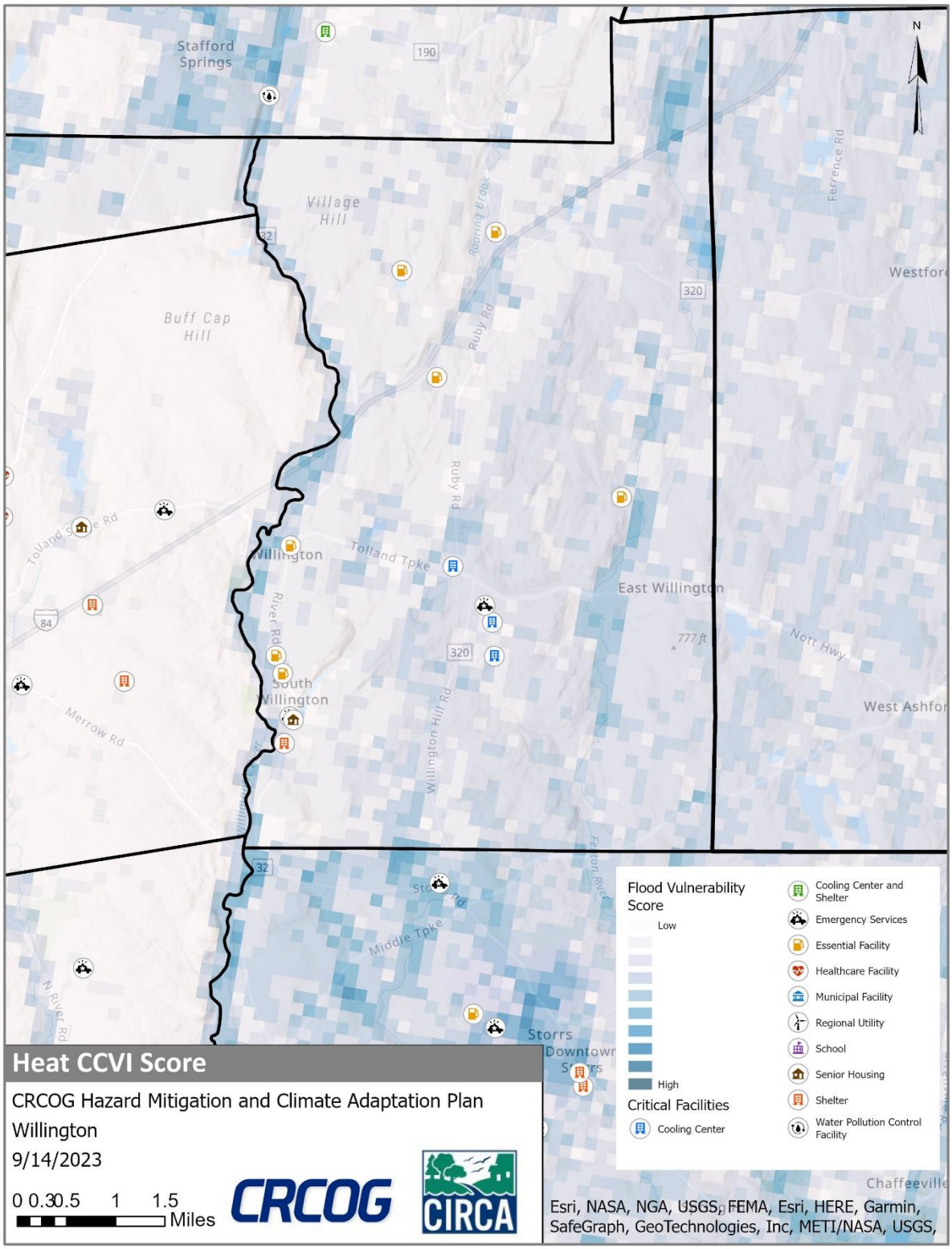


Figure 36-4: Dam Inundation Area and Critical Facilities, Willington

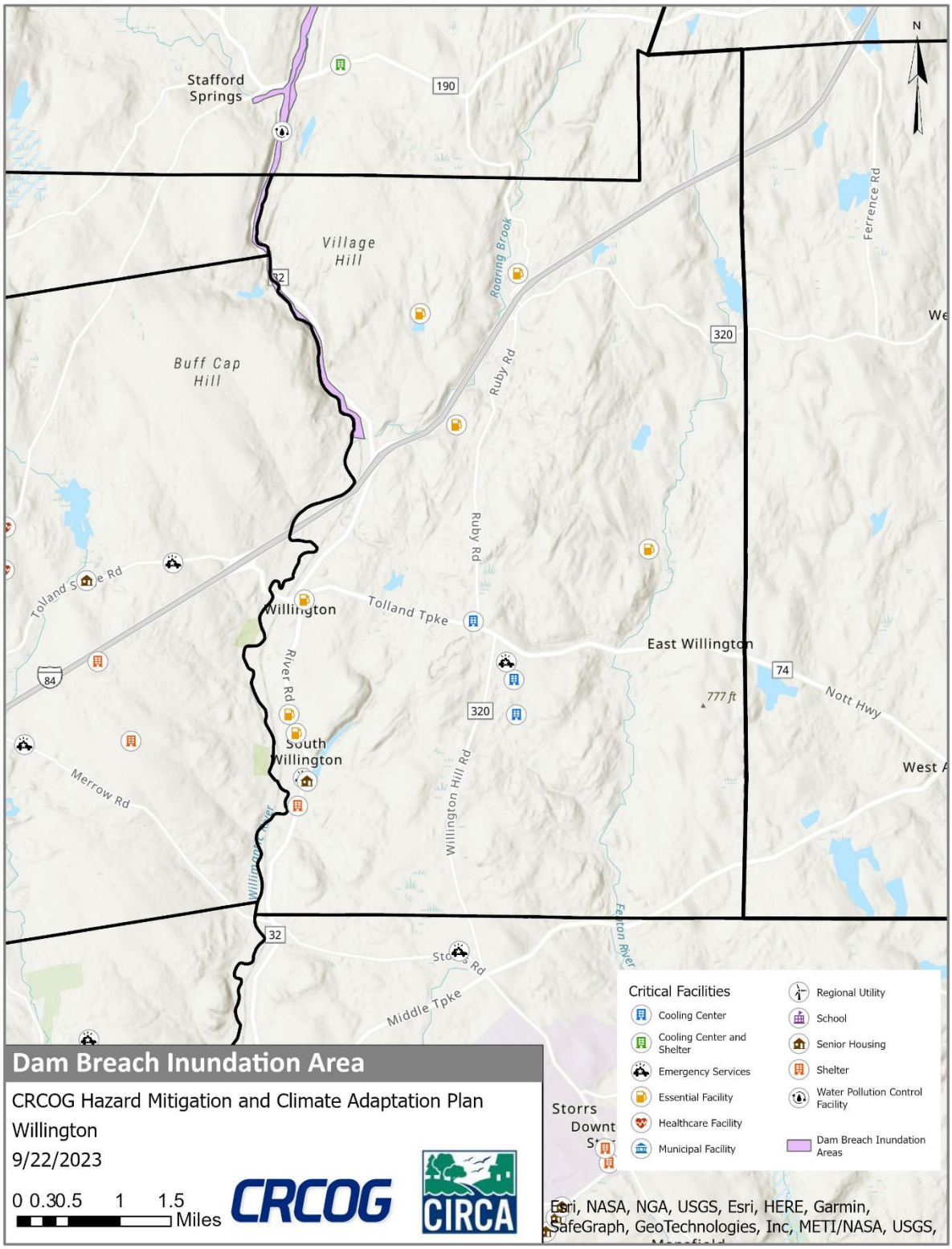
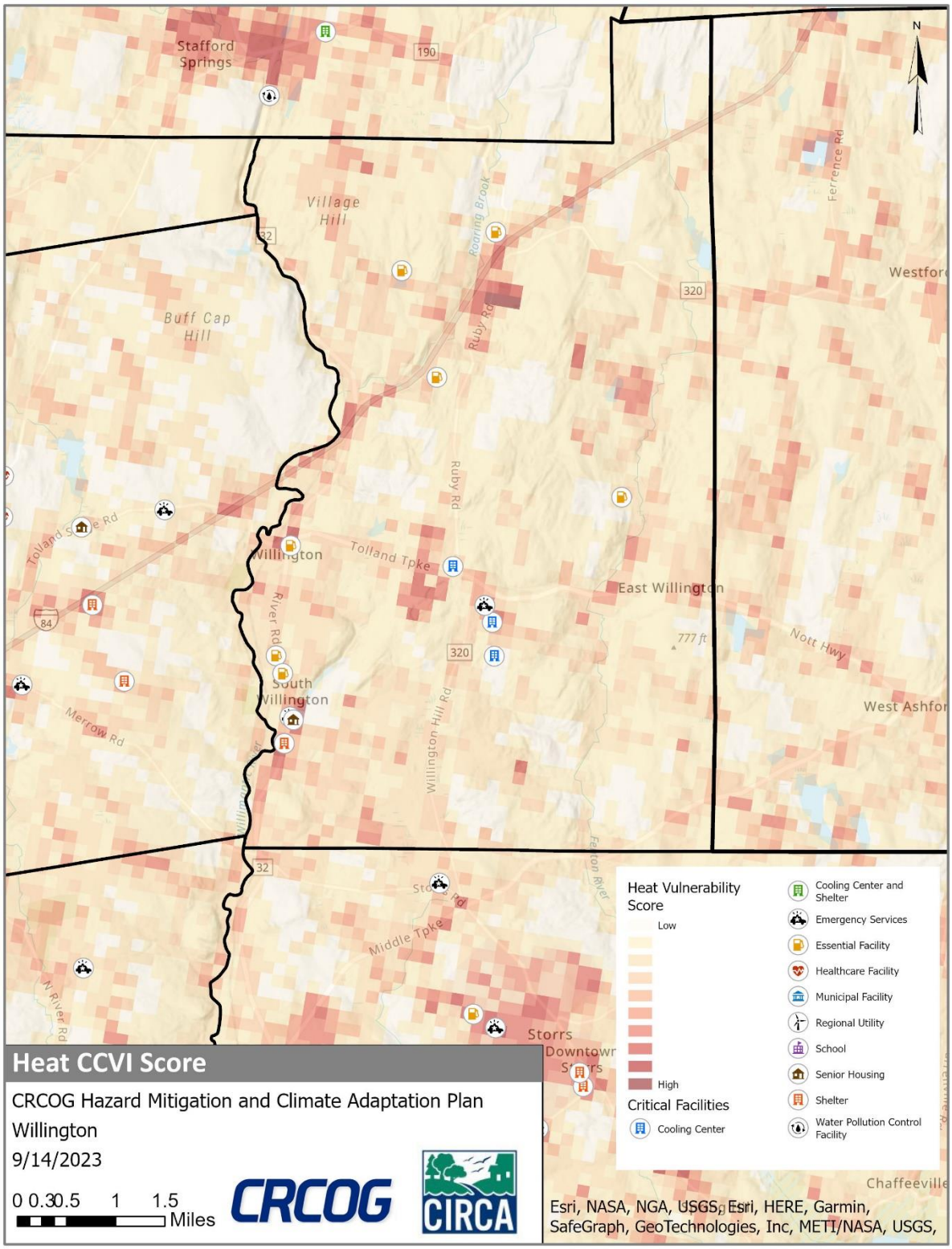


