Naugatuck Valley Council of Governments
Hazard Mitigation Plan Update
2021 – 2026

Municipal Annex
for

WATERTOWN, CT

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Watertown, CT 06795
MMI #3211-29

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1.0 INTRODUCTION

1.1 Purpose of Annex

This Hazard Mitigation Plan (HMP) annex provides a community-specific hazard risk assessment, capability analysis, and evaluation and prioritization of hazard mitigation measures and projects.

Background information and the regional effects of pertinent natural hazards are discussed in the main body of the Naugatuck Valley Council of Governments (NVCOG) Multi-Jurisdictional Hazard Mitigation Plan. This annex is designed to supplement the information presented in the Multi-Jurisdictional HMP with more specific local detail, and is not to be considered a standalone document.

The primary goal of this HMP, including this Municipal Annex, is to identify natural hazard risks and mitigation opportunities in order to reduce the loss of or damage to life, property, infrastructure, and natural, cultural, and economic resources. This includes the reduction of public and private damage costs. Limiting losses of and damage to life and property will also reduce the social, emotional, and economic disruption associated with a natural disaster.

1.2 Planning Process

A meeting was held with Watertown representatives on October 02, 2020 for the purposes of initial data collection and review of necessary updates for this document. The meeting was convened by the HMP local coordinator, Mark Massoud.

Additional input was provided at the two regional municipal staff workshops, held on November 18, 2020, and February 3, 2021.

Public input collected at public workshops and through an online survey have also informed development of this HMP update.

1.3 Physical Setting

The Town of Watertown was incorporated as a town in 1780. It is located in the southeastern corner of Litchfield County in northwestern Connecticut approximately 24 miles southwest of the City of Hartford. It is located in the northern portion of the COGCNV region. It is bordered on the east by the Town of Thomaston and the City of Waterbury, on the north by the Town of Morris and the Town of Thomaston, on the west by the Town of Bethlehem and the Town of Woodbury, and on the south by the Town of Middlebury and the City of Waterbury. The varying terrain and land uses results in vulnerability to an array of natural hazards.

1.4 Land Cover

The land area of Watertown is approximately 29.6 square miles with an additional 0.4 square miles of water. Watertown is primarily a residential suburban community within the larger Waterbury metropolitan area

but includes a solid industrial base. The land use pattern consists of an elongated urban core surrounded by suburban areas that extend northwestward into rural countryside. Access to major highways is provided via Route 8. State parks and forests in Watertown include Black Rock State Park and the Mattatuck State Forest.

Table 1-1 summarizes 2015 land cover data which was derived from satellite imagery. Areas shown as turf and grass are maintained grasses such as residential and commercial lawns or golf courses. According to this data, about 47% of Watertown is forested and approximately 22% is developed.

Table 1-1: 2015 Land Cover by Area

Land Cover	Area (acres)	Percent of Community
Developed	4,141.2	21.84%
Turf & Grass	2,373.0	12.52%
Other Grass	260.6	1.37%
Agricultural Field	2,626.9	13.85%
Deciduous Forest	7,196.1	37.95%
Coniferous Forest	1,350.4	7.12%
Water	464.7	2.45%
Non-Forested Wetland	41.6	0.22%
Forested Wetland	273.8	1.44%
Tidal Wetland	0.0	0.00%
Barren	82.1	0.43%
Utility Row	149.9	0.79%
Total	**18,960**	**100%**

Source: UCONN Center for Land Use Education and Research (CLEAR)

Low-density residential zoning is located in the western, northern, and northeastern portions of Watertown, while higher-density residential zoning is located in the central area known as the Watertown Fire District and in the southeastern portions of town. Higher density residential zoning is also located in the vicinity of Lake Winnemaug. Commercial zoning generally lies along the Route 63 and Route 73, while Industrial zoning is concentrated along Route 262 in the eastern portion of Watertown. Smaller industrial areas are also zoned along Route 63.

The Watertown Fire District was established in 1913 as an organization similar to municipalities in Connecticut for the purpose of providing fire protection to the central part of Watertown. District zoning regulations were adopted in 1947. While the Watertown Fire District no longer maintains its own zoning regulations (this authority was transferred to the town in 2007), the District continues to provide water and sewer service as well as fire protection to central Watertown. Ninety percent of the land within the district is residential.

1.5 Geology

Geology is important to the occurrence and relative effects of natural hazards such as floods and earthquakes. Thus, it is important to understand the geologic setting and variation of bedrock and surficial formations in Watertown.

Watertown is underlain by relatively hard metamorphic and igneous bedrock including a variety of gneiss, schist, and granite. The bedrock formations trend generally west to east. While no mapped fault lines

underlie Watertown, a high angle fault from the Jurassic period is mapped trending north to south in neighboring Morris, Bethlehem, and Woodbury. The fault is believed to be inactive.

Continental ice sheets moved across Connecticut at least twice in the late Pleistocene. As a result, Watertown's surficial geology is characteristic of the depositional environments that occurred during glacial and postglacial periods. Watertown is covered primarily by glacial till. Glacial till contains an unsorted mixture of clay, silt, sand, gravel, and boulders deposited by glaciers as a ground moraine. The deposits are generally less than 50 feet thick, although deeper deposits of till are scattered across the hillier sections of Watertown.

The amount of stratified glacial meltwater deposits present in a community is important as areas of stratified materials are generally coincident with inland floodplains. These materials were deposited at lower elevations by glacial streams, and these valleys were later inherited by the larger of our present day streams and rivers. Oftentimes these deposits are associated with public water supply aquifers or with wetland areas that provide significant floodplain storage. However, the smaller glacial till watercourses throughout Watertown can also cause flooding.

The amount of stratified drift also has bearing on the relative intensity of earthquakes.

Stratified glacial meltwater deposits are related to the various water bodies in town, particularly Steele Brook, Turkey Brook, and the Naugatuck River The stratified glacial meltwater deposits are often greater than less than 10 feet in thickness, but can be over 80 feet in thickness along the Naugatuck River.

1.6 Drainage Basins and Hydrology

Watertown is part of the Naugatuck River Valley. The topography of the community is characterized by higher elevations that steeply slope towards the Naugatuck River on the eastern side of town. Peaks in the western part of the community reach elevations nearing 1,000 feet above sea level, while the majority of the developed core lies at elevations between 300 and 600 feet above sea level.

Watertown is divided among five sub-regional watersheds. The majority of the drainage basins drain into the Naugatuck River and then to the Housatonic River, but areas on the western side of Watertown drain to the Nonnewaug River. The Nonnewaug River is a tributary of the Pomperaug River that also drains to the Housatonic River. All of the water that passes through Watertown eventually empties into Long Island Sound.

Several large impoundments exist in Watertown. These include the Wigwam Reservoir (used for public water supply by the City of Waterbury), Black Rock Pond, Smith Pond, Lockwood Pond, Morehouse Pond, Lake Winnemaug, Echo Lake, Sylvan Lake, Pin Shop Pond, and Hannon Pond.

1.7 Climate and Climate Change

In Watertown, the summers are warm and wet, the winters are freezing, and it is partly cloudy year round. Over the course of the year, the temperature typically varies from 19°F to 81°F and is rarely below 4°F or above 88°F.

The warm season lasts for 3.5 months, from May 30 to September 16, with an average daily high temperature above 71°F. The hottest day of the year is July 21, with an average high of 81°F and low of 62°F. The cold season lasts for 3.3 months, from December 2 to March 12, with an average daily high temperature below 43°F. The coldest day of the year is January 30, with an average low of 19°F and high of 34°F.

The wetter season lasts 3.4 months, from May 4 to August 18, with a greater than 30% chance of a given day being a wet day. The chance of a wet day peaks at 37% on May 30. The drier season lasts 8.6 months, from August 18 to May 4. The smallest chance of a wet day is 22% on January 29.

The most rain falls during the 31 days centered around June 4, with an average total accumulation of 4.0 inches. The snowy period of the year lasts for 5.6 months, from October 30 to April 18, with a sliding 31-day liquid-equivalent snowfall of at least 0.1 inches. The most snow falls during the 31 days centered around January 24, with an average total liquid-equivalent accumulation of 1.2 inches.

Climate data was sourced from Weather Spark based on analysis of the years 1980 to 2016.

Climate Change

Climate change projections for Connecticut were sourced from the 2019 Connecticut Physical Climate Science Assessment Report, which was developed by the University of Connecticut (UConn) Atmospheric Sciences Group, commissioned by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) with funding from the Department of Energy and Environmental Protection (DEEP). All projections are based on the IPCC high CO_2 emission scenario (RCP8.5).

Temperature

Annual temperatures have been increasing throughout Connecticut and is projected to continue to do so in the future. By mid-century, average annual temperature is projected to increase by 5°F. Seasonal average temperatures are also expected to rise, with the greatest increase (6°F) experienced in summer (June to August). The number of nights over which temperature remains above 68°F will quadruple from 10 days per year to more than 40 days, and the number of extremely hot days will increase from above 4 a year to 48 per year.

Precipitation

Rainfall data in "Technical Paper No. 40" by the U.S. Weather Bureau (now the National Weather Service) (Hershfield, 1961) dates from the years 1938 through 1958. According to these data, the 24-hour rainfall amount for a 10% annual-chance storm in Litchfield County is 4.7 inches.

The continued increase in precipitation only heightens the need for hazard mitigation planning as the occurrence of floods may change in accordance with the greater precipitation.

The Northeast Regional Climate Center (NRCC) has partnered with the Natural Resources Conservation Service (NRCS) to provide a consistent, current regional analysis of rainfall extremes (http://precip.eas.cornell.edu/). In 2020 this dataset listed the 24-hour rainfall amount for a 10% annual-chance storm in Watertown as 4.93 inches.

The NOAA Atlas 14, released on September 30, 2015 puts the 24-hour rainfall amount for a 10% annual-chance storm in Watertown at 5.64 inches.

These precipitation amounts, and more details, are summarized in Table 1-2, below.

Table 1-2: 24-Hour Rainfall Amounts by Annual-Chance Occurrence

Source	24-Hour Rainfall Amount (inches) by Annual-Chance Occurrence		
	10%	4%	1%
Technical Paper No. 40	4.7	5.5	7.0
NRCC	4.9	6.2	8.7
NOAA Atlas 14	5.6	7.0	9.0

Annual precipitation has been increasing statewide and is projected to continue to increase. By mid-century, annual precipitation is projected to increase by 8.5%, with the greatest increase (13.4%) occurring in the winter months. Extreme precipitation events are projected to increase in both frequency and magnitude. Based on this increase and the precipitation figures above, by 2050 Watertown can expect the 24-hour rainfall amount for a 10% annual-chance storm to be around 5.1 to 6.1 inches or greater.

Despite overall increases in precipitation, drought risk is projected to increase, especially during summer, due to changing precipitation patterns and projected increases in potential evapotranspiration (plants taking up more water in hotter temperatures and longer growing seasons).

1.8 Development Trends

Development in Watertown has been historically centered in the central and southeastern portions of the Town, especially along major arterial roadways and associated collector roads (including Route 63, Route 6, Buckingham Street, Route 73, Echo Lake Road, and Bunker Hill Road / Straits Turnpike). Recent years have seen more subdivisions being developed away from the traditional center in the northern and western areas. Typically, Watertown only sees a handful of new subdivision applications each year.

The 2010 U.S. Census reported a population in Watertown of 21,751 individuals. U.S. Census Bureau estimates for 2019 show a population around 21,640 individuals, a decrease from 2010 of 0.5%. The Connecticut State Data Center predicts that population will decrease by 19.1% through 2025 to an estimated population of 5,129 individuals.

According to the Connecticut Data Collaborative, the number of annual housing permits in Watertown remained steady over the last decade. The number of permits issued in 2010 and 2011 was 21 and 16, respectively, while 20 permits were issued in 2016, and 21 permits were issued in 2017. On average, 22 housing permits were issued each year in Watertown between 2010 and 2017.

According to the U.S. Census Bureau, the overall number of housing units in Watertown dropped by approximately 0.9-percent between 2010 and 2019, from 9,096 units in 2010 to 9,013 units in 2019. In 2019, the housing stock was made up of approximately 81% single-unit structures, 7% two-unit structures, 12% multi-unit structures, and 0% mobile-homes or other types of structures.

According to the Connecticut Office of Policy and Management, Watertown's 2019 Total Equalized Net Grand List was valued at $1,842,000,000. The equalized net grand list is an estimate of the market value of

all taxable property in the municipality, and gives some indication of the value of property at risk in the event of a major natural disaster.

Additional information can be found in the 2019 Connecticut Economic Resource Center profile for Watertown, included as Appendix C.

Lack of public water supply and sewer connections in some areas zoned as industry currently restricts potential development. A regional bus facility was constructed in Watertown within the past five years. The bus terminal is located near the intersection of Route 262 and Route 8 and required the extension of public water service. The bus terminal may help to spur residential and industrial development in Watertown by providing public transportation into and out of Watertown.

In general, Watertown encourages future residential and non-residential development that can be supported by existing infrastructure. Should new or expanded infrastructure be required, such expansion is to be paid by the developer whenever possible. The 2017 Watertown Plan of Conservation and Development (POCD) calls for future development to be consistent with and enhance the existing character of the town while avoiding adverse impacts to the environment (particularly in sensitive areas).

A build-out analysis in the 2007 POCD estimates a maximum town population of 29,265 based on existing zoning and accounting for undevelopable areas. A total of 2,848 potential homes could be developed. The 2007 POCD also estimated an additional 413,820 square feet of business space could be developed, and an additional 9,901,188 square feet of industrial space could be developed. Planners in Watertown do not expect this full build-out to occur for several decades. Minimum lot sizes were increased following the 1992 POCD which concluded that existing water and sewer facilities could not support the theoretical maximum buildout at that time. Planners in Watertown expect expansion of public water and sewer service to be sufficient to support population increases as necessary.

New development has been minimal in Watertown over the past few years. The majority of new residential development has been related to the buildout and infill of existing subdivisions. A new subdivision for approximately 15 lots was recently approved off of Bunker Hill Road.

Commercial redevelopment has greatly increased along Straits Turnpike. For instance, the Ivy at Watertown, an assisted living and senior housing facility, was recently completed on Straits Turnpike. Overall, many buildings (particularly within industrial park areas) have been repurposed or redeveloped over the past few years with little new construction.

Summary

Recent development in Watertown has been minimal, and primarily taken place on already-developed sites; this has not significantly increased the community's vulnerability to natural hazards. Future development trends in Watertown may increase overall community exposure to natural hazards. Balancing development with continued improvement of hazard mitigation capabilities and enforcement of zoning regulations and building codes can help prevent an increase in natural hazard risks.