Figure 36-5: CIRCA Heat CCVI and Critical Facilities, Willington



37 Windsor

Community Overview

Windsor is a suburban community with a land area of 30 square miles and an estimated population of about 29,492 (2020 Census). Elevation ranges from about 32 feet on the eastern side to about 200 feet in the western edge. Windsor primarily lies within the Connecticut River Mainstem Watershed, with its southeast area falling within the Farmington River Watershed. The Town also encompasses several sub-regional drainage basins. The Connecticut River flows the length of the eastern Town boundary. The Farmington River runs from west to east and joins the Connecticut River in Windsor. Other watercourses in Town include Deckers, Meadow, Mill, Phelps, and Rainbow Brooks.

Interstates 91 and 291 run through and intersect in Windsor. In addition, the highway connector between Interstate 91 and Bradley International Airport (Route 20) runs along the northern boundary of Windsor. An active railroad parallels Route 91, running north-south through Windsor. An Amtrak commuter rail line and the Hartford Line commuter rail each stop in the Town. Other major transportation routes through town include state routes 75, 159, 178, 187, 218 and 305.

Windsor is a growing center of employment within the region, and as such, experiences an increase in daytime population. According to the Connecticut Department of Labor, the average annual employment for 2020 was 26,244 jobs. Power generation, aerospace, insurance, computer aided design and manufacturing software development, medical technology, financial services, manufacturing of computer components, electronics, machine tools, adhesives, measuring devices, automotive parts, air movement equipment, and shade-grown tobacco are the principal industries. The largest employers include the new Amazon logistics center, Dollar Tree, Hartford Life, VOYA, GE/Alstom Power, CIGNA, the Town of Windsor, Walgreens, Eversource, Waste Management, and Konica Minolta.

Windsor is experiencing development, with a particular focus on the Western part of town. Warehouses have been a notable part of this growth, with numerous warehouse developments near the airport, along Route 91, and in the western region. Additionally, a new warehouse was recently constructed on Baker Hollow Rd. The town is also witnessing apartment developments in two distinct areas. Windsor has received applications for redevelopment, such as the transformation of the old strip mall at 144 Broad St into apartments near the train station. Transit-Oriented Development (TOD) is gaining traction, supported by town incentives. Town officials also note that East Windsor has regulations about what can be built within terrace escarpment along the Scantic River. This approach could be employed in Windsor. It's important to note that the town ordinance restricts any new structures within 100-year floodplains and therefore, development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Windsor critical facilities include the Town Hall, Ambulance Facility, four Fire Stations, one police station, one fire/EM station the DPW facility, a Wastewater Treatment Plant and three pump stations, the train station, the LP Wilson Community Center and Senior Center, one high school, one middle school, four elementary schools, the CREC Academy of Aerospace and Engineering, Loomis Chaffee boarding school, River Street School, Windsor Animal Shelter, and two privately owned Senior Housing facilities.

The Town Hall houses the Emergency Operations Center (EOC) and has an emergency generator. The Public Safety Complex houses both a fire station and the police station. The LP Wilson Community Center and Senior Center (the Center) is the designated emergency shelter. Sheltering equipment is stored onsite at the Center. The Windsor Animal Shelter can be used to shelter animals during an emergency.

Table 27-12: Critical Facilities, Windsor

Facility	Shelter	Cooling Center	Generator
Town Hall (EOC)			X
Ambulance Facility			X
4 Fire Stations			X
Police Station			
Fire/EMS Station			
DPW Facility			X
Wastewater Treatment Plant			X
3 Pump Stations			X
Train Station			
LP Wilson Community Center	X		X
High School			Partial
Middle School			
4 Elementary Schools			
Academy of Aerospace & Engineering			X
Loomis Chaffee (boarding school)			X
CREC River Street School			Partial
Windsor Animal Shelter	Animals		X
2 Senior Housing Facilities			X
1 Eversource Substation			
1 Eversource Area Work Center			

Capabilities

Hazard mitigation is incorporated into Windsor's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards. Since 2008, there have been no changes in land use or housing development in the special flood hazard area or that would affect the Town's vulnerability to natural hazards.

Windsor uses the Everbridge Reverse 9-1-1 system to alert residents of hazardous conditions.

Improvements were made in both 2007 and 2011 to address the area adjacent to Meadow Brook in the southern end of town. In 2007, the town replaced the culvert beneath the roadway, which improved the hydraulic capacity of the brook in the area. In 2011, slope stabilization work on the upstream banks of the channel was completed to reduce the potential for erosion that could impact the hydraulic capacity of the channel, and help maintain long term functionality of the improvements completed in 2007. Improvements to Batchelder Road, Pleasant Street, and River Street have decreased the risk of isolation during a flood.

Ordinances in place that relate to hazard mitigation include Stormwater Management, Erosion and Sediment Control, and Zoning Regulations that require stormwater management and erosion and sediment control. Regulations also require power lines be buried at new developments.

The Fire Department is completely volunteer, and has a good system in place to recruit and train volunteers. The DPW is responsible for, and fully capable of completing, tree removal. GIS work relevant to hazard mitigation is performed in-house.

The restrooms and showers at the emergency shelter were upgraded to better meet sheltering needs.

Windsor was updating the Town website at the time of plan development to include information on emergency preparedness; the website will include instructions on preparing an "emergency kit."

Since the 2019 HMP, no new actions have been incorporated as capabilities thus, capabilities to address natural hazards and the losses that they have caused, have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Challenges the community faces regarding responding to natural disasters include areas within town that may become inaccessible due to flooding, the need for emergency generators at locations that provide life safety services to parts of the community, and the difficulty of retrieving real time data regarding the status of upstream dams to anticipate flooding impacts.

Areas at risk of flooding include Batchelder Road, Pleasant Street, and River Street.

There are no dry hydrants in Town.

The Town has noticed areas of erodible soils along the Farmington River which are more susceptible to more intense storms. These areas have housing.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Windsor. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the

CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 37-2: Average Annualized Losses, Windsor

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$75,789.38
	NRI	$1,006,177.12
	FEMA PA	$0.00
Tornados/High Winds	NCEI	$28,374.16
	NRI	$277,416.22
Winter Storms	NCEI	$22,477.41
	NRI	$16,382.23
	FEMA PA	$14,147.25
Flood	NCEI	$22,972.84
	NRI	$63,470.47
	NFIP	$2,244.73
Drought	NRI	$193,250.98
	USDA	$39,339.83
Extreme Heat	NRI	$33,829.46
Wildfire	NRI	$1,326.67
Earthquakes	NRI	$71,814.31
Dam Failure	HMP	$52.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Windsor 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.

- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Status of Previous Mitigation Strategies and Actions

The Town of Windsor reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Windsor

No.	Action	Notes	Status
17	Perform a flood risk assessment of the Mill, Meadow, and Deckers Brooks watersheds. Consider flood extents from the 1984, 2003, and 2005 events.	The Town Engineer said they are unaware if anything has been done on this. CIRCA suggested that this action was developed by someone who had been around.	Carry Forward
18	Develop and implement maintenance plan for River Street retaining wall.	The Town Engineer said that there were some roadway projects suggested on River St which did not go forward. She believes this was not done. There was no major project, but town is unsure if maintenance has been added. Suzanne will check in with PW.	Carry Forward
4	Identify, prioritize and implement local road improvements on an annual basis.	The Town Engineer said there is continuing maintenance on some watercourse that silt up from erodible soils. She is not aware of any road improvement.	Carry Forward
11	Develop and implement maintenance plan for all identified stormwater facilities.	The Town Engineer said to her knowledge this has not been completed. Maintenance in problem areas is done but she are unsure if maintenance is ensured in all facilities. Town has an unwritten plan but CIRCA will check back and see if it's still needed.	Carry Forward
10	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	The Town Engineer said that they recently got GIS information on stormwater facilities. Upgrades are in works on a main along the river. There is some work planned by MDC but staff were not sure about what this was exactly.	Complete/ Retire
9	Review and revise, as necessary, zoning regulations to ensure developers maintain stormwater retention capacity in compliance with MS4 zoning requirements.	The Town Engineer said they have done this and regulations ensure development is in line with MS4.	Complete/ Retire

No.	Action	Notes	Status
6	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.	The Town Engineer said they are compliant with MS4.	Complete/ Retire
14	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	The Town Engineer said this has not been done. CIRCA explained that this action is required if there are RLP.	Carry Forward
16	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	This will be carried forward since Windsor has RLP.	Carry Forward
1	Require “Inspection & Maintenance Agreement” recorded on land records for private developments.	The Town Engineer said they have done this, and town does require this. One of the requirements before development, is an ENS, and INN included in stormwater permit.	Complete/ Retire
7	Increase sheltering capacity by identifying additional shelter facilities. Consider looking at new shelter at 330 Windsor Ave.	The Town Engineer said this is a community building but she does not know what it is used for.	Carry Forward
8	Increase training for hazard response, e.g. National Incident Management System (NIMS). Include fire, police, EOC and schools.	This question is better answered by the EMD	Carry Forward
12	Identify and develop a secondary emergency operations center.	This question is better answered by the EMD	Carry Forward
2	Conduct outreach on ongoing maintenance with respect to flooding, wind, freezing and other hazards. Use town web page for information in addition to social media.	The Town Engineer is unsure of what has been done. Town does have a web and social media presence but would like to check in on.	Replace in favor of new action covering all hazards
3	Replace the Town's emergency services communications system.	This question is better answered by the EMD	Complete
15	Complete an analysis of costs and benefits of joining the FEMA Community Rating System.	CIRCA told Windsor about the CRS program. There is only one town in the region that is in FEMA CRS program. CIRCA advised that this might not be a good fit for Windsor. The Town Engineer is okay removing this action.	No Longer Needed/R etire

No.	Action	Notes	Status
5	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.	The Town Engineer said that they don't think Windsor has a lot of businesses in the flood plains, and there might be one business	No Longer Needed/Retire
13	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	The Town Engineer is new to town so she has not had the ability to attend courses but is interested in doing so.	Carry Forward/Check with EMD about this

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.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Windsor

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
WD1	Increase sheltering capacity by identifying additional shelter facilities. Consider looking at new shelter at 330 Windsor Ave.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	>$1M	STEAP; FEMA HMA; Municipal CIP Budget	6/2026	High	All Hazards	No	19	3	57
WD2	Identify and develop a secondary emergency operations center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	>$1M	STEAP; FEMA HMA; Municipal CIP Budget	6/2026	Low	All Hazards	No	18	2	36
WD3	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
WD4	Perform a flood risk assessment of the Mill, Meadow, and Deckers Brooks watersheds. Consider flood extents from the 1984, 2003, and 2005 events.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Public Works	$50,000 - $100,000	DCRF; FEMA HMA	07/2026 - 06/2028	Medium	Riverine and Pluvial Floods	No	18	6	108

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
WD5	Develop and implement maintenance plan for River Street retaining wall.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	Municipal Operating Budget; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
WD6	Identify, prioritize and implement local road improvements on an annual basis.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Project	Public Works	$500,000 - $1M	LOTCIP; STEAP; Municipal CIP Budget	01/2025 and annually during this month	Low	All Hazards	No	18	3	54
WD7	Develop and implement maintenance plan for all identified stormwater facilities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	Municipal Operating Budget	07/2025 - 06/2027	Medium	All Hazards	No	18	6	108
WD8	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
WD9	Work with the Connecticut Institute for Resilience and Climate Adaptation	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/E	No	18	7	126

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	(CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient Opportunity Areas (ROARs).								xtreme Heat				
WD10	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Community Development	$0-$10,000	Municipal Operating Budget	01/2026 - 12/2026	High	Riverine and Pluvial Floods	No	19	7	133
WD11	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	High	Riverine and Pluvial Floods	No	19	7	133
WD12	Increase training for hazard response, e.g. National Incident Management System (NIMS). Include fire,	More than one goal.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	07/2024 - 06/2025	Medium	All Hazards	No	17	7	119

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	police, EOC and schools.												
WD13	Participate in EMI and DEMHS courses or the seminars and annual conference held by CIRCA and the Connecticut Association of Flood Managers.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education and Awareness	Floodplain Manager	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	High	All Hazards	No	18	6	108
WD14	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Community Development	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 37-10: CIRCA Environmental Justice Rank and Critical Facilities, Windsor