1.9 Historic and Cultural Resources

Historic and cultural resources include sites, structures, and objects that are significant in history, architecture, archaeology, engineering, and culture. These resources grow economies and enhance community character, and following a natural disaster they can help to reinforce neighborhood connections and reestablish a sense of community and normalcy. Consideration of these resources in this HMP is critical.

Historic buildings and structures may be particularly susceptible to natural hazards because they were built prior to the establishment of more recent construction standards. Additionally, some of the structural integrity of these resources may have been degraded over the decades or centuries since their original construction. Structural retrofits and hazard mitigation methods may be challenging or restricted in cases where alteration of a resource will also diminish its cultural or historical aesthetic and value. Finally, miscommunications or lack of knowledge may lead to historic resources being damaged during the disaster recovery process.

Historic resources in Watertown near flood sources may be damaged during flooding or other hazard events.

Steps to incorporate historical and cultural preservation into hazard mitigation planning include:

- Inventory and survey historic and cultural resources
- Implement appropriate mitigation measures for those resources
- Take steps to move portable resources, such as artwork or documents, to safe locations prior to the occurrence of a hazard, if possible
- Consider these resources in emergency operations plans to prevent accidental damages during recovery efforts

Historic preservation planning helps protect historic properties and cultural resources from demolition or alteration. **Hazard mitigation planning** helps protect life and property from damage caused by natural and manmade hazards. **Integrating** these two planning processes helps create safe and sustainable historic communities.
- Paraphrased from FEMA Report 386-6

Specific actions to mitigate natural hazard risks to historic resources are listed at the end of this Annex.

1.10 Social Vulnerability Index

By evaluating local social vulnerabilities, a community can identify populations that may be more vulnerable to natural hazards, and implement actions to better respond to the needs of those populations. The Center for Disease Control and Prevention (CDC) uses 15 factors extracted from census data to calculate a Social Vulnerability Index (SVI) for communities. The SVI factors fall into four categories:

- socioeconomic status
- household composition and disability
- minority status and language
- housing type and transportation

Watertown is considered to have a Low to Medium level of social vulnerability, with a higher vulnerability score for the SVI category of Minority Status & Language. In other words, a particular challenge in

Watertown may include language barriers, or marginalization of local residents due to their minority identities.

2.0 MUNICIPAL CAPABILITIES

2.1 Governmental Structure and Capabilities

The Town of Watertown is governed by a Council-Manager form of government. Legislative responsibilities are the responsibility of the elected nine-member Town Council, whereas an appointed Town Manager serves as the chief executive managing day-to-day affairs. The council enacts ordinances and resolutions by a simple majority vote.

In addition to the Town Manager and Town Council, there are boards, commissions and committees providing input and direction to town administrators while town departments provide municipal services and day-to-day administration. Many of these commissions and departments play a role in hazard mitigation, including the following (in alphabetical order):

- The Building Inspectors review plans to ensure conformance with all applicable codes and inspect work for final approval.
- The Conservation Commission is Watertown's Inland Wetlands Agency and reviews applications with wetland impacts.
- The Emergency Manager coordinates emergency response activities and planning.
- The Fire Department is the primary responder to emergency situations caused by natural hazards.
- The Fire Marshal reviews zoning and subdivision applications for fire protection safety concerns, and enforces the Connecticut Fire Safety Code for all applicable residences and facilities within the community.
- The Planning and Zoning Commission reviews and approves zoning and subdivision applications and drafts regulation changes for Town Council approval. The Land Use Administrator and staff of the Planning and Zoning Department review applications for minor changes and enforce zoning and wetland regulations. The Zoning Board of Appeals reviews requests for variances and handles appeals for rejected applications.
- The Police Department provides traffic control and assistance staffing shelters.
- The Public Works Department provides response, rescue, recovery, and investigation assistance; cleanup and repair support following disasters; and is relied upon to barricade and/or provide access to areas during storm events. They also maintain and construct culverts, bridges, and roads on public land. Complaints related to town maintenance issues are routed to Public Works. The Town Engineer then investigates and remediates complaints as necessary.
- The Tree Warden identifies dangerous trees and hires contractors to perform trimming and removal. Currently, the Public Works Director is the Tree Warden.
- The Water and Sewer Authority provides public water service and fire protection throughout most eastern and southeastern portions of Watertown. Watertown Fire District has a separate water system providing public water service and fire protection to most of the central area of Watertown.

2.1.1 Review of Existing Plans and Public Information

Emergency Operations Plan

Watertown has an Emergency Operations Plan (EOP) that is updated and certified annually. This document provides general and specific procedures to be instituted by the Town Manager and/or designees during an emergency, including natural hazard events such as hurricanes and nor'easters. Therefore, the EOP is an action plan for providing emergency services prior to, during, and following a severe natural hazard event. The EOP also covers response to other types of emergencies including mass casualty incidents, pandemics, and terrorism. The EOP is considered to be effective for providing a framework for emergency response within the Town of Watertown.

Plan of Conservation and Development

The 2017 POCD is a broad planning document that provides guidelines for evaluating future land-use decisions. Pertinent to hazard mitigation planning, the policies in the POCD call for:

- protecting environmental resources;
- controlling growth such that it can be accommodated through existing infrastructure capacity (drainage, water supply);
- supporting municipal infrastructure maintenance and capital improvement projects;
- providing adequate resources for effective and rapid emergency response;
- studying the extension of water and sewer services while proactively acquiring protective land and easements;
- establishing at open-space goal of 20 percent of total Watertown acreage;
- encouraging the Inland Wetlands Commission to adopt the State model regulation for an increased upland review area; and
- requiring underground utilities for new subdivisions, multi-family projects, and commercial and industrial uses;

The 2017 POCD is considered effective for informing and assisting in decision making by the Planning & Zoning Commission. While many of the goals, policies, and recommendations of the plan have not become specific regulations, the framework provided by the POCD assists local commissions and officials in providing recommendations to developers to improve their designs prior to approval. This HMP Update is expected to further refine the goals, policies, and recommendations of the next POCD update. A discussion on natural hazards should be included in the update.

Water Supply Plans

Both the Watertown Water & Sewer Department and the Watertown Fire District maintain Water Supply Plans for their water systems. A key component of such plans is the development of Emergency Contingency Plans covering response to a variety of potential water system emergencies. These plans detail the necessary system response to flooding, wind, and other natural hazards. These plans help to inform the EOP and this hazard mitigation plan of critical populations at risk.

Torrington Area Health District Plans

The Torrington Area Health District (TAHD) continuously participates in local, regional, and statewide emergency preparedness. The District maintains a comprehensive Emergency Operations Plan that covers natural disasters, catastrophic events, viral and disease outbreaks, and acts of terrorism among other emergencies. This plan helps to inform the EOP and this hazard mitigation plan of critical populations at risk.

2.1.2 Review of Existing Regulations

Zoning Regulations

Several of the stated purposes of the Watertown Zoning Regulations is to secure safety from fire, panic, flood, and other dangers, to safeguard the water table, to avoid hazardous conditions and damage resulting from stormwater runoff and flooding, to encourage the appropriate use and sound management of natural resources, and to have proper provision for soil erosion and sediment control.

- Section 29A and Section 83.53 state that wetlands, floodplains, and slopes greater than 25% shall not be counted towards the total acres of a site to determine development density for age-restricted housing and for developments in the designed residence district.
- Section 51 requires the installation of all public utilities underground excepting when impractical and approved by a two-thirds vote by the Commission.
- Section 64 prohibits the placement of treated polluted soil within floodplains, and requires approval for excavation or filling of land that reduces final elevations below the existing floodplain or changes the area of the floodplain.
- Section 66 contains the NFIP regulations for Watertown. Applications for development in floodprone areas require a concurrent application for a Flood Prone Areas Permit. Watertown utilizes the Flood Insurance Rate Map (FIRM) established by FEMA to identify the local Special Flood Hazard Area (SFHA). Plot plans are required to show the locations of wetlands and floodplain lines where appropriate.
    - A base flood elevation of four feet above the mean annual elevation of the surface of a watercourse and a minimum 75 foot wide floodplain from the centerline of the stream is assumed for watercourses without detailed flood data.
    - Permitted uses in flood prone areas include conservation areas, passive outdoor recreation, agriculture, and forestry. Special permits are allowed for other activities provided that there is no encroachment on the floodway that will increase flood levels during the base flood discharge and overall floodplain storage is not reduced. Applicants for such permits must prove that construction and utilities will be adequately protected against flood damage, and that the lowest floor will have at least one foot of freeboard.
    - Non-conforming uses may not be expanded but may be modified, altered, or repaired to incorporate flood-proofing measures provided that the base flood elevation does not increase.
    - The applicant must provide base flood elevation data for all subdivision proposals greater than fifty lots or five acres.
    - Variances are allowed for new construction or substantial improvements on a lot of one-half acre in size contiguous to and surrounded by lots with existing

structures constructed below the base flood elevation, or for the reconstruction, rehabilitation or State- or Federally-recognized historic structures. Variances are not allowed for floodway activities if any increase in the base flood elevation would result.

- Section 69 requires an erosion and sediment control plan to be approved prior to any land development cumulatively more than one-half acre in area.

Overall, the Zoning Regulations are considered effective at preventing unwanted side effects of development. These regulations are updated by the Planning and Zoning Commission as needed.

Subdivision Regulations

Several of the stated purposes of the Watertown Subdivision Regulations include securing safety from fire, flood, and other dangers; to make proper provision for surface drainage, drainage facilities, water supply, soil erosion and sedimentation control, and protective flood control measures.

- Section 3 requires certification by a professional engineering that the flood carrying capacity of any altered or relocated watercourses in the SFHA will be maintained, that any proposed encroachment on the regulatory floodway will not increase the base flood elevation, and other requirements as per the Zoning Regulations.
- Section 5 requires new drainage structures to be sized to pass a minimum 25-year frequency discharge, with the following caveats:
    - Small structures passing drainage from areas of less than one square mile must be sized to pass a minimum 50-year frequency event, and the effects of the 100-year frequency discharge must be determined such that the Commission may require a larger size if necessary.
    - Intermediate structures passing drainage from areas of less than 10 square miles must be designed to pass a minimum 100-year frequency event, and the effects of the 500-year frequency discharge must be determined such that the Commission may require a larger size if necessary.
    - Large structures must pass the discharge from the 100-year frequency event with an under clearance of not less than two feet and an increase in upstream elevations of no more than one foot over natural conditions. The upstream elevation requirement may be decreased at the Commission's discretion to protect upstream properties. Rating curves must be developed for large structures showing the effects of the 50-year, 100-year, 500-year, and the flood of record.
- Section 5 also requires the Commission to determine if a proposed subdivision will be reasonably safe from flooding with similar requirements to those in the Zoning Regulations, and notes that dead-end streets are discouraged but are permitted for access to no more than 15 building lots and a maximum length of 1,000 feet.
- Appendix S of the Subdivision Development Agreement indicates that all utilities must be underground.

Overall, the subdivision regulations are considered to be effective at preventing unwanted side effects of intensive development. These regulations are updated by the Planning and Zoning Commission as needed.

Inland Wetland and Watercourses Regulations

The Inland Wetlands and Watercourses Regulations in Watertown require a permit for certain regulated activities which take place within 100 feet of a wetland or watercourse or that may impact a wetland or watercourse. These regulations build on the preventative flood mitigation provided by the Zoning Regulations and the Subdivision Regulations by preventing fill and sedimentation that could lead to increased flood stages. The wetland regulations are considered to be an effective additional level of flood mitigation for Watertown.

2.2 Infrastructure

Transportation

Watertown is accessible from principal arterials Route 8 and State Route 262. Major arterial roadways and associated collector roads include Route 63, Route 6, Buckingham Street, Route 73, Echo Lake Road, and Bunker Hill Road (Straits Turnpike). There are no active railroads in Watertown – the former Boston and Maine railroad along the Naugatuck River was closed to active service in 1995 and is now operated by the Railroad Museum of New England for scenic rides between Waterbury and Thomaston.

Watertown is served by the Greater Waterbury Transit District.

Utilities

Public water supply is provided by the Watertown Fire District in the central portion of Watertown and by the Watertown Water & Sewer Authority in the southeastern and eastern sections of Watertown. The two water utilities provide water to over 6,000 customers (approximately 70% of the buildings in Watertown). Sewage is directed into the City of Waterbury sewer system for treatment.

- Watertown Fire District operates a public water system in the area demarcated as the Watertown Fire District. The two pumping stations and tank that serve this system are considered to be critical facilities. The Fire District has diesel backup generators for both pumping stations with onsite fuel supplies.

- The Watertown Water & Sewer Department provides water and sewer service primarily in the southern and eastern portions of Watertown outside of the Fire District. The water and sewer booster pumping stations on Fern Hill, the remaining sewer pumping stations, and the water tanks are considered to be critical facilities. One water tower is particularly important as the communications tower for police, fire, and public works is mounted on the structure. The Water & Sewer Department has emergency generators at all sites and backup communications ready in case of emergency. Many of the generators are old and past their useful life; Watertown Water & Sewer is currently applying for generator grants under HMGP to replace these units.

- In addition, the Waterbury Water Department operates a water treatment plant at Wigwam Reservoir in northern Watertown. This is considered a critical facility since Watertown is the first responder to this facility.

Eversource is the primary electricity provider in Watertown. Natural gas service is provided by Eversource.

According to geoISP (geoISP.com), there are 1 DSL Providers, 1 Cable Internet providers, 3 Fiber Internet (FTTH) providers, and 0 Fixed Wireless (WISP) providers in Watertown, CT. There are also 4 Mobile Broadband (cellular) providers with service available in Watertown.

2.3 Critical Facilities and Emergency Response

Watertown has identified several critical facilities throughout the town, as summarized on Table 2-1 below.