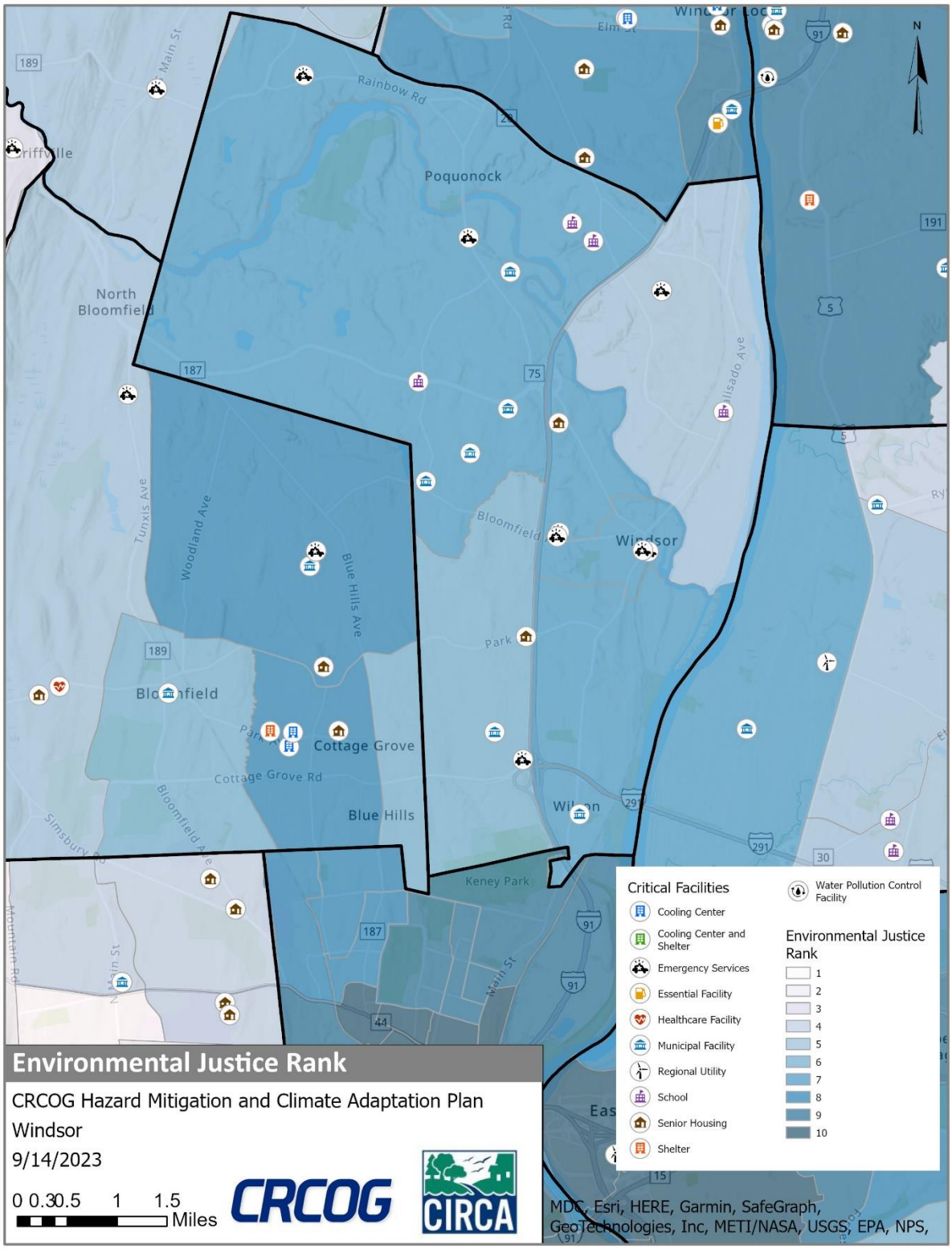


Figure 37-2: FEMA Flood Zones and Critical Facilities, Windsor

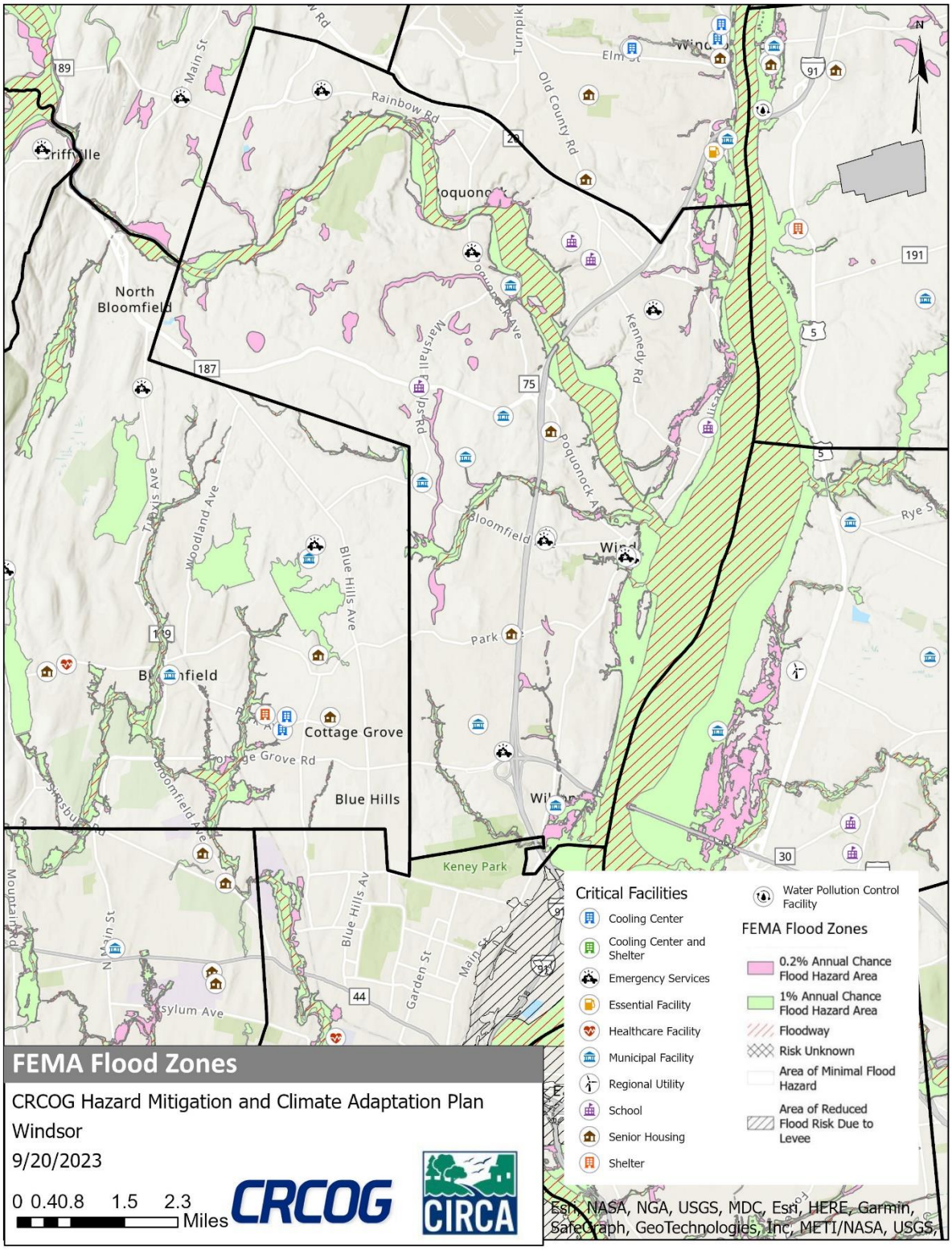


Figure 37-3: CIRCA Flood CCVI and Critical Facilities, Windsor

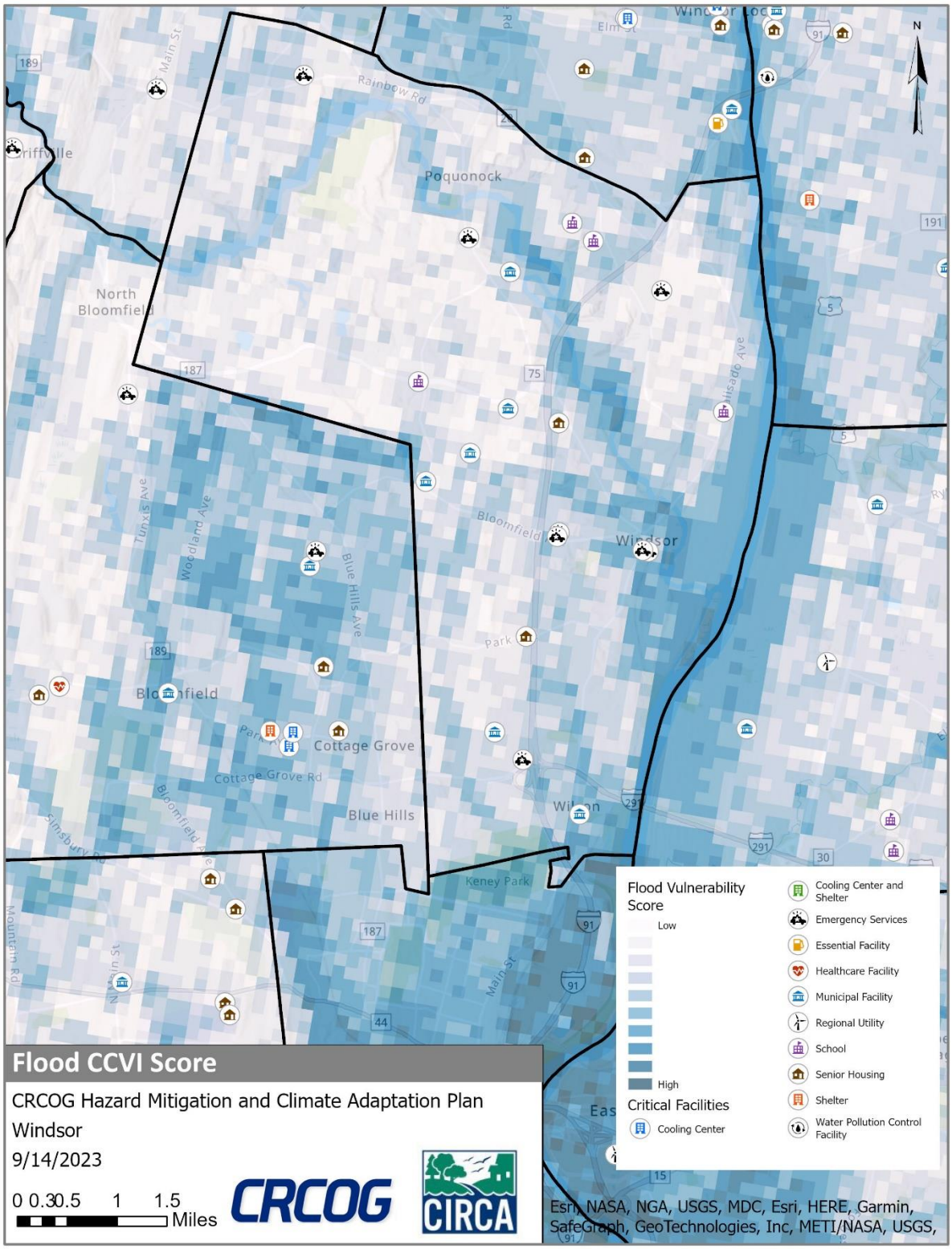


Figure 37-4: Dam Inundation Area and Critical Facilities, Windsor

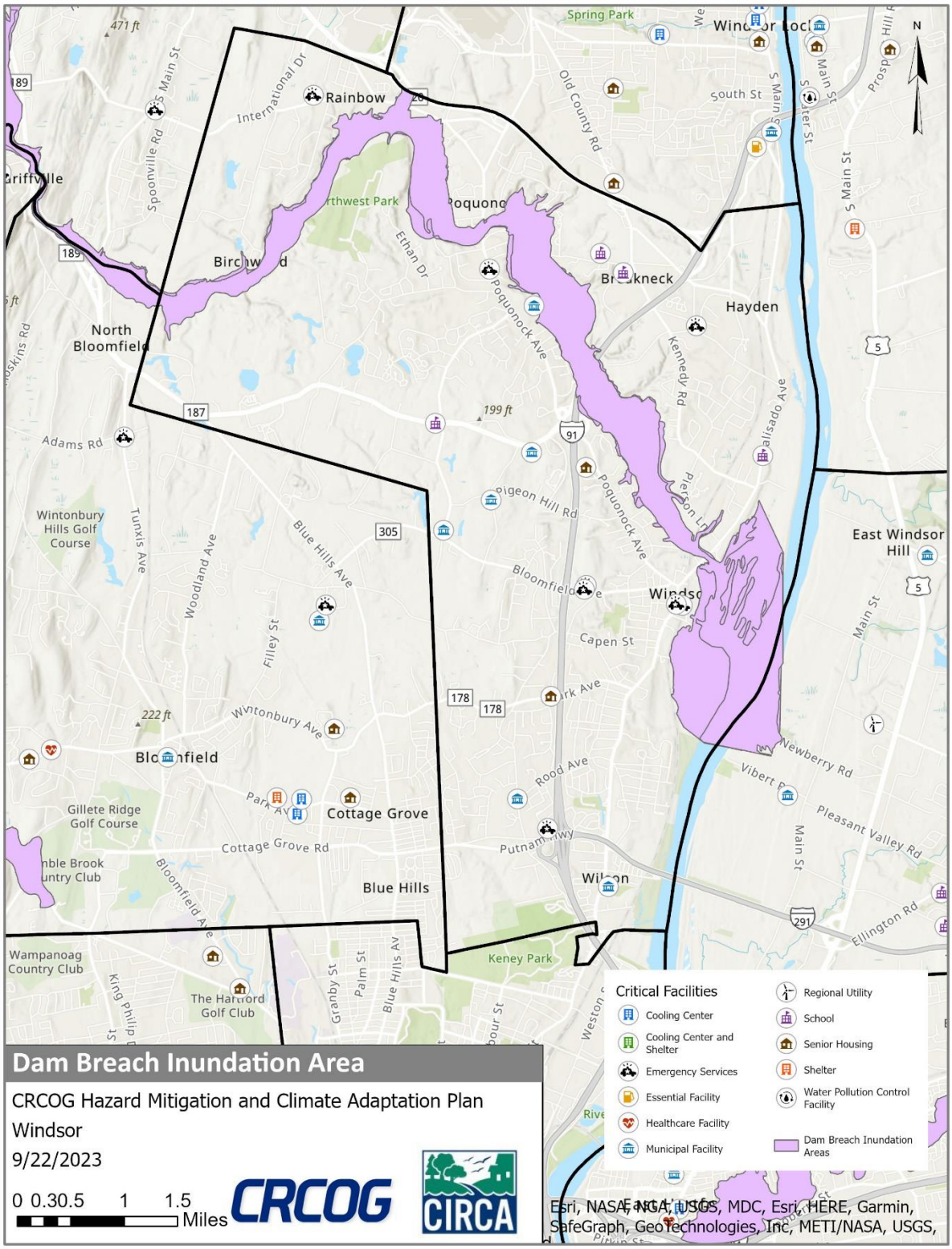
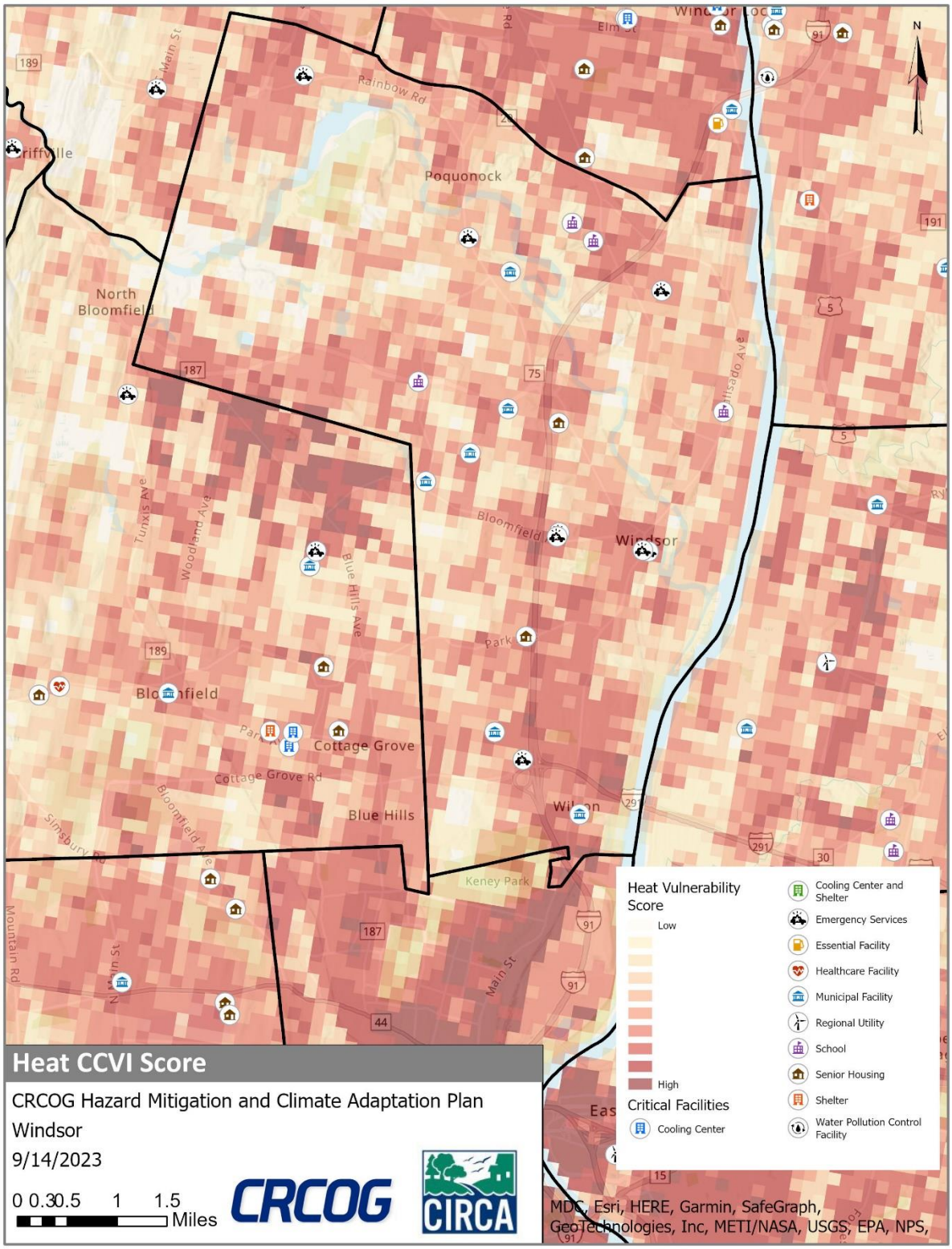


Figure 37-5: CIRCA Heat CCVI and Critical Facilities, Windsor



38 Windsor Locks

Community Overview

Windsor Locks is a fully suburban community that encompasses only nine square miles but has a population of approximately 12,613 (2020 Census). The land area of Windsor Locks ranges from about 75 to 150 feet above sea level and contributes to three watersheds: primarily the Connecticut River Mainstem, but also Stony Brook in the northwest and Farmington River in the southwest. The Connecticut River forms the eastern Town boundary. Other watercourses include Adds, Dibble Hollow, Kettle and Waterworks Brooks. Principal industries include food servicing and distribution, manufacture of aerospace products, paper products, electronics and machines. Hamilton Sundstrand is the Town's largest employer.

Major transportation routes through Windsor Locks include Interstate 91 and state routes 75, 140 and 159. In addition, highway 20, the connector between Interstate 91 and Bradley International Airport forms the southern town boundary. An Amtrak commuter rail line and the Hartford Line commuter rail each stop in the Town. The majority of Bradley International Airport, the second largest commercial airport in New England, is located within Windsor Locks, as well as significant numbers of hotels and related travel services. The Town reports that it has 1,600 hotel rooms, and 7 million people a year pass through Bradley International Airport.

Windsor Locks has very little undeveloped land, but continued development and redevelopment is expected. Windsor Locks is witnessing significant transportation developments, including the addition of a second high-speed rail line and the relocation of a transportation center to the downtown area. The entire riverfront region has been designated as a TIF district to encourage economic growth. Urban planning initiatives like the Main Street Study and Plan and Transit-Oriented Development (TOD) study are in progress. A developer has proposed 80-100 residential units with first-floor retail on Main Street, potentially involving stream daylighting, though this may impact development space. Development/redevelopment is not increasing risk to natural hazards.