Table 2-1: Critical Facilities

Facility	Address or Location	Comment	Emergency Power	Shelter	SFHA
Fire Department Headquarters	935 Main St	OEC Tertiary Shelter	✓	✓	
Police Department	195 French St	Backup EOC	✓		
Fire Company No. 2	532 Buckingham St	Em. Response	✓		
Municipal Building	61 Echo Lake Rd	Municipal	✓*		
Primary Highway Garage	91 Burton St	Em. Response Fuel Depot	✓		
Secondary Highway Garage	682 Thomaston Rd	Em. Response			
Water & Sewer Authority	747 French St	Utility	✓		
Water & Sewer Auth. Pump Stations, Towers, Tanks	Various	Utility	✓		
Watertown Fire District	24 DeForest St	Utility	✓		
Watertown Fire Dist. Pump Stations, Towers, Tanks	Various	Utility	✓		
Water Dept. Treatment Plant	Gilbert Rd	Utility	✓		
Eversource Substation	262 Frost Bridge Rd	Utility			
Communication Towers	Buckingham St Straits Turnpike John Trumbull School Taft School	(Repeater) (Stop & Shop) (Backup Radios) (Private School)	✓		
AT&T Switching Station	-	Communication	✓		
Waterbury Bus Maintenance Building	Frost Bridge Rd	Public Transit			
Watertown High School	324 French St	Primary Shelter	✓*	✓	
Senior Center	311 Falls Ave	Secondary Shelter		✓	✓
Taft School	110 Woodbury Rd	Residential School	✓*	**	
Trumbull School	779 Buckingham St	Distribution Center	✓*		
Watertown Food Bank	20 Main St	FEMA Supply Storage			
Apple Rehab	35 Bunker Hill Rd	Care Facility	✓		
Watertown Convalarium	560 Woodbury Rd	Care Facility	✓		
The Ivy at Watertown	655 Straits Turnpike	Care Facility			
Elderly Housing (4)	Various	Care Facility			
Polk Elementary School	435 Buckingham St	School	✓		

Facility	Address or Location	Comment	Emergency Power	Shelter	SFHA
Judson Elementary School	124 Hamilton Ln	School	✓		
Swift Middle School	250 Colonial St	School	✓		✓
St. John the Evangelist School	760 Main St	School			
St. Mary Magdalen School	140 Buckingham St	School			

* Generator powers a portion of the facility

** Taft School is listed as a possible backup shelter

The Town departments at the former Deforest Street and Main Street municipal buildings have been consolidated into the Echo Lake Road municipal building. A generator is available to provide partial emergency power to the building. The Board of Education will soon move to the municipal building at Echo Lake Road.

The Ivy at Watertown (Assisted Senior Living) opened in March at 655 Straits Turnpike and has approximately 70 beds.

Emergency Response Capabilities

Emergency response capabilities are overseen by the Emergency Manager. Following disaster events, a post-disaster meeting is held with town officials and responders to review and evaluate the overall community response to that natural hazard, and to identify actions to be taken moving forward to improve response and post-disaster management.

Several possible improvements to post-disaster response have been identified by residents and municipal staff in the past, including:

- Organization of emergency response volunteers and logistics
- Institution of a policy for feeding and showering workers and volunteers responding to emergencies and staffing the shelters.
- Provision of standby power to grocery stores and gasoline service stations during extended outages.
- Real-time communication during emergencies such as electronic message boards, and regularly-timed communications to news media.

The works with DEMHS to acquire emergency response equipment, such as light towers, barricades, barriers, etc.

Trumbull School serves as the local distribution center for food and supplies during emergencies. FEMA stores emergency food supplies at the Watertown Food Bank.

Sheltering Capabilities

Watertown High School is the primary shelter. The facility has a generator and can shelter approximately 200 people. The Senior Center is considered the backup shelter but lacks emergency power and is also within the floodplain of Turkey Brook. Occasionally, the Senior Center parking lot floods; however, the building is typically not impacted by flooding.

The Fire Department Headquarters can act as an overflow shelter if needed, but space is limited because this facility is the Emergency Operations Center. If additional shelter space is needed, Watertown will utilize its public educational institutions.

The Taft School is a private co-educational boarding school with approximately 260 residents. The facility has partial emergency power, and can potentially serve as a backup shelter.

In case of a sustained power outage, it is anticipated that 10 to 20% of the population (2,250 to 4,500 people) would relocate, although not all of those relocating would necessarily utilize the shelter facilities.

Communications

Watertown utilizes the State of Connecticut "CT Alert" Emergency Notification System to send geographically-specific telephone warnings into areas at risk for natural hazard damage. This is extremely useful for natural hazard mitigation, as a community warning system that relies on radios and television is less effective at warning residents during the night when the majority of the community is asleep.

Town personnel also noted that emergency communications during and following the recent severe storms were heavily reliant upon cellular phone service.

Communication towers are considered critical facilites. The main repeater is located on Buckingham Street. Other towers are located at Stop & Shop on Straits Turnpike, at John Trumbull School, and on Judd Farm Road. The tower on Judd Farm Road is planned for relocation in the near future. Taft School also has a tower equipped with a generator. Additional communications capabilities include backup radios located at John Trumbull School.

Watertown distributes public information regarding natural hazards and preparedness to residents with FEMA flyers being available in the municipal buildings. Evaluation of emergency services, shelters, equipment, and supplies is performed at least annually (concurrent with the EOP review) or more often if necessary. Similarly, emergency training is conducted as appropriate and Watertown purchases new equipment when funding is available.

Evacuation and Access

Currently, the Town does not have set evacuation routes for any areas. All evacuations are planned on a case-by-case basis. Town personnel have concerns about long cul-de-sacs and the potential for areas to be cut off from emergency services by natural hazard events such as flooding or tree fall. Potential mitigation measures include requiring a second mode of egress for all or most of the development through the creation of loop streets or through streets.

3.0 FLOODING

3.1 Existing Capabilities

Prevention

Maintenance

The Department of Public Works (DPW) is in charge of the maintenance of local drainage systems and performs clearing of bridges and culverts and other maintenance as needed. Watertown currently has an "as-needed" schedule of drainage system maintenance, with regular inspections of drainage systems supplemented by problem areas reported to the Town Engineer. Maintenance includes programs to clean out blockages caused by overgrowth and debris. The current frequency of these inspection and maintenance programs is considered sufficient to meet the needs of the Town of Watertown. Increasing the budget for these preventative activities would slightly improve the effectiveness of local drainage systems. The Connecticut Department of Transportation (DOT) is responsible for maintenance along the state roadways.

Although the Watertown Fire District wellfield (in Woodbury) is located in the floodplain of the Nonnewaug River, none of the water supply infrastructure has experienced flood damage. The Fire District performs stream maintenance every five years to clear debris that would exacerbate potential flooding conditions near its wellfield and other infrastructure.

Participation in the NFIP

The Land Use Administrator in the Planning and Zoning Department is currently the NFIP administrator for Watertown and oversees the enforcement of NFIP regulations. The degree of flood protection established by the variety of regulations in Watertown meets the minimum reasonable for regulatory purposes under the NFIP. Watertown plans to remain compliant with the NFIP and will continue to participate in the NFIP. Watertown is not currently considering enrollment in the Community Rating System program.

Watertown has participated in the NFIP since 11/05/1980. The Flood Insurance Rate Map (FIRM) for the community was most recently updated in 11/05/1980. Watertown does not participate in the FEMA Community Rating System (CRS) program.

According to FEMA, there are 83 flood insurance policies in force in Watertown as of 6/30/2019 with an insurance value of $22,198,500.

Floodplain Regulations

Watertown has a variety of regulations to help prevent increasing the vulnerability of residents and businesses to flood hazards. Regulations pertaining to flood damage prevention are included as Section 66 of the *Zoning Regulations* and were detailed in Section 2.1. The regulations make reference to the DEEP Stormwater Quality Manual and the DOT Sediment and Erosion Control guidelines. The intent of these regulations is to promote the public health, safety, and general welfare and to minimize public and private

losses due to flood conditions in specific areas of Watertown by the establishment of standards designed to:

- Protect human life and public health
- Minimize expenditure of money for costly flood control projects
- Minimize the need for rescue and relief efforts associated with flooding
- Minimize prolonged business interruptions
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, and streets and bridges located in floodplains;
- Maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize flood blight areas
- Ensure that purchasers of property are notified of special flood hazards
- Ensure the continued eligibility of owners of property in Watertown for participation in the National Flood Insurance Program

The Planning and Zoning Commission uses the 1% annual chance flood areas from the FIRM delineated by FEMA to determine floodplain areas. Site plan standards require that all proposals be consistent with the need to minimize flood damage, that public facilities and utilities be located and constructed to minimize flood damage, and that adequate drainage is provided.

The current regulations are believed to be generally effective at preventing flood damage to new development and substantial improvements, and the majority of flooding issues within the Town of Watertown are related to infrastructure or existing properties. In particular, the current regulations go beyond the minimum standards required under the NFIP by requiring compensatory storage in the floodplain and one foot of freeboard for first floor elevations.

Flood Studies

The Town has completed a flood study of Steele Brook. The hydrologic and hydraulic modeling prepared as part of this study will result in updated flood elevations along Steele Brook, as well as a suite of recommended structural and nonstructural flood control alternatives to mitigate flooding along Steele Brook. Such flood mitigation along Steele Brook will be particularly focused on the vicinity of Knight Street and Riverside Street. The study found that property buyouts and demolition would likely be the most appropriate mitigation strategy in these areas; the Town has not pursued such an approach to date.

Property Protection

Local officials are prepared to provide outreach and education about private property protection measures where appropriate. The Town's intermittent outreach efforts are considered to be generally effective; additional staff and funding, currently unavailable, would be necessary to make them a regular occurrence.

Many property protection improvements are costly and may require acquisition of grant funding to successfully complete. Watertown has experience in preparing grant applications such that this effort can be performed when applicable.

The Steele Brook Flood Study (WMC Engineers) was completed in late 2019. Town staff do not believe that there are any actionable projects other than preventing development and acquiring property in the

floodplain. Property buyouts and demolition were identified as the most appropriate mitigation measures for the Knight Street and Riverside Street vicinity.

Emergency Services

Watertown utilizes the statewide Everbridge system to target emergency calls into specific areas of the community. The existing equipment and capabilities are considered to be effective for responding to flood damage and are evaluated at least annually.

The Emergency Manager and the Fire Department monitor local flood warnings through DEMHS Region 5 email alerts as well as watches and warnings through the National Weather Service. The National Weather Service issues a flood watch or a flash flood watch for an area when conditions in or near the area are favorable for a flood or flash flood, respectively.

Public Education and Awareness

Watertown makes a variety of information available for the public at its municipal buildings regarding mitigation flood hazards, including FEMA pamphlets on preparedness. The Emergency Manager, Town Engineer, and Land Use Administrator are local resources for preparedness and mitigation activities. The availability of these materials and resources is considered sufficient for the amount of flooding present in the community.

Natural Resource Protection

Open space preservation is part of all subdivision projects as well as other development projects, with areas within floodplains being prioritized for preservation by the Planning and Zoning Commission. These activities have been effective at maintaining stream buffers in the community. A recent success was a recent commercial development in which the developer granted the rear of the property that is located in the floodplain to the town, complementing the Steele Brook Greenway.

Structural Projects

The USACE constructed a system of reservoirs in the Naugatuck River basin following the 1955 floods to modify future flood flows. These include the Thomaston Dam on the Naugatuck River in Thomaston, Hancock Brook Dam in Plymouth, Northfield Brook Dam in Thomaston, and Black Rock Dam on Branch Brook along the Watertown-Thomaston boundary. These improvements are designed to reduce the 1% annual chance flood on the Naugatuck River by 60% to 75% and maintain flows on Branch Brook to within channel capacity.

The Waterbury-Watertown local protection project was completed by the USACE in 1961. It consists of earthen dikes and concrete floodwalls along the Naugatuck River from Thomaston Avenue downstream to a point below the Chase Brass access bridge. The improvement protects the Chase Brass plant, an adjoining residential area, and vulnerable areas of Thomaston Avenue and the railroad against the 1% annual chance flood.

There are no existing flood control structures along Steele Brook, although an emergency flood damage repair project was completed after damaging floods in 1977.

The Public Works Department has been working steadily on a variety of bridge and culvert replacement projects, including the following:

- Sylvan Lake Road improvements are being completed as a result of the Turkey Brook Flood Study. The project will increase the capacity to pass Turkey Brook.
- A new crossing for a tributary to Turkey Brook will be installed in the vicinity of 142 and 152 Falls Avenue in 2021. This project was related to Turkey Brook Flood Study.
- The Town has been conducting clearing and maintenance activities along the Turkey Brook corridor from Sylvan Lake Park to the Waterbury city line.
- Regular maintenance drainage upgrades on Sunset Avenue will be completed by the end of 2020.
- Regular maintenance drainage upgrades on Vaill Road and Wilson Drive will be completed in 2021.

Connecticut DOT competed a "Climate Change and Extreme Weather Pilot Project" in 2013 that included vulnerability assessments of culverts and bridges in Litchfield County. The assessment evaluated the existing storm event design standards, the recent 10-year historic actual rainfall intensity and frequency, and the hydraulic capacity of structures using projected increases in rainfall. **A Main Street culvert located between Woolson Street and Roberts Avenue conveying a tributary to Steele Brook was evaluated as part of the project.**

New Capabilities and Completed Actions

Watertown continues to maintain its strong flood mitigation capabilities. Many of Watertown's capabilities to mitigate for flood damage have improved since the initial hazard mitigation plan was adopted, particularly with regard to knowledge of hazard areas and emergency communications. The increased knowledge of vulnerable areas, combined with other local planning efforts, have assisted community officials and commissions to provide a variety of flood mitigation recommendations for new development.

Summary

Watertown mitigates flood damages primarily through regulating development in floodprone areas, performing maintenance and upgrades of drainage infrastructure, and performing structural projects when appropriate.

3.2 Vulnerabilities and Risk Assessment

Flood prone areas in the community today, as mapped by FEMA, are presented in Figure 3-1.

Vulnerability Analysis of Private Property

According to the 1980 FEMA FIRM, a total of 678 acres of land in Watertown are mapped within the 1% annual chance floodplain, and a total of 843 additional acres of land are mapped within the 0.2% annual chance floodplain.

Watertown has three Repetitive Loss Properties (RLP). Of those, zero are classified as Severe RLP. Two of the four RLPs are located along Steele Brook. The last plan reported an additional, non-residential RLP, which no longer appears on the FEMA list; it is possible this property has been mitigated.

Table 3-1: Repetitive Loss Properties in Watertown

Total	Residential	Non-Residential	Mitigated	SRL
3	3	0	0	0

Vulnerability Analysis of Critical Facilities

Two critical facilities (the Senior Center and Swift Middle School) lie within 1% annual chance floodplains. The Senior Center lies within the of Turkey Brook floodplain whereas the Middle School is within the Wattles Brook floodplain.

The Senior Center is located just downstream of a sharp bend in Turkey Brook and the parking area and building would be subject to flooding. Potential flooding of this facility would present an issue during a widespread event as the Senior Center is the backup shelter.