Critical Facilities

In Windsor Locks critical facilities include the Town Hall, Safety Complex (including police and fire), Senior Center, Public Works building, Water Pollution Control Facility (WPCF), six pump stations, the Eversource Substation on South Main Street, Bradley International Airport, a communication tower behind the Safety Complex, a High School , a Middle School, two Elementary Schools, two Senior Housing Complexes, Bickford Health Center, and Stonebrook Village assisted living. The Emergency Operations Center operates out of the Town Hall. The Windsor Locks High School is the primary shelter, and is used by Eversource as a staging area for storm response. The Town Hall and the Senior Center can function as a temporary shelter. The Town is interested in making South Street Elementary School, adjacent to the High School, into a backup shelter.

Table 27-13: Critical Facilities, Windsor Locks

Facility	Shelter	Cooling Center	Generator
Town Hall (EOC)	Heating/Cooling Center	X	Yes
Safety Complex			Yes

Facility	Shelter	Cooling Center	Generator
Senior Center	Heating/Cooling Center	X	Yes
Water Pollution Control Facility			50%
6 Pump Stations			Yes
Bradley International Airport			Yes
Communication Tower at Safety Complex			Yes
High School	Primary		80%
Middle School			
2 Elementary Schools			
2 Senior Housing Complexes			
Bickford Health Center			Yes
Stonebrook Village			Yes
Police Department		X	
2 Eversource Substations			

During extreme heat events, Windsor Locks Town Hall (EOC), Windsor Locks Senior Center and Windsor Locks Police Department can all be opened as public cooling centers. The town hall and senior center have generators but it is unknown if the police department does.

Windsor Locks has a new police department and new senior center in pre-construction phase.

The Public Safety Complex generator runs on diesel rather than natural gas, and South Elementary still does not have a generator.

Capabilities

Hazard mitigation is incorporated, to some degree, into the Windsor Locks Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards. No construction has been permitted in flood prone areas since 2008.