Swift Middle School is located within the 1% annual chance floodplain of Wattles Brook. During flood events, Colonial Avenue overtops and water flows towards the front of the school. The culvert conveying Wattles Brook beneath Colonial Street is undersized. The front portion of the building has been floodproofed to prevent flood damage, and a vehicular access route has been provided to a different road in the back of the school and away from the brook. In addition, a flood warning system is installed in the basement of the school. A culvert upgrade project is currently proposed for Wattles Brook, but funding has not been available.

Every few years, flooding at the confluence of Turkey Brook and Steele Brook reportedly causes sewer facilities to overflow. This results in both additional flooding and public health concerns.

Watertown's transportation network is at risk of flooding either from poor drainage or overbank conditions. This is particularly a concern given fact that flooding can make it difficult for ambulances to access hospital facilities in Waterbury if a variety of detours are enacted on State Roads due to road closures.

As noted above, the Watertown Fire District's water source is a wellfield located along the Nonnewaug River in Woodbury. The wellfield infrastructure has not experienced flooding damage, and response to potential flooding damage is covered by the Fire District's Emergency Contingency Plan.

Vulnerability Analysis of Areas along Watercourses

Areas along Branch Brook, the Naugatuck River, and most of the smaller watercourses in Watertown are not currently of concern to Town staff. This is because Branch Brook and the Naugatuck River are heavily flood-controlled, and flooding issues along the smaller watercourses are typically minor. Nevertheless, flooding remains a persistent problem in Watertown, particularly along Steele Brook, Turkey Brook and one area of Hop Brook.

Areas close to Steele Brook are susceptible to intense and sudden floods as a result of the steeply sloping streets and terrain of the basin. Three to four inches of rain in one event will cause flooding, and flash flooding is a particular problem. Floodwaters converge quickly due to the limited natural storage in the upper basin, quickly exceeding the channel capacity. Numerous restrictions such as low bridges, overhanging buildings, private dams, and sharp bends in the channel also contribute to the flooding problems. The bottom of Knight Street often becomes inundated during storm events.

Prior studies of Turkey Brook indicated that 37 homes and several businesses were subject to flooding from the 4% annual chance flood event (the "25-year" flood). Watertown has performed significant drainage upgrades along Turkey Brook that have helped to mitigate the frequency of flooding. The Turkey Brook corridor currently has two areas of flood vulnerability (road closure or overtopping) and one area of erosion.

Two locations on Sandbank Road become inundated during flooding of Hop Brook, cutting off vehicular access to three homes between the two locations. Watertown has allocated funding towards projects to improve access to these properties during flood events, such as elevating the road or performing culvert replacement. No progress has been made to find a secondary mode of egress as of yet.

Given that rainfall intensity and magnitude has been increasing over the past few decades since the time that many local bridges and culverts were designed, the conveyance of each structure should be checked utilizing more recent rainfall data, and the structure redesigned if necessary.

Vulnerability of Other Areas

Watertown has a variety of areas that are subject to flooding away from defined watercourses. Many of these areas flood due to clogged or undersized drainage systems, or the complete lack of a drainage system. Such minor flood events can damage roads and cause ponding of nearby yards, basement flooding, and other damages.

- Backyard flooding is common in many parts of Watertown.
- Taft School experiences nuisance flooding.
- Main Street (Route 63) near the Burger King experiences very flashy flooding that causes shutdown of the road, but it clears up quickly.
- White Street is a dead-end road with drainage problems.
- Two RLPs are associated with undersized drainage systems on state roads.

Watertown does not currently have a local stormwater management plan, instead utilizing the DEEP Stormwater Quality Manual and the DOT Sediment and Erosion Control guidelines.

Beavers are a significant problem, primarily throughout northern part of town. Beaver activity is affecting hiking trails, walkways, roads, and yards on private property. Specific affected by beaver activity include:

- Smith Pond Road
- Echo Lake Road
- The Steele Brook corridor (the beavers reportedly appear to be migrating upstream)
- Jericho Road

The beavers should either be removed, or other mitigation strategies should be developed to reduce these flooding issues.

Other Flood Concerns

One local concern is that many of the A zones appear to be inaccurate. Litchfield County has not benefited from either the recent Map Mod program or the current RiskMAP program such that corrected digital floodplain boundaries have not been prepared. As such, a count of homes within the 1% annual chance floodplain has not been performed.

Residents have raised concerns in the past about a lack of stream maintenance along Steele Brook and Turkey Brook.

Issues have also been identified with detention basins within Watertown. Some appear to not be working properly, some are bypassing due to improper design or construction, some are improperly or illegally utilized by abutters, and some have maintenance issues. Watertown will be reviewing detention basins over the next several years to determine which the town is responsible for and performing improvements where appropriate.

The sanitary sewer main off of Falls Avenue occasionally overflows due to heavy rainfall and/or flood stages in Turkey Brook. Raw sewage has backed up into the street in the past. Correcting this condition is a high priority.

The September 25, 2018 heavy rain event that struck the region did not cause any reported damage in Watertown.

Date Saved: 6/15/2021

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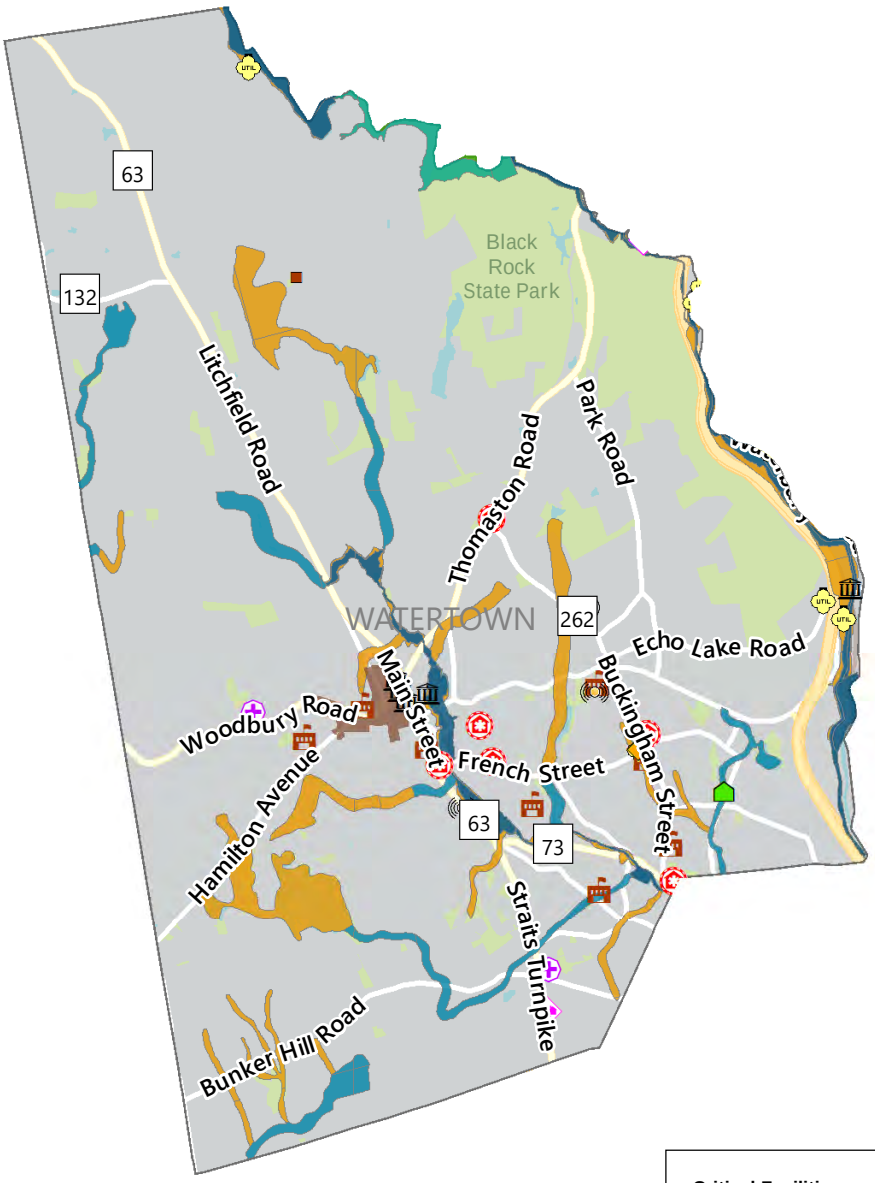

Critical Facilities
- Care Facility
- Communications
- Community Center
- Emergency Response
- Government Services
- Other
- School
- Utility
- Vulnerable Population

Historic Sites
- Historic Sites
- NR Historic Districts

Flood Zone
- A
- AE
- ANI
- D
- X500

Flood Zone
- A
- Floodway
- X: 0.2% Annual Chance

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773

Flood Hazards in Watertown

NVCOG Hazard Mitigation Plan Update
Naugatuck Valley Council of Governments
47 Leavenworth Street, 3rd Floor
Waterbury, CT 06702

N

0 3,000 6,000
Feet

DATE 6/15/2021

141.3211.00029
PROJ. NO.

FIG. 3-1

4.0 HURRICANES AND TROPICAL STORMS

4.1 Existing Capabilities

Flooding

Existing capabilities appropriate for flooding were discussed in Section 3.0. These include the ordinances, codes, and regulations that have been enacted to minimize flood damage. In addition, various structures exist to protect certain areas, including dam and local flood protection projects.

Wind

Wind loading requirements are addressed through the state building code. The State Building Code has been amended several times in the past two decades. The 2005 Code was amended in 2009, 2011, and 2013. The code was then updated and amended in 2016, with the current code having been updated and effective as of October 1, 2018. The code specifies the design wind speed for construction in all the Connecticut municipalities. Effective October 1, 2018 the design wind speed for Watertown is 110 mph for a Category 1 event, 120 mph for a Category 2, and 130 mph for a Category 3, 4 or 5 hurricane event.

Connecticut is located in FEMA Zone II regarding maximum expected wind speed. The maximum expected wind speed for a three-second gust is 160 mph. This wind speed could occur as a result of either a hurricane or a tornado in western Connecticut and southeastern New York. The American Society of Civil Engineers recommends that new buildings be designed to withstand this peak three-second gust.

Eversource Energy, the local electric utility, provides tree maintenance near its power lines. Watertown has been in contact with Eversource regarding dangerous trees and emergency planning and will continue working with the utility on preparedness measures.

Watertown has a tree warden who encourages residents to cut trees that can be dangerous to power lines. Most of the budget goes towards hiring outside contractors to perform tree and limb removal. Contractors complete all elevated work projects. The Public Works Department clears low lying debris. In addition, all utilities must be located underground in order to mitigate storm-related damages. These regulations have been effective at reducing vulnerability for new developments. While moving all utilities underground would prevent wind damage to this infrastructure, this activity is too cost-prohibitive for the community.

Watertown relies on radio, television, area newspapers, and the internet to spread information on the location and availability of shelters. It is understood that several of these information sources can be cut off due to power failure, so emergency personnel can also pass this information on manually. Prior to severe storm events, Watertown ensures that warning/notification systems and communication equipment are working properly and prepares for the possible evacuation of impacted areas. These protocols are considered effective preparation for storm events.

New Capabilities and Completed Actions

Watertown continues to maintain its strong tropical cyclone mitigation capabilities. Watertown's capabilities to mitigate for wind damage and prevent loss of life and property have improved slightly since the initial hazard mitigation plan was adopted. Eversource has increased its capabilities and response relative to tree and tree limb maintenance near utility lines. The tree warden budget has increased by 50% over the past five years.

Town officials have expressed a desire to create a micro-grid along Straits Turnpike. This area contains grocery stores, gas stations, and pharmacies in close proximity. The ability to quickly activate emergency power in this area would greatly alleviate issues surrounding extended power outages.

Summary

Watertown mitigates hurricane and tropical storm damages through tree and limb maintenance, public alert and communications procedures, and enforcement of building code requirements related to high winds.

4.2 Vulnerabilities and Risk Assessment

Watertown is vulnerable to hurricane damage from wind and flooding and from any tornadoes accompanying the storm. Most of the damage to Watertown from historical tropical cyclones has been due to the effects of flooding. In general, wind damage occurs town-wide and there are no particular areas that receive repeated damage.

In general, as the residents and businesses of the State of Connecticut become more dependent on the internet and mobile communications, the impact of hurricanes on commerce will continue to increase. A major hurricane has the potential of causing complete disruption of power and communications for up to several weeks, rendering electronic devices and those that rely on utility towers and lines inoperative.

Debris such as signs, roofing material, and small items left outside become flying missiles in hurricanes. Extensive damage to trees, towers, aboveground and underground utility lines (from uprooted trees or failed infrastructure), and fallen poles cause considerable disruption for residents. Streets may be flooded or blocked by fallen branches, poles, or trees, preventing egress. Downed power lines from heavy winds can also start fires during hurricanes with limited rainfall. Debris management remains a challenge for Watertown. While tree debris have been historically stored at the local landfill, there is no longer enough space to hold and process the debris. **Town officials need to identify a space where tree debris may be stored and processed.**

The Engineering Department is unsure if any Town-owned critical facilities have wind-mitigation measures installed to specifically reduce the effects of wind. Thus, it is believed that nearly all of the critical facilities in the community are as likely to be damaged by hurricane-force winds as any other. Newer critical facilities are more likely to meet current building code requirements and are therefore considered to be the most resistant to wind damage even if they are not specifically wind-resistant. Older facilities, such as schools, are considered to be more susceptible to wind damage as they have older roofs.

Watertown's housing stock consists of historic buildings greater than 50 and sometimes 100 years old, relatively younger buildings built before 1990 when the building code changed to mitigate for wind damage, and relatively recent buildings that utilize the new code changes. Since most of the existing housing stock in the community predates the recent code changes, many structures are highly susceptible to roof and window damage from high winds.

Hurricane-force winds can easily destroy poorly constructed buildings and mobile homes. There are currently no mobile home parks in Watertown.

Tropical Storm Isaias was forecast as being a combined flood and wind event, but Watertown received relatively little rain compared to other Connecticut municipalities. The majority of the damage occurred from 3:00 pm to 6:00 pm. Significant, widespread tree damage downed power lines and closed roads. Power outages in most areas for approximately three to four days. This was due in part to poor coordination with Eversource. Make Safe crews did not arrive in town until 36 hours following the event. As a result, live wires were on the ground for extended periods of time.

5.0 SUMMER STORMS AND TORNADOES

5.1 Existing Capabilities

Warning is the primary method of existing mitigation for tornadoes and thunderstorm-related hazards. The NOAA National Weather Service issues watches and warnings when severe weather is likely to develop or has developed, respectively.

Aside from warnings, several other methods of mitigation for wind damage are employed in Watertown as explained in Section 4. In addition, the Connecticut State Building Code includes guidelines for the proper grounding of buildings and electrical boxes.

Municipal responsibilities relative to summer storm and tornado mitigation and preparedness include:

- Developing and disseminating emergency public information and instructions concerning tornado, thunderstorm wind, lightning, and hail safety, especially guidance regarding in-home protection and evacuation procedures and locations of public shelters.
- Designating appropriate shelter space in the community that could potentially withstand lightning and tornado impact.
- Periodically test and exercise tornado response plans.
- Putting emergency personnel on standby at tornado "watch" stage.
- Utilizing the "CT Alert" Emergency Notification System to send warnings into potentially affected areas.

These protocols are considered effective for mitigating wind and summer storm-related damage in the Town of Watertown. While additional funding could be utilized to strengthen the current level of mitigation, such funding is not currently considered cost-effective for the current level of vulnerability.

New Capabilities and Completed Actions

Watertown continues to maintain its summer storm mitigation capabilities. Its tree and limb removal procedures continue to be adequate, and it coordinates closely with Eversource on protecting power lines.

Summary

Watertown mitigates summer storm risks primarily through tree, limb, and debris management, emergency communications, and coordination with Eversource.

5.2 Vulnerabilities and Risk Assessment

The entire community is at relatively equal risk for experiencing damage from summer storms and tornadoes. Based on the historical record, only a few summer storms or tornadoes have resulted in costly damages to Watertown.

Watertown has a relatively high potential to experience tornado damage, compared to communities in other parts of the State. In addition, NOAA states that climate change has the potential to increase the frequency and intensity of tornadoes, so it is possible that the pattern of occurrence in Connecticut could change in the future.

Thunderstorms are expected to impact Watertown at least 20 days each year. The majority of these events do not cause any measurable damage. Although lightning is usually associated with thunderstorms, it can occur on almost any day. The likelihood of lightning strikes in the Watertown area is very high during any given thunderstorm although no one area of the community is at higher risk of lightning strikes. The risk of at least one hailstorm occurring in Watertown is considered moderate in any given year.

Most thunderstorm damage is caused by straight-line winds exceeding 100 mph. Straight-line winds occur as the first gust of a thunderstorm or from a downburst from a thunderstorm and have no associated rotation. The risk of downbursts occurring during such storms and damaging Watertown is believed to be low for any given year. All areas of the community particularly susceptible to damage from high winds, although more building damage is expected in the more densely populated areas, while more tree damage is expected in the less densely populated areas in the northern part and eastern part of the community.

Secondary damage from falling branches and trees is more common than direct wind damage to structures. Heavy winds can take down trees near power lines, leading to the start and spread of fires. Most downed power lines in Watertown are detected quickly and any associated fires are quickly extinguished. Such fires can be extremely dangerous during the summer months during dry and drought conditions.

There are no critical facilities believed to be more susceptible to summer storm damage than any other. Some critical facilities are more susceptible than others to flooding damage due to summer storms.

The May 2018 tornadoes that struck the region did not cause any reported damage in Watertown.

6.0 WINTER STORMS

6.1 Existing Capabilities

Programs specific to winter storms are those related to preparing plows, sand and salt trucks; tree-trimming to protect power lines; and other associated snow removal and response preparations. Widespread tree clearing occurred along Route 8 in Watertown in response to Winter Storm Alfred. Other programs are aimed at warning residents about potential winter hazards, such making educational pamphlets available at municipal buildings.

For municipal property, the budget for plowing and minor repairs is generally adequate to handle winter storm damage, although the plowing budget is often depleted in severe winters. In particular, the heavy snowfalls associated with the winter of 2010-2011 drained the local plowing budget and raised a high level of awareness of the danger that heavy snow poses to roofs. The Public Works Department is prepared to assist the Board of Education with snow removal and assessments of schools.

Watertown primarily uses Town staff for plowing operations and has adequate capacity to deal with snow and ice. The Public Works Department has 15 large plow trucks, two medium plow trucks, two small plow trucks, and three loaders. Watertown has nine defined plow routes averaging about nine miles each that cover approximately 138 miles of town-owned roads. Each route requires approximately three hours to complete. Snow plowing routes are not distributed publicly. Priority is given to major roads (which typically includes access to critical facilities), then arterials, then collectors, and then school bus routes. Low-volume residential roads and cul-de-sacs receive the lowest priority. Watertown utilizes more than 1,300 tons of salt and 4,000 cubic yards of sand annually on town roads and parking lots.

Watertown has a standing winter parking ban in effect each year regardless of weather conditions. No on-street parking is allowed from midnight to 7 am from December 1 to April 1. This ban allows for plow trucks to complete operations efficiently when necessary.

The Connecticut Department of Transportation plows all state roads and Route 8. Watertown believes that they are not high on the State's priority list for plowing since performance is slow. Homeowners, private associations, and businesses are responsible for plowing their own driveways and roads, as well as clearing sidewalks and fire hydrants fronting their properties.

Prior to a winter weather event, Watertown ensures that all warning/notification and communications systems are ready, and ensures that appropriate equipment and supplies, especially snow removal equipment, are in place and in good working order. Watertown also prepares for the possible evacuation and sheltering of some populations which could be impacted by the upcoming storm (especially the elderly and special needs persons). During emergencies, plow vehicle are temporarily rerouted to clear the route ahead of an emergency vehicle.

New Capabilities and Completed Actions

Watertown continues to maintain its strong winter storm mitigation capabilities.

Summary

Watertown mitigates snow damages through implementation of road and building clearing protocols, enforcement of the State Building Code, and through the mitigation measures previously discussed for high wind events.

6.2 Vulnerabilities and Risk Assessment

The entire community is at relatively equal risk for experiencing damage from winter storms, although some areas may be more susceptible. Based on the historical record, it is difficult to determine if any winter storms have resulted in costly damages to the community, as damage estimates for severe storms are generally spread over an entire county. Many damages are relatively site-specific and occur to private property (and therefore are paid for by private insurance), while repairs for power outages is often widespread and difficult to quantify to any one municipality.

The amount of snowfall and freezing precipitation in Watertown is elevation-dependent during storms. As the population of Watertown increases and more areas (particularly in the higher elevations such as the northwestern corner of the community) are developed, the vulnerability of Watertown residents to the effects of winter storms will increase. There is a high propensity for traffic accidents and traffic jams during heavy snow and even light icing events. Roads may become impassable, inhibiting the ability of emergency equipment to reach trouble spots and the accessibility to medical and shelter facilities.

After a storm, snow piled on the sides of roadways can inhibit sight lines and reflect a blinding amount of sunlight. When coupled with slippery road conditions, poor sightlines and heavy glare create dangerous driving conditions. Stranded motorists, especially senior and/or handicapped citizens, are at particularly high risk of injury or death from exposure during a blizzard. The elderly population in Watertown, in particular, is susceptible to the impacts created by winter storms due to resource needs (heat, electricity loss, safe access to food, etc.).

The structures and utilities in Watertown are vulnerable to a variety of winter storm damage. Tree limbs and some building structures may not be suited to withstand high wind and snow loads. Ice can damage or collapse power lines, render steep gradients impassable for motorists, undermine foundations, and cause "flood" damage from freezing water pipes in basements. Drifting snow can occur after large storms, but the effects are generally mitigated through municipal plowing and sanding efforts.

Icing causes difficult driving conditions throughout the hillier sections of the community, but local personnel note that there are few unusual areas or particular "trouble spots" for icing. Icing effects are generally mitigated through municipal plowing and sanding efforts. Ice jams are not typically a problem along the rivers and streams in Watertown, however they have become increasingly present in certain areas due to beaver dams.

No critical facilities are believed to be more susceptible to winter storm damage than any other.

The January 2015 snowstorm required extensive plowing, but did not cause any reported damage in Watertown.

7.0 GEOLOGICAL HAZARDS

7.1 Existing Capabilities

The Connecticut Building Codes include design criteria for buildings specific to each municipality as adopted by the Building Officials and Code Administrators (BOCA). These include the seismic coefficients for building design in Watertown. Watertown has adopted these codes for new construction, and they are enforced by the Building Official. Due to the infrequent nature of damaging earthquakes, land use policies in Watertown do not directly address earthquake hazards. However, the various regulations do attempt to prevent development on steep slopes or ridgelines.

In the event that a damaging earthquake occurs, Watertown will activate its Emergency Operations Plan and initiate emergency response procedures as necessary.

New Capabilities and Completed Actions

Watertown continues to maintain its earthquake and landslide mitigation capabilities. The Town's capabilities to mitigate for earthquake damage and prevent loss of life and property have not necessarily changed since the initial hazard mitigation plan was adopted, although the State's building code has been updated and Watertown has incorporated those changes.

Summary

Watertown mitigates geological hazards through enforcement of zoning and subdivision regulations preventing development in higher risk areas. Other mitigation measures consist of general emergency response capabilities.

7.2 Vulnerabilities and Risk Assessment

Earthquake Vulnerabilities

Surficial earth materials behave differently in response to seismic activity. Several areas in Watertown are underlain by sand and gravel, particularly within the valleys associated with major streams and rivers. Structures in these areas are at increased risk from earthquakes due to amplification of seismic energy and/or collapse.

Areas of steep slopes can collapse during an earthquake, creating landslides. Seismic activity can also break utility lines such as water mains, electric and telephone lines, and stormwater management systems. Damage to utility lines can lead to fires, especially in electric and gas mains. Dam failure can also pose a significant threat to developed areas during an earthquake.

A series of earthquake probability maps were generated using the 2009 interactive web-based mapping tools hosted by the USGS. These maps were used to determine the probability of an earthquake of greater than magnitude 5.0 or greater than magnitude 6.0 occurring within 50 kilometers of Watertown. Results are presented in the table below.

Table 7-1: Probability of a Damaging Earthquake in the Vicinity of Watertown

Timeframe (Years)	Probability of the Occurrence of an Earthquake Event > Magnitude 5.0	Probability of the Occurrence of an Earthquake Event > Magnitude 6.0
50	<1%	< 1%
100	3% to 4%	<1%
250	6% to 8%	1% to 2%
350	10% to 12%	2% to 3%

As a damaging earthquake would likely affect a large area beyond Watertown, it is likely that the community may not be able to receive regional aid for a few days. It is important for municipal facilities and departments to have adequate backup plans and backup supplies to ensure that restoration activities may begin and continue until outside assistance can be provided.

8.0 DAM FAILURE

8.1 Existing Capabilities

The Town of Watertown considers itself highly vulnerable to dam failure with the potential for a large amount of damage. This belief has fostered a climate of responsibility to ensure that dam failure is adequately prevented and prepared for through proper planning.

According to Watertown personnel, the town-owned significant and high hazard dams are in good condition. The aggressive semi-annual inspection schedule enables Watertown to identify potential concerns before they become costly to repair.

The Dam Safety Section of the Connecticut DEEP Inland Water Resources Division is responsible for administration and enforcement of Connecticut's dam safety laws. Dam safety laws are codified in Sections 22a-401 through 22a-411 of the Connecticut General Statutes. The statutes require that permits be obtained to construct, repair, or alter dams and that existing dams be inventoried and periodically inspected to assure that their continued operation does not constitute a hazard.

Dams regulated by the Connecticut DEEP must be designed to pass the 1% annual chance rainfall event with one foot of freeboard, a factor of safety against overtopping.

Significant and high hazard dams are required to meet a design standard greater than the 1% annual chance rainfall event.

Effective October 1, 2013, the owner of any high or significant hazard dam (Class B and C) must develop and implement an Emergency Action Plan (EAP). The EAP shall be updated every two years, and copies shall be filed with DEEP and the chief executive officer of any municipality that would potentially be affected in the event of an emergency. The EAP must include inundation zone mapping, procedures for monitoring the structure during periods of heavy rainfall and runoff, and a system to alert local officials in the event of an emergency.

The CT DEEP also administers the Flood and Erosion Control Board (FECB) program, which can provide noncompetitive state funding for repair of municipality-owned dams. State statute Section 25-84 allows a municipality to form an FECB. Watertown has established a Flood and Erosion Control Board by ordinance; the board consists of the Town Council.

Actions Completed and New Capabilities

Watertown continues to maintain its capabilities for mitigating and responding to dam failure risks. Heminway Pond Dam (located on Steele Brook and upstream of Echo Lake Road) was removed by the Town in 2018. This was done to improve surface water quality and restore fish passage. Connecticut DEEP funded the removal with federal Clean Water Act 319 nonpoint source grant funding and State Supplemental Project funds.

The Public Works Department has been reviewing lower hazard dams and detention basin dams owned by Watertown to better understand risks and necessary actions.

In the coming years, the Town will begin outlet valve maintenance for Town owned dams. The condition of many of these valves is unknown and it is likely that maintenance is needed.

Summary

Watertown mitigates dam failure hazards primarily by supporting State Dam Safety Program efforts locally.

8.2 Vulnerabilities and Risk Assessment

While flooding from a dam failure generally has a moderate geographic extent, the effects are potentially catastrophic. The Connecticut DEEP administers the statewide Dam Safety Program and designates a classification to each state-inventoried dam based on its potential hazard.

- *Class AA*: negligible hazard potential
- *Class A*: low hazard potential
- *Class BB*: moderate hazard potential
- *Class B*: significant hazard potential
- *Class C*: high potential hazard

As of 2020, there were 83 DEEP-inventoried dams within Watertown. Only eight of these dams had a Significant or High Hazard Potential rating.

Dams in Watertown with Moderate, Significant, or High Hazard Potential ratings are listed in Table 8-1. Dams are also shown in Figure 8-1.