Windsor Locks has a local CERT team.

The Town maintains a list of nuisance and high hazard flooding areas.

The Connecticut Department of Transportation has begun the construction on road improvements and a train station on Main Street. The Montgomery Mill has been renovated into an Apartment Complex in close proximity to the Train Station. Opportunities for mitigation will be considered as planning efforts continue. The Town has also been working with property owners along the Connecticut River to encourage open space preservation, community gardens and other creative low impact uses on their lands.

Eversource maintains and trims trees along powerlines and provides the Town with other tree maintenance assistance. The Town does not trim trees but has the capacity to remove debris from roads.

Windsor Locks has two water tanks for firefighting water; one at the Safety Complex and one on Suffield Street. The Town does not have any dry hydrants, but two will be installed as part of the Montgomery Mill conversion project.

Windsor Locks has acquired a new generator for the communication tower behind the Safety Complex.

Remediation of contaminants at the Montgomery Mills site has been completed. The building has been converted to apartments. Retaining walls have been repaired at the river, and two areas of ongoing erosion have been stabilized with riprap, as per DEEP recommendations; other areas are stabilized with vegetative cover. A long linear bioswale has been constructed parallel to the river to better manage stormwater and mitigate runoff prior to water entering the river. The lower level of the mill is being used for storage and parking, and additional parking is available north of the property in the event of flooding of the lower parking area. The canal side of the property has been converted to a pedestrian promenade with emergency vehicle access possible. Land adjacent to the redeveloped Montgomery Mill will continue to be passive recreation, and a trailhead has been expanded to provide simple amenities such as benches and bike racks (which are properly anchored against flooding). An emergency management plan for the site has been filed with the Town to be carried out by the developer or property manager along with future residents.

Since the 2019 HMP, the following actions have been incorporated as capabilities:

- Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.
- Develop a list of local resources, including non-profits, volunteers, and gas-stations and grocery stores with emergency generators, to distribute to residents prior to forecast hazard events.

Capabilities to address natural hazards and the losses that they have caused, have increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is the primary hazard of concern for Windsor Locks. A significant challenge lies in the aging infrastructure beneath the town's roads, which is in need of replacement. Potential funding through initiatives like stream daylighting or culvert upsizing should be considered. Much of the developments in Windsor Locks occurred in a piecemeal fashion, prior to development plans and wetland sometimes, resulting in infrastructure right up to the edge of streams, increasing flood risk.

Windsor Locks is actively participating in an NRCS program focused on Kettle Brook.

Other areas of flooding concerns include:

- Center Street has multiple stream crossings including; Papermill Brook, Kettle Brook, and Merrigan Brook which all pose a concern.
- Reed Ave and Sadler Street have consistent flooding concern.
- The watershed with Waterworks Brook and Dibble Hollow Brook have flooding concerns that impact multiple streets including; Gaylord, Lowndes, and Dibble Hollow.

Water Pollution Control staff are concerned with access to and shut-down of three locations: Dexter Pump Station, South Main Street Pump Station and the WPCF. Estimates of potential dollar losses to such structures range from $750,000 to $1.5-million for the Dexter Pump Station’s contents and $175,000 to $250,000 for the South Main Street Pump Station’s contents. The Public Works

building, adjacent to the WPCF, is also located within a floodplain and is at risk of flooding and loss of access.

The redevelopment of the apartment building situated along the river included measures to make it flood-compliant. Notably, the ground floor was converted into a garage to accommodate potential flooding. Despite these efforts, town staff continue to express concerns, particularly regarding parking arrangements and the potential for a significant river flood to still overtop the canal.

Town staff report power outages in Windsor Locks poses a significant risk, especially for the elderly population, given the extreme heat.

Town staff emphasized vulnerable populations housed in motels/hotels. Staff report that Windsor Locks is 9 square miles and has 1,600 hotel rooms, none of which are equipped with generators. In the event of an emergency, the airport is supposed to take care of passengers, etc. without calling on the town. However, these hotels don't have their own power which poses a significant threat.

There is a lot of regional infrastructure/facilities in this relatively small area centered around Windsor Locks including the international airport, a few military facilities, a million-square foot food distribution center, Amazon facility, two major pipelines (one of which fuels the aviation fuel needs of the airport), and two prisons. Not all of these are within Windsor Locks boundaries, but all are close by. The town staff are concerned that if/when a hazard occurs, all these facilities in neighboring towns would require help from the Windsor Locks.

Windsor Locks has been damaged by two tornadoes in the past.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. 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 each natural hazard which may impact Windsor Locks. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CRCOG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures 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.

Table 38-2: Average Annualized Losses, Windsor Locks

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	$32,413.25

Hazard	Source	Average Annualized Losses (AAL)
	NRI	$535,073.93
	FEMA PA	$7,947.31
Tornados/High Winds	NCEI	$12,134.93
	NRI	$139,982.17
Winter Storms	NCEI	$9,613.03
	NRI	$7,700.43
	FEMA PA	$7,075.85
Flood	NCEI	$9,824.92
	NRI	$10,322.88
	NFIP	$3,313.10
Drought	NRI	$19,355.54
	USDA	$0.00
Extreme Heat	NRI	$14,321.56
Wildfire	NRI	$591.33
Earthquakes	NRI	$60,997.43
Dam Failure	HMP	$22.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Windsor Locks 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

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

- Prioritize the replacement of aging infrastructure beneath town roads by seeking potential funding through initiatives like stream daylighting and culvert upsizing.

- Consider comprehensive watershed-based flood management plans to address flooding concerns on a broader scale.
- Install flood-resistant measures at critical facilities like the Dexter Pump Station and South Main Street Pump Station to safeguard their contents.
- To address concerns about apartment buildings near the canal, the town should consider conducting a detailed flood risk assessment to ensure the safety of residents during significant river floods and continue to explore additional flood-resilience measures such as elevated parking or improved canal protection.
- Develop a backup power plan for the elderly population during outages, including the installation of generators in critical facilities or community centers.
- Coordinate with local hotels to invest in backup power solutions to protect vulnerable populations in the event of a power outage.
- Collaborate with neighboring towns and regional authorities to establish emergency response plans to support the multitude of facilities in the region.
- Create an inventory of the populations living in hotels/motels to ensure the town has sufficient resource to address their needs during hazards/storms.

Status of Previous Mitigation Strategies and Actions

The Town of Windsor Locks reviewed the mitigation actions proposed in the 2019 Capitol Region Natural Hazards Mitigation Plan Update and determined the status of each. That information is included in the table below.

Table 27-3: Status of Previous Mitigation Strategies and Actions, Windsor Locks

No.	Action	Notes	Status
1	Maintain trash rack at Chestnut and Main Streets.	There was some uncertainty about what trash rack this is – but it seems to be fully on private property nearby an enclosed stream. This action can be removed, but we may want a different action related to the stream where it crosses Center Street (this stream washed this road out during the October 2005 or April 2007 flooding, although there has been work done since).	No Longer Needed/Retire
2	Enter the Sustainable CT program through Registration and review actions that can be undertaken to pursue Certification. Make progress with the actions related to hazard mitigation.	Windsor Locks is now Bronze Certified with Sustainable CT. This action is complete and can be removed.	Complete/ Retire
3	Address plumbing issues at Waterworks Property, particularly exposed and eroded pipe.	Town staff are uncertain what this specific action is referring to. However, this property is an abandoned Connecticut Water Company wellfield that the town now owns as open space. The town has no intention of doing anything here, and actions are limited by the deed restriction. This action can be removed.	No Longer Needed/Retire

No.	Action	Notes	Status
4	Develop designs and a cost-estimate for elevation of the fueling tank at the 1 Stanton Road DPW site; tank is currently underground and at-risk of being impacted by flooding.	The tank is still underground. It was replaced in-kind underground within the last ten years, and probably has a 40-year lifespan now. The tank is just on the edge of the FEMA flood zone; Stanton Road is in the flood zone. Phil says keep this action in case there is a grant opportunity for this.	Carry Forward
5	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.	The town did an email distribution to local businesses with DEEP resources. This is complete.	Complete/ Retire
6	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.	NEMO and a team of students provided limited services about two years ago and offered some alternative ideas. There are not many MS4 actions available for Windsor Locks because the town is 95% developed and almost entirely urbanized. This action is considered complete and can be removed.	Intention is Complete/ Retire
7	Review land use regulations (other than the recently updated flood regulations) to determine their effectiveness at minimizing natural hazard exposure, and amend as necessary.	There haven't been changes in the last five years. There is an amendment under public hearing now for private streets. The town did discuss whether to increase the review areas for wetlands, but the Wetland Commission decided not to move forward with this. The review has been completed, so this action can be removed.	Complete/ Retire
8	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	This is ongoing and can be removed because it represents a capability.	Complete/ Retire
9	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	Windsor Locks is served by The Connecticut Water Company. Part of the airport sanitary sewage to MDC, but the town is not an MDC town. This can be removed, as its inclusion in 2019 may have been a mistake.	No Longer Needed/R etire
10	Develop a list of local resources, including non-profits, volunteers, and gas-stations and grocery stores with emergency generators, to distribute to residents prior to forecast hazard events.	The town has an emergency management director and a CERT team, so this is a capability and can be removed.	Complete/ Retire
11	Add generator to South Elementary and add natural gas to Public Safety Complex.	The Public Safety Complex generator runs on diesel rather than natural gas, and South Elementary still does not have a generator. Keep this action with both parts of this sentence.	Carry Forward