Table 8-1: DEEP-Inventoried Dams in Watertown

Number	Name	Class	Owner
15301	BLACK ROCK POND DAM	C	State Owned
15302	LAKE WINNEMAUG DAM	C	Municipal
15303	ECHO LAKE DAM	C	Municipal
15306	SMITH POND DAM	B	Institution
15308	DAVELAY POND (a.k.a. Pond View #1) DAM	BB	Municipal
15310	MERRIMAN POND DAM	C	Municipal
15311	BIG MEADOW POND A.K.A. JUDD POND DAM	BB	Water Utility
15314	SYLVAN LAKE DAM	B	Municipal
15315	PIN SHOP POND DAM	C	Private
15317	MOREHOUSE POND DAM	BB	Private
15327	WIGWAM RESERVOIR SOUTH DAM	B	Municipal
15330	WATERWatertown GOLF CLUB POND 1 DAM	BB	Private Corporation

The following table summarizes the status of EAPs for the higher-hazard potential dams in Watertown:

Table 8-2: EAP Status of Higher-Hazard Dams

Number	Name	Class	EAP Status	EAP Status Date
15301	BLACK ROCK POND DAM	C	Review letter sent revisions needed	2/14/2017
15302	LAKE WINNEMAUG DAM	C	Acceptance Letter Sent	8/23/2018
15303	ECHO LAKE DAM	C	Acceptance Letter Sent	8/23/2018

Number	Name	Class	EAP Status	EAP Status Date
15306	SMITH POND DAM	B	Updated EAP Not Received	1/22/2018
15310	MERRIMAN POND DAM	C	Acceptance Letter Sent	5/9/2018
15314	SYLVAN LAKE DAM	B	Updated EAP Not Received	1/29/2018
15315	PIN SHOP POND DAM	C	Revised EAP received for re-review	1/10/2020
15327	WIGWAM RESERVOIR SOUTH DAM	B	Updated EAP Not Received	1/22/2018

Watertown should work to ensure EAPs are up-to-date.

There are also several Class C dams upstream of Watertown along the Naugatuck River that are used for flood control purposes.

Swift Middle School (located along Wattles Brook) is located in the potential inundation zone for a failure of the Lake Winnemaug Dam. Lake Winnemaug Dam is a high hazard structure and is in good condition. The front portion of Swift School has been floodproofed and has multiple means of egress. No other critical facilities are known to be potentially vulnerable to flooding due to dam failure.

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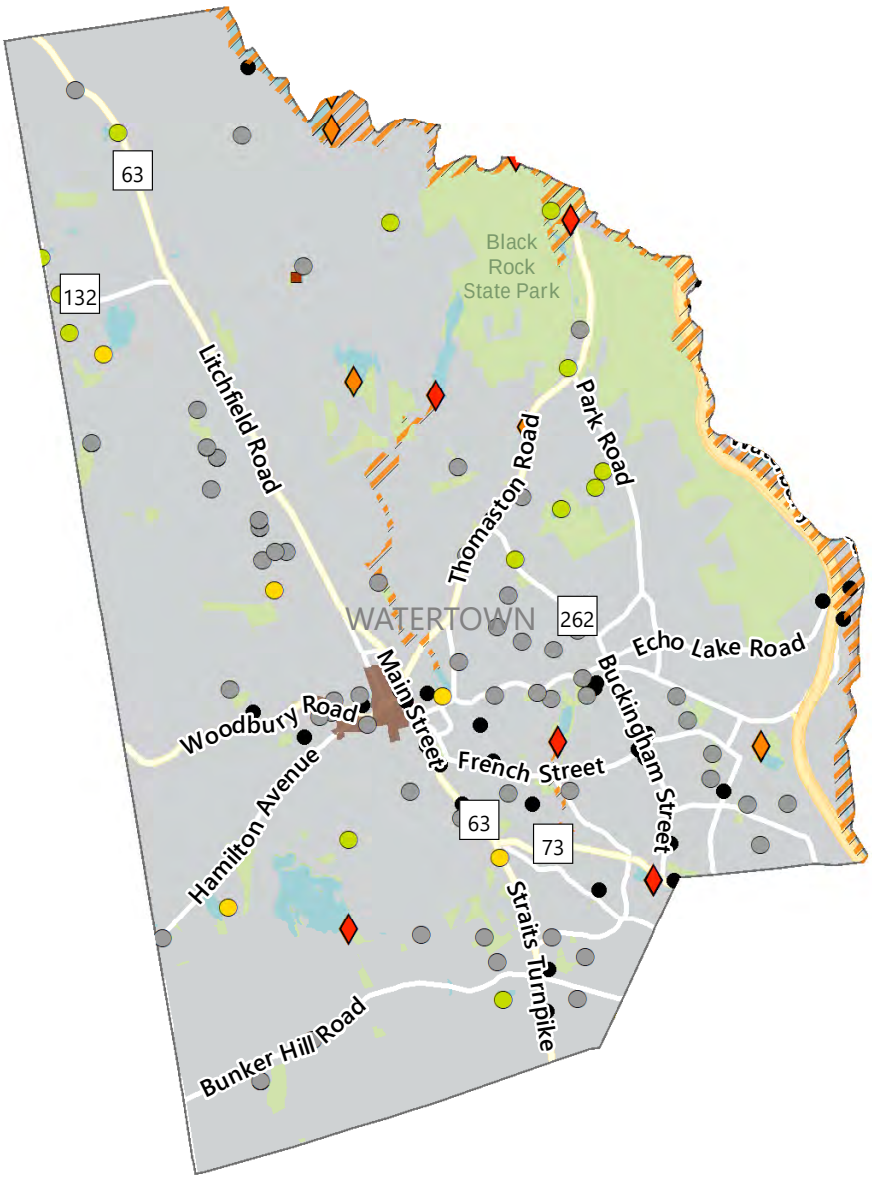

Dam Hazard Class
- Unclassified
- AA - Negligible Hazard
- A - Low Hazard
- BB - Moderate Hazard
- B - Significant Hazard
- C - High Hazard
- Dam Breach Inundation Area

Critical Facilities
- Critical Facilities

Historic Sites
- Historic Sites
- NR Historic Districts

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203.271.1773

Dam Failure Hazards in Watertown

NVCOG Hazard Mitigation Plan Update
Naugatuck Valley Council of Governments
47 Leavenworth Street, 3rd Floor
Waterbury, CT 06702

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FIG. 8-1

9.0 WILDFIRES

9.1 Existing Capabilities

Regulations regarding fire protection are outlined in the Zoning Regulations and the Subdivision Regulations. The Fire Marshall reviews new developments for fire protection requirements and provides recommendations to the Planning and Zoning Commission. Current town ordinances require dry hydrants to be installed in new subdivisions (developments of more than three homes) when possible. If dry hydrants are not possible, the developments are required to have cisterns installed (typically containing 30,000 gallons of water). The maximum length of a new dead-end road is 1,000 feet per the regulations. In addition, Watertown has 12 dry hydrants installed in outlying areas where public water service is not available. The level of fire protection is considered adequate.

Unlike wildfires on the west coast of the United States where the fires are allowed to burn toward development and then stopped, the Watertown Fire Department goes to the fires whenever possible. This proactive approach is believed to be effective for controlling wildfires. The Fire Department has some water storage capability in its tanker trucks and storage tanks, but primarily relies on the use of the municipal water system to fight fires throughout the community whenever possible. The Town has conducted a fire hydrant survey to determine the level of fire protection provided by each hydrant in the community.

The Fire Department has one off-road truck for firefighting. The community also has mutual aid agreements with all of its neighbors, and works with Connecticut DEEP regarding fire protection of State-owned lands. Fire protection needs and potential problem areas are reviewed at least annually. The DEEP Forestry Division uses rainfall data from a variety of sources to compile forest fire probability forecasts. This allows the DEEP and Watertown to monitor the drier areas of the state to be prepared for forest fire conditions.

The Connecticut DEEP Open Burning Program requires designated "Open Burning Officials" in every community to oversee open burning within the town. The Town of Watertown is compliant with this program and has a designated Burning Official.

Actions Completed and New Capabilities

Watertown continues to maintain its capabilities for mitigating and responding to wildfire risks.

Summary

The Town mitigates wildfire hazards by implementing the state's Open Burning Program locally, installing dry hydrants and firefighting-water sources in remote areas, and training its fire department to fight wildfires.

9.2 Vulnerabilities and Risk Assessment

Watertown is a low-risk area for wildfires. The area at highest risk for wildfire is the Mattatuck State Forest in the eastern part of the community.

Most wildfires in Connecticut are relatively small. In the drought year of 1999, the average wildfire burned five acres in comparison to the two most extreme wildfires recorded since 1986 that burned 300 acres each. Given the availability of firefighting water in the community, including the use of nearby water bodies, and longstanding mutual aid assurances the Watertown Fire Department has with neighboring communities, it is believed that this average value for a drought year and the extreme value are applicable to the community as well. Indeed, Watertown personnel report while the community formerly had a higher degree of vulnerability to wildfires, many of the vulnerable areas are now developed. Small fires on the order of one acre are typical and occur throughout the community.

Watertown understands that there are weaknesses in its firefighting capability, particularly in outlying areas away from the public water systems. There are many areas of the community where access roads into residential properties are long and narrow. This hinders emergency access to fight fires.

There are limited public camping areas in the community, so there are few fires caused by out of control campfires. The Mattatuck State Forest remains an area of vulnerability, and Watertown works with the DEEP to address the forest. Watertown is concerned that DEEP does not have sufficient funding to properly address wildfire dangers in the forest.

The approximately 10,920 acres of forests and undeveloped land in Watertown may be susceptible to drought conditions that make them more vulnerable to wildfires. The approximately 2,888 acres of agricultural fields and maintained grasses may be vulnerable to direct damage from drought conditions.

A 2-acre brush fire occurred near Sylvan Lake Road and took three days to extinguish. The ground was so dry that the fire burned into the ground. The CTDEEP and mutual aid helped to extinguish the blaze. The Fire Chief estimates that it cost approximately $2,000 to fight the fire.

Wildfire risk zones are mapped in Figure 9-1.

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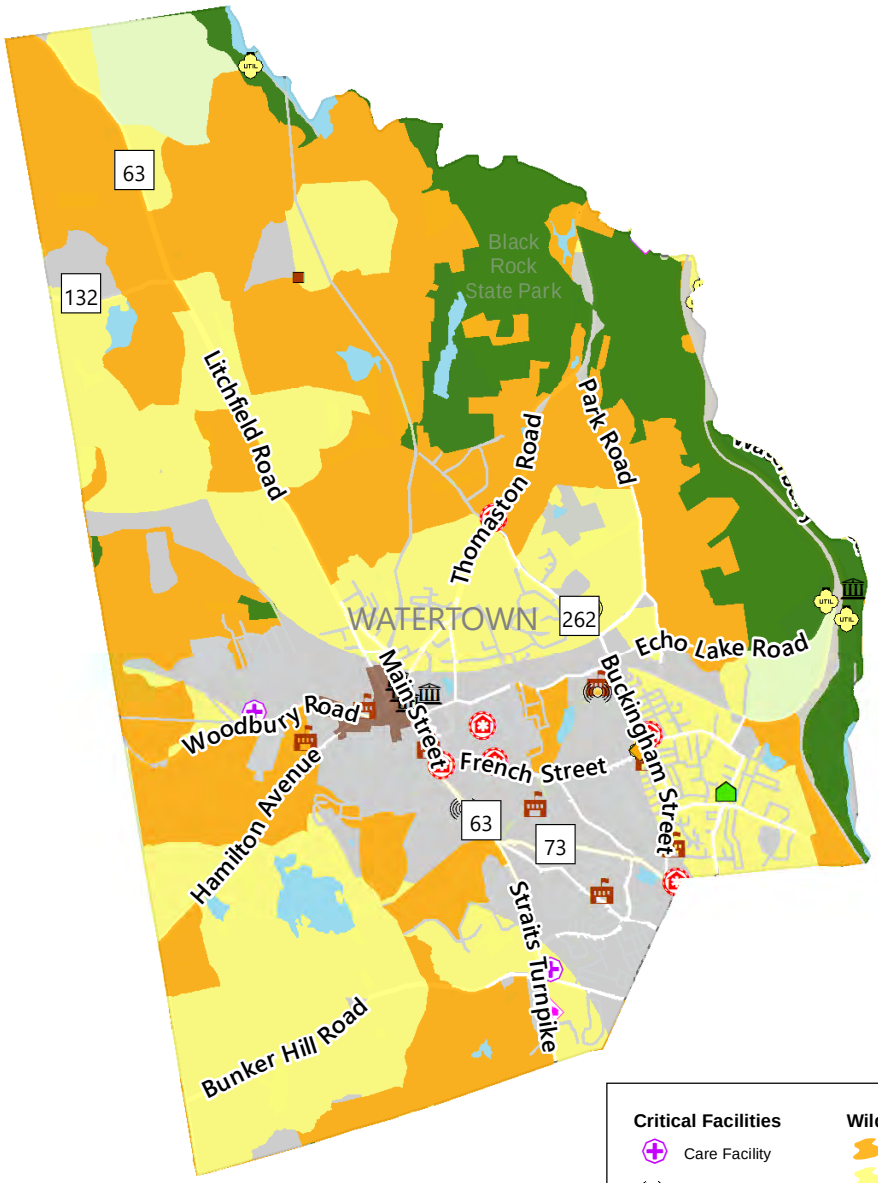

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203.271.1773

Wildfire Hazard in Watertown

NVCOG Hazard Mitigation Plan Update
Naugatuck Valley Council of Governments
47 Leavenworth Street, 3rd Floor
Waterbury, CT 06702

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FIG. 9-1

10.0 MITIGATION STRATEGIES AND ACTIONS

10.1 Goals and Objectives

Municipal goals and objectives have been made consistent regionally and are presented in the Multi-Jurisdictional Plan document.

10.2 Status of Mitigation Strategies and Actions from Previous HMP

The table below lists the mitigation actions developed in the previous HMP and the status of each. Actions to be carried forward are noted as such. Actions that have been institutionalized as capabilities are not carried forward.

Strategy	Description	Responsible Party	Status	Notes
WTN-1	Incorporate suggested actions into other local planning activities	TE	Complete	Watertown completed its POCD update in 2017. Objective 2-5 specifically incorporates certain strategies from the HMP as strategies for the POCD.
WTN-2	Identify and outfit additional shelter space for the community	TC & EM	Complete	Sheltering space at the High School is now considered sufficient.
WTN-3	Evaluate post-disaster response logistics including organization of volunteers	EM, BOE	Capability	This is done as part of the annual EOP update, and during "Lessons Learned" discussions following a disaster
WTN-4	Develop a policy and schedule for how volunteers and workers will be fed and have access to showers during response	EM	Drop	A formal policy is not needed. Volunteers have been fed without issue over the past few disasters, and facilities are available.
WTN-5	Secure additional emergency response supplies such as lights, barricades, barriers, etc.	EM, FD, DPW	Capability	Watertown receives supplies through state assets and can request mutual aid when additional supplies are needed. They have budgeted for more in the 2020-2021 fiscal year.
WTN-6	Perform improvements to the siren system	FD	Complete	Siren improvements to the Litchfield Road siren are underway. The Sylvan Lake Road siren will be replaced once the road project is done.
WTN-7	Evaluate potential outreach strategies including a post-disaster communications strategy and distribution of information via schools	EM	Capability	This is all considered as part of the annual EOP update process.