No.	Action	Notes	Status
12	Conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster plans and kits, and improving their disaster readiness.	This is handled by CERT. The town is considering getting their own subscription to Everbridge instead of using the state version. Reword this action to include this Everbridge goal.	Carry Forward with Revisions
13	Identify emergency response needs and possible solutions with regards to space, generators, and equipment. Consider ADA compliance, equipment storage, and availability of portable generators.	The intent of this action was met (identifying needs); Reword this to be more direct. Town Hall or senior center can be used as cooling centers. The high school can be used for warming and is also the emergency shelter. DEMHS Region 4 did a study on fuel availability in each town and the feasibility of getting generators to gas stations. The town does not have any portable generators. CIRCA Staff explained that FEMA will not fund portable generators, but will fund fixed-in-place generators. Construction will be starting for a new police department and a new senior center in the fall – design is still in progress, and town staff are uncertain whether generators are included in the design. The new senior center will definitely need a generator, as it will be the new cooling center.	Carry Forward with Revisions
14	Address drainage issues on Papermill Brook at Center Street/ Whitton Street.	This has not been done, and attendees would like to keep this action. There are two separate locations on Center Street.	Carry Forward
15	Address drainage issues on Kettle Brook at Middle School on Center Street in conjunction with homeowner.	This is the area that will be addressed by the NRCS program. Keep the action just in case.	Carry Forward
16	Address drainage issues on Industrial Road.	There is a stream here (possibly Little Brook) but this is more of a drainage issue. The building and parking lot have flooded multiple times. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revision
17	Address drainage issues at West and Spring Streets.	This is a storm drain issue. Keep this action. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revision
18	Address drainage issues in the Smally Road area.	This is a storm drain issue. Keep this action. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revision
19	Address drainage issues on Bristol Rd.	This hasn't flooded recently but has previously been an issue. This is a storm drain issue. Keep this action. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revision
20	Address drainage issues at Dibble Hollow & Bel Air Circle.	This is backyard flooding, and has involved loss of property (lawns / pools). Keep this action. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revisions

No.	Action	Notes	Status
21	Address drainage issues at Gaylord and Lowndes Drive	During the October 2005 storm there was 3-4 feet of water in the backyards of this area. Keep this action. Create a watershed action to potentially group some of these streams into one action.	Carry Forward with Revision
22	Contact the owners of Repetitive Loss Properties and nearby properties at risk to inquire about mitigation undertaken and suggest options for mitigating flooding in those areas. This should be accomplished with a letter directly mailed to each property owner.	There is a house on Center Street that has had water in their basement every time it floods. But the town staff is not aware of any recent flood insurance claims. CRCOG will request the list from FEMA.	Likely No Longer Needed/Retire
23	Work with school systems to conduct outreach using Everbridge and Parent Link.	See earlier action related to Everbridge.	Carry Forward with Revisions
24	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties 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 initiative by CT SHPO.	Revise. SHPO has since mapped the locations of historic structures across the state. Revise this action to something along the lines of "Request and obtain GIS layer of historic resources from SHPO and review to identify historic resources at risk."	Carry Forward with Revisions
25	Conduct natural hazard education outreach at least once annually using social media, occasional mailings, and town events.	Keep this – the goal is to update the website.	Carry Forward

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.

Table 27-4: Active Mitigation Strategies and Actions, Windsor Locks

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
WL1	Develop designs and a cost-estimate for elevation of the fueling tank at the 1 Stanton Road DPW site; tank is currently underground and at-risk of being impacted by flooding.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Public Works	$100,000 - $500,000	DCRF; FEMA HMA	07/2024 - 06/2025	High	Riverine and Pluvial Floods	Serves an EJ tract	19	4	76
WL2	Add generator to South Elementary and add natural gas to Public Safety Complex.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
WL3	Acquire a town subscription to Everbridge and work with the school systems to conduct annual outreach campaign to educate residents on signing up for emergency alerts, building and maintaining disaster	More than one goal.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Municipal Operating Budget	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	3	57

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	plans and kits, and improving their disaster readiness.												
WL4	Ensure the new police department and senior center will have generators as these facilities are critical and may be used as cooling centers/shelters.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & emergency response	Emergency Management	$100,000 - $500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	Benefits an EJ tract	19	5	95
WL5	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & emergency response	Emergency Management	$10,000 - $50,000	Transit; IIJA BBFP	07/2024 - 06/2026	High	Extreme Heat	Benefits an EJ tract	19	3	57
WL6	Address drainage issues on Papermill Brook at Center Street/ Whitton Street.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$500,000 - $1M	DCRF; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Yes - EJ Tract	19	4	76
WL7	Address drainage issues on Kettle Brook at Middle School on Center Street in conjunction with homeowner.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency	Structural Project	Public Works	$500,000 - $1M	DCRF; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Yes - EJ Tract	19	4	76

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
		and severity of floods.											
WL8	Conduct drainage and flood mitigation study along the stream that flows from Circle Drive past North Street and through the Chestnut Street/Main Street intersection and beneath 255 Main Street	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Yes - EJ Tract	19	6	114
WL9	Conduct drainage and flood mitigation study in the Paper Mill Brook/Kettle Brook watershed and along these stream corridors	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
WL10	Conduct drainage and flood mitigation study in the Adds Brook watershed and along the stream corridor	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
WL11	Conduct drainage and flood mitigation study in the Waterworks	Reduce flood and erosion risks by reducing	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA;	07/2027 - 06/2029	Medium	Riverine and	Benefits an EJ tract	19	6	114

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Brook watershed and along the stream and tributary corridors	vulnerabilities and consequences, even as climate change increases frequency and severity of floods.				Municipal CIP Budget			Pluvial Floods				
WL12	Conduct drainage and flood mitigation study in the Dibble Hollow Brook watershed and along the stream corridor	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$50,000 - $100,000	DCRF; FEMA HMA; Municipal CIP Budget	07/2027 - 06/2029	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
WL13	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	$10,000 - $50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	Benefits an EJ tract	19	6	114
WL14	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in	More than one goal.	More than one type	Public Works	$0-$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	Benefits an EJ tract	19	7	133

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS	STAPLEE Score	PERSISTS x STAPLEE =
	Resilient Opportunity Areas (ROARs).												
WL15	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	$0-$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires /Tornadoes and High Winds/Riverine and Pluvial Floods	Benefits an EJ tract	19	9	171
WL16	Conduct natural hazard education outreach at least once annually using social media, occasional mailings, and town events.	More than one goal.	Education and Awareness	Emergency Management	$0-$10,000	Municipal Operating Budget	01/2025 and annually during this month	Medium	All Hazards	Benefits an EJ tract	18	6	108
WL17	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Planning	$0-$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	Benefits an EJ tract	18	7	126

Figure 38-11: CIRCA Environmental Justice Rank and Critical Facilities, Windsor Locks