Strategy	Description	Responsible Party	Status	Notes
WTN-8	Evaluate critical facilities for snow load and wind-resistance capacity	BL, TE, BOE	Complete	This evaluation is underway and near completion.
WTN-9	Complete evaluation of emergency power needs at critical facilities and other locations and potential solutions	TE	Complete	This evaluation is complete. The Town does not have any pressing generator needs.
WTN-10	Consider evaluation of emergency power needs at non-critical but important locations and potential solutions	TE	Capability	This is an ongoing process. The Town has not identified any pressing generator needs.
WTN-11	Ensure contractual agreements or other arrangements are in place to ensure fuel supplies are delivered for emergency power needs	TC	Capability	These are in place.
WTN-12	Consider revising subdivision regulations to mitigate potential hazards associated with dead-end streets	PZ	Complete	Section 5.3.11 of the subdivision regulations do not allow dead end streets to exceed 1,000 feet or serve more than 15 building lots.
WTN-13	Encourage FEMA to update the FIS for Watertown and provide detailed study of additional areas	TC	Carry Forward with Revision	No outreach has been performed to the knowledge of attendees, but the flood risk areas need to be restudied. Some mapping work is being performed by the USGS in the Housatonic River basin, which includes the Naugatuck River valley. It is not immediately clear if this project will study flood prone streams in Watertown. More information may be available from the State NFIP Coordinator later on in this process.
WTN-14	Encourage residents within the 1% annual chance floodplain to purchase flood insurance and complete elevation certificates	LU & TE	Drop	The Town does not conduct this type of outreach. Banks require flood insurance for mortgagees.
WTN-15	Revise specific mitigation strategies to improve floodplain management regulations, such as freeboard requirements etc.	TE & LU	Carry Forward with Revision	Watertown is evaluating DEEP's model flood ordinance. Freeboard of one foot is already required per Section 53.10 of the Zoning Regulations and the State Building Code. Action is replaced with two actions in line with regional priorities.

Strategy	Description	Responsible Party	Status	Notes
WTN-16	Identify structures in the 1% annual chance floodplain and add contact information into the emergency notification system	TE & EM	Complete	This is not needed as the entire Town can be contacted via Everbridge and the Town can also send targeted messages into certain areas.
WTN-17	Review ability to enforce stream cleanups on private property	LU	Carry Forward	The Town is still evaluating this topic.
WTN-18	Encourage cleanups of stream dumping on private property	TE	Drop	No outreach is conducted at present. This has not been an issue in recent years.
WTN-19	Consider adopting regulations that would reduce peak flows downstream of a development site	PZ	Drop	Although this was in the previous HMP and carried over into the POCD, the Town is generally satisfied with ensuring that peak flows do not increase downstream of development sites consistent with existing regulations.
WTN-20	Complete culvert upgrade project on Wattles Brook at Colonial Avenue	DPW	Complete	This was completed.
WTN-21	Complete the Steele Brook Flood Study and implement the recommendations as appropriate	TE, TC	Complete	This was completed, but according to Town staff there do not appear to be any actionable items that do not involve property owner involvement. New strategies will be related to buying out properties along the floodplain of the brook.
WTN-22	Pursue funding and complete projects to mitigate flood hazards along Turkey Brook	DPW	Carry Forward	The Town has completed several projects in this area in the past few years. However, the Town wants to consider additional projects for this area.
WTN-23	Mitigate loss of access to homes on Sandbank Road when Hop Brook floods	DPW	Carry Forward	Evaluation of potential solutions is ongoing.
WTN-24	Identify and acquire land in flood hazard areas to preserve as open space	LU & PZ	Carry Forward with Revision	Town intends to focus on the Steele Brook corridor and will consider other opportunities as they arise. They acquired a property on Sylvan Lake Road as part of a related project.
WTN-25	Check the sizing of all culverts against current rainfall statistics and resize structures to meet current zoning requirements	TE	Carry Forward	Evaluation of culverts is ongoing, but not sufficiently advanced to be considered complete.

Strategy	Description	Responsible Party	Status	Notes
WTN-26	Evaluate drainage systems, floodplains, and infrastructure to identify projects to mitigate flooding	DPW	Carry Forward	Evaluation of drainage systems and floodplains and related infrastructure is ongoing, but not sufficiently advanced to be considered complete. This action should be consolidated with the one above.
WTN-27	Prepare and implement a stormwater management plan specific to Watertown	TE	Carry Forward	Preparation of a Stormwater Management Plan did not get funded. There is interest in having a plan done if funding is available.
WTN-28	Evaluate and consider expanding the tree-clearing program to protect power lines from potential tree damage	TE	Complete	Tree clearing is ongoing. The tree maintenance budget has increased by 50% over the last few years.
WTN-29	Identify a space where tree debris may be stored and processed following a severe storm event	TC, DPW	Carry Forward	The Town still wants to find a dedicated area for processing and storage.
WTN-30	Consider pursuing the creation of a micro-grid in the Straits Turnpike area	TC, BL	Drop	Stop & Shop on Straits Turnpike and the gas station at the intersection of Bunker Hill Road and Straits Turnpike both reportedly have generators, so the need has been addressed and the Town may not need to pursue a microgrid.
WTN-31	Develop response plans to remove excessive snow from critical facilities and schools	TE & DPW	Drop	This is evaluated on a case-by-case basis following storms.
WTN-32	Ensure that adequate backup plans and supplies are available for continued functionality following an earthquake	EM	Complete	Current backup plans and supplies are adequate.
WTN-33	Complete review of lower hazard dams and town-owned detention basins to determine potential failure hazards and address deficiencies	DPW	Drop	As of 2015, dam owners are responsible for inspections of their dams on a schedule based on the hazard classification. The Town does not have any interest in reviewing privately owned dams. Town-owned detention basins are generally in good condition.
WTN-34	Utilize dam failure inundation mapping to identify properties for inclusion in the emergency notification system	TE, EM, BOE	Complete	This is not needed as the entire Town can be contacted via Everbridge and the Town can also send targeted messages into certain areas.

Strategy	Description	Responsible Party	Status	Notes
WTN-35	Encourage homeowners and private communities to widen access for emergency vehicles where applicable	EM	Capability	This is typically performed as part of the site plan review process, but occasionally occurs via direct outreach.

10.3 Prioritization of Strategies and Actions

The STAPLEE method, described in the Multi-Jurisdictional document, was used to score mitigation activities. The STAPLEE matrix in Appendix A provides the total scores. Actions have been further prioritized based on implementation cost, project urgency, and municipal and public input. The strategies below are presented in priority order, with qualitative priority levels listed for each.

10.4 Mitigation Strategies and Actions Implementation Table

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.

Action WTN-01	
Register as a Sustainable CT community and make progress with the hazard mitigation goals associated with registration.	
Lead	Plan
Cost	$0 - $25,000
Funding	OB, CT DEEP, Sustainable CT
Timeframe	2022
Priority	High

Action WTN-02	
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.	
Lead	EM, Plan, FS
Cost	$0 - $25,000
Funding	OB
Timeframe	2022
Priority	High

Action WTN-03	
Refer to the Morris Low Impact Sustainable Development Design Manual, created to be a regional resource by the Northwest Conservation District and the Northwest Hills Council of Governments, to incorporate LID guidance and regulations into the local Zoning Regulations or Ordinances	
Lead	Plan
Cost	$0 - $25,000
Funding	OB, CT DEEP
Timeframe	2022
Priority	High

Action WTN-04	
Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	
Lead	EM, Plan, FS
Cost	$0 - $25,000
Funding	OB, CT DEEP
Timeframe	2022
Priority	High

Action WTN-05	
Alleviate the long-term, chronic flooding situation in the Ball Farm Road and Buckingham Street area of Oakville. The culvert at this site is subject to flooding in any significant rain events, not just one of the larger design storms. Flooding caused by rainfall associated with Hurricane Henri in 2021 caused flooding not only on the properties under which the culvert is located, but down Buckingham Street all the way to Hillside Avenue and beyond.	
Lead	DPW
Cost	More than $500,000
Funding	CIP, FEMA Grant
Timeframe	2023 – 2025
Priority	High

Action WTN-06	
Work with the State NFIP Coordinator to stay up-to-date on FIS updates, and to encourage detailed FEMA studies within Watertown.	
Lead	TC
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Med

Action WTN-07	
Fully incorporate the provisions of the DEEP model flood regulations into the local flood damage prevention regulations (or ordinance), including but not limited to the required design flood elevations for the first floor, building electrical systems, and building mechanical systems.	
Lead	TE & LU
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Med

Action WTN-08	
Increase Substantial Damage and Substantial Improvement lookback periods to two or more years.	
Lead	TE & LU
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Med

Action WTN-09	
Remain engaged with FEMA and the State during the Housatonic River Watershed flood map updates. Review draft maps and provide comments to FEMA.	
Lead	Plan, FS, NFIP Coordinator
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Med

Action WTN-10	
Develop an inspection and maintenance plan and protocol for the outlet valves for Town-owned dams. The condition of many of these valves is unknown and it is likely that maintenance is needed.	
Lead	EM, DPW, FS
Cost	$25,000 - $50,000
Funding	OB, CT DEEP
Timeframe	2022 – 2024
Priority	Med

Action WTN-11	
Prepare and implement a stormwater management plan specific to Watertown	
Lead	TE
Cost	$25,000 - $50,000
Funding	OB, CIP, FEMA Grant, CT DEEP
Timeframe	2022 – 2024
Priority	Med

Action WTN-12	
Check the sizing of all culverts against current rainfall statistics and resize structures to meet current zoning requirements	
Lead	TE
Cost	More than $500,000
Funding	OB, CIP, FEMA Grant, CT DEEP
Timeframe	2023 – 2025
Priority	Med

Action WTN-13	
Develop formalized beaver management plan and protocols.	
Lead	EM, DPW, FS
Cost	$0 - $25,000
Funding	OB
Timeframe	2022
Priority	Low

Action WTN-14	
Review ability to enforce stream cleanups on private property	
Lead	LU
Cost	$0 - $25,000
Funding	OB
Timeframe	2022
Priority	Low

Action WTN-15	
Identify a space where tree debris may be stored and processed following a severe storm event	
Lead	TC, DPW
Cost	$0 - $25,000
Funding	OB
Timeframe	2022
Priority	Low

Action WTN-16	
Use the CT Toxics Users and Climate Resilience Map to identify toxic users located in hazard zones within your community. Contact those users to inform them about the CT DEEP small business chemical management initiative.	
Lead	EM, FS
Cost	$0 - $25,000
Funding	CT DEEP
Timeframe	2022
Priority	Low

Action WTN-17	
Evaluate drainage systems, floodplains, and infrastructure to identify projects to mitigate flooding	
Lead	DPW
Cost	$50,000 - $100,000
Funding	FEMA Grant, CT DEEP
Timeframe	2022 – 2024
Priority	Low

Action WTN-18	
Pursue property buyouts along Steele Brook, particularly in the vicinity of Knight Street and Riverside Street.	
Lead	DPW, FS, ConCom
Cost	More than $1 million
Funding	FEMA Grant, CT DEEP
Timeframe	2024 – 2026
Priority	Low

Action WTN-19	
Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (flood zones, wildfire hazard zones, steep slopes) to support the preparation of resiliency plans across the state.	
Lead	Plan, HC/HDC
Cost	$0 - $25,000
Funding	OB, CT SHPO
Timeframe	2022 – 2023
Priority	Low

Action WTN-20	
Coordinate with CT SHPO to conduct outreach to owners of historic properties to educate them on methods of retrofitting historic properties to be more hazard-resilient while maintaining historic character.	
Lead	Plan, HC/HDC
Cost	$0 - $25,000
Funding	OB, CT SHPO
Timeframe	2022 – 2023
Priority	Low

Action WTN-21	
Pursue funding and complete projects to mitigate flood hazards along Turkey Brook	
Lead	DPW
Cost	$100,000 - $500,000
Funding	OB, CIP, FEMA Grant
Timeframe	2024 – 2026
Priority	Low

Action WTN-22	
Repair, replace, or upgrade the sanitary sewer main off Falls Avenue, which occasionally overflows due to heavy rainfall and/or flood stages in Turkey Brook. Raw sewage has backed up into the street in past events. This has been identified as primarily an infiltration and inflow issue.	
Lead	EM, DPW
Cost	More than $1 million
Funding	CIP, FEMA Grant, CT DEMHS
Timeframe	2025 – 2027
Priority	Low

Action WTN-23	
Mitigate loss of access to homes on Sandbank Road when Hop Brook floods	
Lead	DPW
Cost	$100,000 - $500,000
Funding	OB, CT DEMHS
Timeframe	2025 – 2027
Priority	Low