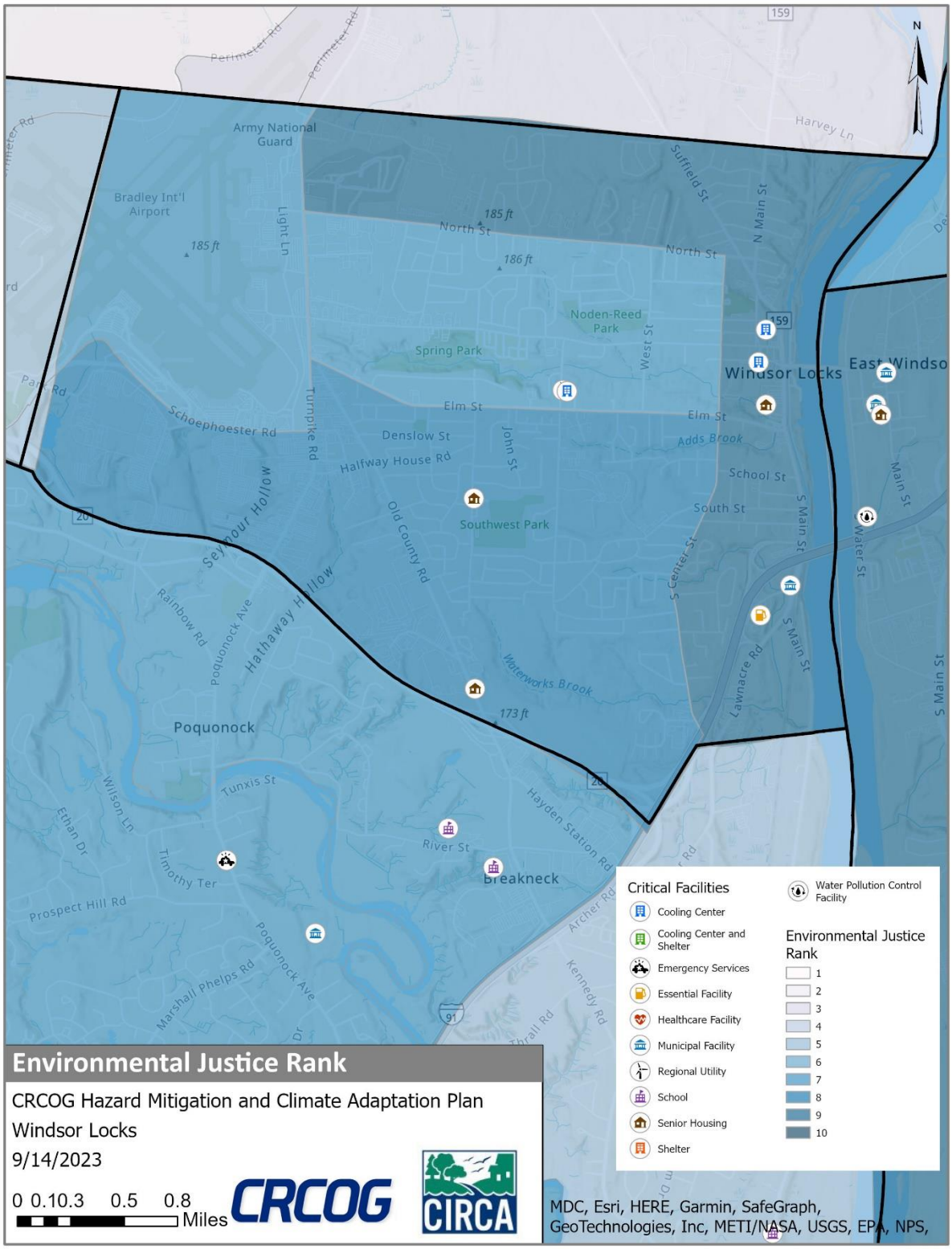


Figure 38-2: FEMA Flood Zones and Critical Facilities, Windsor Locks

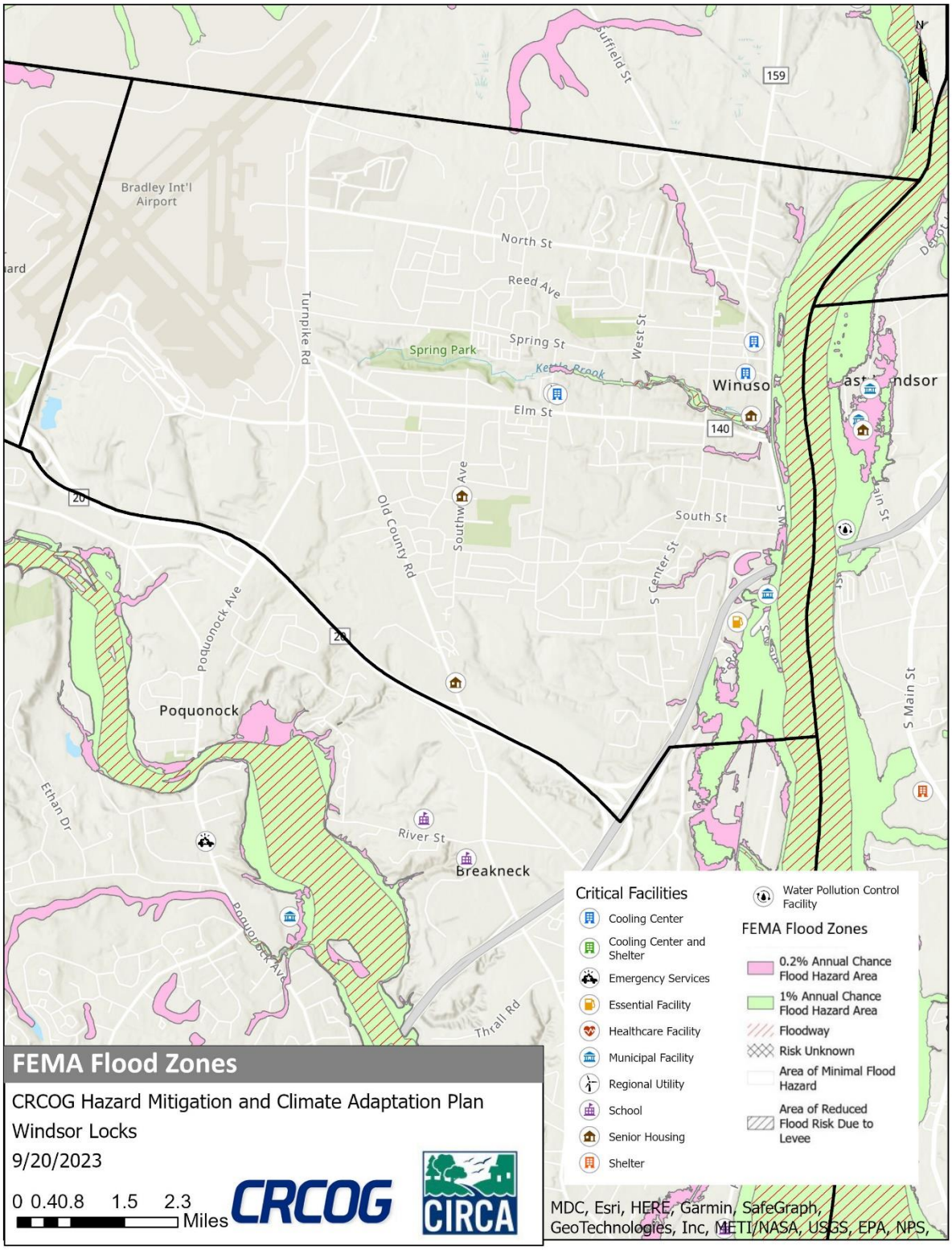


Figure 38-3: CIRCA Flood CCVI and Critical Facilities, Windsor Locks

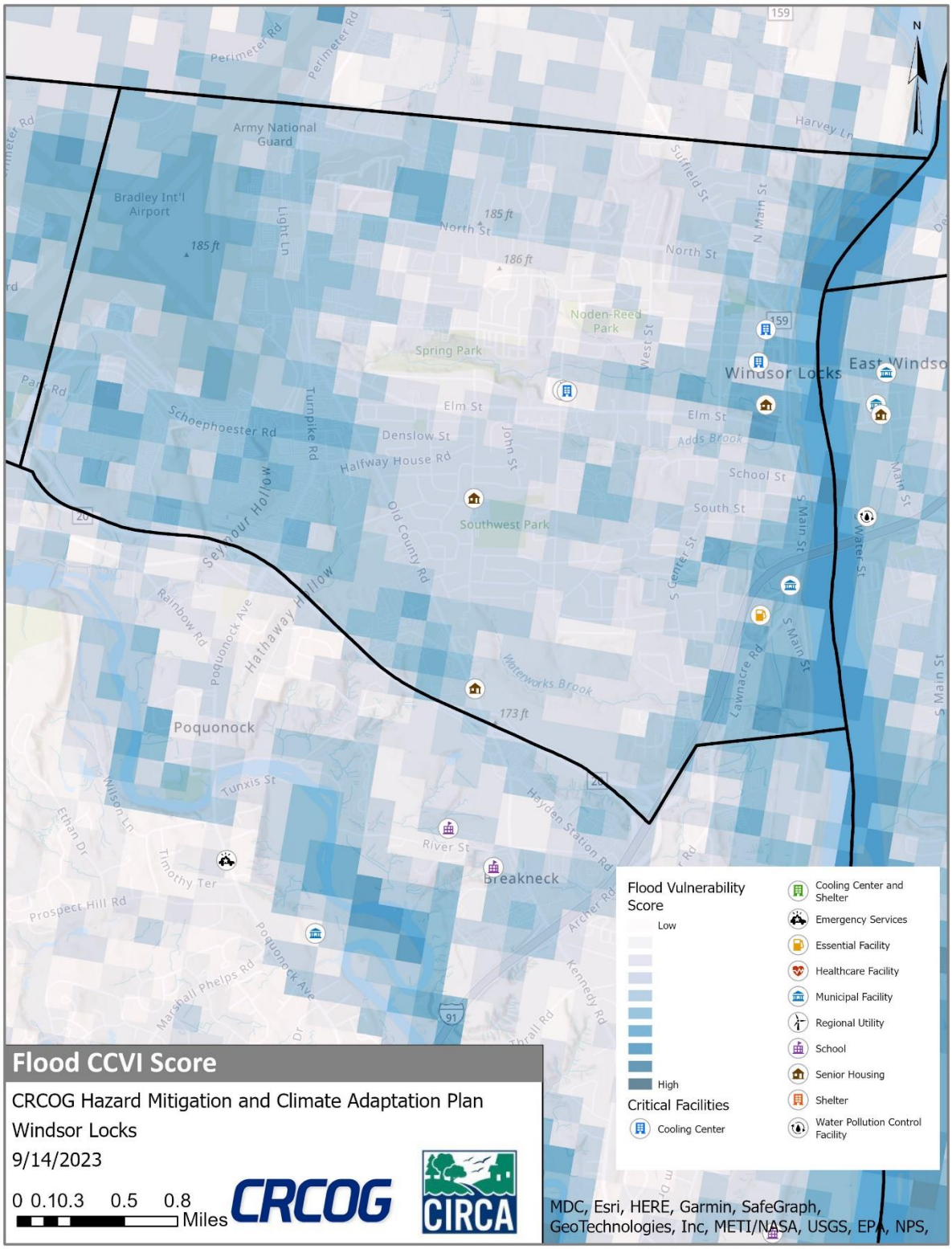


Figure 38-4: CIRCA Heat CCVI and Critical Facilities, Windsor Locks