APPENDIX A

STAPLEE MATRIX

#	Action Description	Regional Theme	Lead Department	Cost Estimate	Potential Funding Sources	Timeframe for Completion	Weighted STAPLEE Criteria														Total STAPLEE Score
							Benefits							Costs							
							Social	Technical (x2)	Administrative	Political	Legal	Economic (x2)	Environmental	Social	Technical (x2)	Administrative	Political	Legal	Economic (x2)	Environmental	
WTN-01	Register as a Sustainable CT community and make progress with the hazard mitigation goals associated with registration.	Sustainable CT	Plan	$0 - $25,000	OB, CT DEEP, Sustainable CT	2022	1	1	1	1	1	1	1	0	0	0	0	0	0	0	9
WTN-02	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	RLP	EM, Plan, FS	$0 - $25,000	OB	2022	1	1	1	0	1	1	0	0	0	0	0	0	0	0	7
WTN-03	Refer to the Morris Low Impact Sustainable Development Design Manual, created to be a regional resource by the Northwest Conservation District and the Northwest Hills Council of Governments, to incorporate LID guidance and	Low Impact Development	Plan	$0 - $25,000	OB, CT DEEP	2022	0	1	1	1	1	1	1	0	0	0	0	0	0	0	8
WTN-04	Work with CT DEEP to complete a formal validation of the Repetitive Loss Property list and update the mitigation status of each listed property.	RLP	EM, Plan, FS	$0 - $25,000	OB, CT DEEP	2022	1	1	1	0	1	1	0	0	0	0	0	0	0	0	7
WTN-05	Alleviate the long-term, chronic flooding situation in the Ball Farm Road and Buckingham Street area of Oakville. The culvert at this site is subjec tto flooding in any significant rain events, not just one of the larger design storms. Flooding caused by rainfall associated with Hurricane Henri in 2021 caused flooding not only on the properties under which the culvert is located, but down Buckingham Street all the way to Hillside Avenue and beyond.	Culvert & Bridge Upgrades	DPW	More than $500,000	CIP, FEMA Grant	2023 – 2025	0	1	1	1	0	1	1	0	0	0	0	-1	0	0	6
WTN-06	Work with the State NFIP Coordinator to stay up-to-date on FIS updates, and to encourage detailed FEMA studies within Watertown.	Flood Map Updates	TC	$0 - $25,000	OB, FEMA Grant, CT DEEP	2022	1	1	1	0	1	0	1	0	0	0	-1	0	0	0	5
WTN-07	Fully incorporate the provisions of the DEEP model flood regulations into the local flood damage prevention regulations (or ordinance), including but not limited to the required design flood elevations for the first floor,	Flood Regulations	TE & LU	$0 - $25,000	OB, FEMA Grant, CT DEEP	2022	1	1	1	0	1	0	1	0	0	0	-1	0	0	0	5
WTN-08	Increase Substantial Damage and Substantial Improvement lookback periods to two or more years.	Flood Regulations	TE & LU	$0 - $25,000	OB, FEMA Grant, CT DEEP	2022	1	1	1	0	1	0	1	0	0	0	-1	0	0	0	5
WTN-09	Remain engaged with FEMA and the State during the Housatonic River Watershed flood map updates. Review draft maps and provide comments to FEMA.	Flood Map Updates	Plan, FS, NFIP Coordinator	$0 - $25,000	OB, FEMA Grant, CT DEEP	2022	1	1	1	0	1	0	1	0	0	0	-1	0	0	0	5
WTN-10	Develop an inspection and maintenance plan and protocol for the outlet valves for Town-owned dams. The condition of many of these valves is unknown and it is likely that maintenance is needed.	Dam Safety	EM, DPW, FS	$25,000 - $50,000	OB, CT DEEP	2022 – 2024	0	1	1	1	1	1	0	0	0	0	0	0	0	-1	6.5
WTN-11	Prepare and implement a stormwater management plan specific to Watertown	Drainage	TE	$25,000 - $50,000	OB, CIP, FEMA Grant, CT DEEP	2022 – 2024	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5
WTN-12	Check the sizing of all culverts against current rainfall statistics and resize structures to meet current zoning requirements	Culvert & Bridge Upgrades	TE	More than $500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5
WTN-13	Develop formalized beaver management plan and protocols.	Administration, Enforcement, &	EM, DPW, FS	$0 - $25,000	OB	2022	1	0.5	1	1	1	0.5	0	0	0	0	0	0	0	0	6
WTN-14	Review ability to enforce stream cleanups on private property	Administration, Enforcement, &	LU	$0 - $25,000	OB	2022	1	0.5	1	1	1	0.5	0	0	0	0	0	0	0	0	6
WTN-15	Identify a space where tree debris may be stored and processed following a severe storm event	Tree and Debris Management	TC, DPW	$0 - $25,000	OB	2022	0	0.5	1	1	1	1	1	0	0	0	-1	0	0	0	6
WTN-16	Use the CT Toxics Users and Climate Resilience Map to identify toxic users located in hazard zones within your community. Contact those users to inform them about the CT DEEP small business chemical management	Small Business Chemicals	EM, FS	$0 - $25,000	CT DEEP	2022	1	0	1	0	1	1	1	0	0	0	0	0	0	0	6
WTN-17	Evaluate drainage systems, floodplains, and infrastructure to identify projects to mitigate flooding	Study	DPW	$50,000 - $100,000	FEMA Grant, CT DEEP	2022 – 2024	1	1	1	0	1	0	0	0	0	0	0	0	0	0	5
WTN-18	Pursue property buyouts along Steele Brook, particularly in the vicinity of Knight Street and Riverside Street.	Acquisition & Open Space	DPW, FS, ConCom	More than $1 million	FEMA Grant, CT DEEP	2024 – 2026	1	1	0	0	1	1	1	-1	0	0	-1	0	0	0	5.5
WTN-19	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (flood zones, wildfire hazard zones, steep slopes) to support the preparation of resiliency plans across the state.	Historic & Cultural Resources	Plan, HC/HDC	$0 - $25,000	OB, CT SHPO	2022 – 2023	1	0	1	1	0	1	0	0	0	0	0	0	0	0	5
WTN-20	Coordinate with CT SHPO to conduct outreach to owners of historic properties to educate them on methods of retrofitting historic properties to be more hazard-resilient while maintaining historic character.	Historic & Cultural Resources	Plan, HC/HDC	$0 - $25,000	OB, CT SHPO	2022 – 2023	1	0	1	1	0	1	0	0	0	0	0	0	0	0	5
WTN-21	Pursue funding and complete projects to mitigate flood hazards along Turkey Brook	Flood Mitigation	DPW	$100,000 - $500,000	OB, CIP, FEMA Grant	2024 – 2026	0	1	0	1	0	1	0	0	0	0	0	0	0	0	5
WTN-22	Repair, replace, or upgrade the sanitary sewer main off Falls Avenue, which occasionally overflows due to heavy rainfall and/or flood stages in Turkey Brook. Raw sewage has backed up into the street in past events. This has been identified as primarily an infiltration and inflow issue.	Critical Facility Protection	EM, DPW	More than $1 million	CIP, FEMA Grant, CT DEMHS	2025 – 2027	0	0.5	1	0	1	1	1	0	-1	0	0	0	0	0	5
WTN-23	Mitigate loss of access to homes on Sandbank Road when Hop Brook floods	Evacuation & Access	DPW	$100,000 - $500,000	OB, CT DEMHS	2025 – 2027	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	3.5

APPENDIX B

RECORD OF MUNICIPAL ADOPTION

AUTHORIZING RESOLUTION OF THE

Watertown Town Council

CERTIFICATION:

I, Lisa Dalton, the Town Clerk of Town of Watertown, do hereby certify that the following is a true and correct copy of a resolution adopted by Town Council at its duly called and held meeting on December 6, 2021 at which a quorum was present and acting throughout, and that the resolution has not been modified, rescinded, or revoked and is at present in full force and effect:

Watertown Town Council

WHEREAS, the Town of Watertown has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of those natural hazards profiled in the plan (e.g. flooding, high wind, thunderstorms, winter storms, earthquakes, droughts, dam failure, and wildfires), resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Watertown Town Council approved the previous version of the Plan in 2014; and

WHEREAS, the Town of Watertown and the Naugatuck Valley Council of Governments developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for the Hazard Mitigation Plan Update, 2021-2026 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held and public input was sought in 2020 and 2021 regarding the development and review of the Hazard Mitigation Plan Update, 2021-2026; and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedure for Watertown; and

WHEREAS, the Plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural hazards that impact Watertown, with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this Plan will make Watertown eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE BE IT RESOLVED BY THE WATERTOWN TOWN COUNCIL:

1. The Plan is hereby adopted as an official plan of the Town of Watertown;

2. The respective officials identified in the mitigation strategy of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them;

3. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

4. An annual report on the progress of the implementation elements of the Plan shall be presented to the Watertown Town Council.

IN WITNESS WHEREOF: The undersigned has executed this certificate this 8th day of December 2021

PLACE SEAL HERE (or "L.S." if no seal

Lisa Dalton, Town Clerk

APPENDIX C

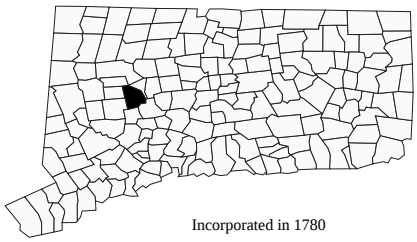
CERC Town Profile 2019

Watertown, Connecticut

CERC Town Profile 2019 *Produced by Connecticut Data Collaborative*

Town Hall
37 DeForest Street
Watertown, CT 06795
(860) 945-5255

Belongs To
Litchfield County
LMA Waterbury
Naugatuck Valley Planning Area



Incorporated in 1780

Demographics

Population

	Town	County	State
2000	21,661	182,193	3,405,565
2010	22,514	189,927	3,574,097
2013-2017	21,976	184,454	3,594,478
2020	22,011	193,116	3,604,591
'17 - '20 Growth / Yr	0.1%	1.5%	0.1%

	Town	County	State
Land Area (sq. miles)	29	921	4,842
Pop./Sq. Mile (2013-2017)	758	200	742
Median Age (2013-2017)	45	47	41
Households (2013-2017)	8,423	74,605	1,361,755
Med. HH Inc. (2013-2017)	$77,946	$76,438	$73,781

	Town	State
Veterans (2013-2017)	1,273	180,111

Age Distribution (2013-2017)

	0-4		5-14		15-24		25-44		45-64		65+		Total	
Town	977	4%	2,528	12%	2,769	13%	4,598	21%	7,211	33%	3,893	18%	21,976	100%
County	7,668	4%	20,218	11%	21,158	11%	38,329	21%	61,693	33%	35,388	19%	184,454	100%
State	186,188	5%	432,367	12%	495,626	14%	872,640	24%	1,031,900	29%	575,757	16%	3,594,478	100%

Race/Ethnicity (2013-2017)

	Town	County	State
White Non-Hisp	20,235	164,992	2,446,049
Black Non-Hisp	422	2,843	350,820
Asian Non-Hisp	302	3,516	154,910
Native American Non-Hisp	0	267	5,201
Other/Multi-Race Non-Hisp	159	2,320	84,917
Hispanic or Latino	858	10,510	551,916

	Town	County	State
Poverty Rate (2013-2017)	3.8%	6.8%	10.1%

Educational Attainment (2013-2017)

	Town		State	
High School Graduate	4,513	29%	673,582	27%
Associates Degree	1,968	13%	188,481	8%
Bachelors or Higher	5,055	32%	953,199	38%

Economics

Business Profile (2018)

Sector	Units	Employment
Total - All Industries	587	8,792
23 - Construction	59	423
31-33 - Manufacturing	62	2,246
44-45 - Retail Trade	75	1,343
62 - Health Care and Social Assistance	60	958
72 - Accommodation and Food Services	46	611
Total Government	13	758

Top Five Grand List (2018)

	Amount
Connecticut Light & Power Co	$55,945,060
JSD Partners LLC	$7,441,500
Greenbriar Associates LLC	$7,406,900
Siemon Company	$6,663,410
Yankee Gas	$6,537,670
Net Grand List (SFY 2016-2017)	$1,744,821,540

Major Employers (2018)

Siemon Company
Taft School
Albea Metal Americas
Crystal Rock Water Company
Global Steering

Education

2018-2019 School Year

	Grades	Enrollment
Watertown School District	PK-12	2754

Smarter Balanced Test Percent Above Goal (2017-2018)

	Grade 3		Grade 4		Grade 8	
	Town	State	Town	State	Town	State
Math	69.9%	53.8%	62.0%	51.3%	34.3%	43.0%
ELA	65.6%	53.1%	64.1%	54.9%	71.7%	56.1%

Pre-K Enrollment (PSIS)

	2018-2019
Watertown School District	73

4-Year Cohort Graduation Rate (2017-2018)

	All	Female	Male
Connecticut	88.3%	91.8%	85.1%
Watertown School District	91.7%	95.7%	87.4%

Rate of Chronic Absenteeism (2017-2018)

	All
Connecticut	10.7%
Watertown School District	11.5%

Public vs Private Enrollment (2013-2017)

	Town	County	State
Public	76.5%	84.0%	86.8%
Private	23.5%	16.0%	13.2%

Watertown, Connecticut

CERC Town Profile 2019

Connecticut Economic Resource Center

Government

Government Form: Council - Manager

Total Revenue (2017)	$76,021,126	Total Expenditures (2017)	$79,069,940	Annual Debt Service (2017)	$7,323,022
Tax Revenue	$54,558,200	Education	$48,887,757	As % of Expenditures	9.3%
Non-tax Revenue	$21,462,926	Other	$30,182,183	Eq. Net Grand List (2017)	$2,613,640,810
Intergovernmental	$18,993,022	Total Indebtedness (2017)	$47,308,399	Per Capita	$120,223
Per Capita Tax (2017)	$2,500	As % of Expenditures	59.8%	As % of State Average	79.6%
As % of State Average	85.3%	Per Capita	$2,176	Moody's Bond Rating (2017)	Aa2
		As % of State Average	86.6%	Actual Mill Rate (2017)	30.89
				Equalized Mill Rate (2017)	20.80
				% of Net Grand List Com/Ind (2017)	12.5%

Housing/Real Estate

Housing Stock (2013-2017)

	Town	County	State
Total Units	8,872	88,068	1,507,711
% Single Unit (2013-2017)	77.6%	73.6%	59.2%
New Permits Auth (2017)	21	142	4,547
As % Existing Units	0.2%	0.2%	0.3%
Demolitions (2017)	5	32	1,403
Home Sales (2017)	264	1,753	21,880
Median Price	$243,000	$250,100	$270,100
Built Pre-1950 share	26.2%	31.2%	29.3%
Owner Occupied Dwellings	6,803	57,330	906,798
As % Total Dwellings	80.8%	76.8%	66.6%
Subsidized Housing (2018)	425	4,817	167,879

Distribution of House Sales (2017)

	Town	County	State
Less than $100,000	1	57	536
$100,000-$199,999	105	563	5,237
$200,000-$299,999	92	538	6,681
$300,000-$399,999	51	315	3,863
$400,000 or More	15	280	5,563

Rental (2013-2017)

	Town	County	State
Median Rent	$966	$995	$1,123
Cost-burdened Renters	36.9%	47.3%	52.3%

Labor Force

	Town	County	State
Residents Employed	12,581	101,000	1,827,070
Residents Unemployed	482	4,014	78,242
Unemployment Rate	3.7%	3.8%	4.1%
Self-Employed Rate	7.5%	13.0%	10.0%
Total Employers	587	6,177	122,067
Total Employed	8,792	61,496	1,673,867

Connecticut Commuters (2015)

Commuters Into Town From:		Town Residents Commuting To:	
Waterbury, CT	1,915	Waterbury, CT	2,380
Watertown, CT	1,743	Watertown, CT	1,743
Naugatuck, CT	362	Hartford, CT	422
Torrington, CT	267	Danbury, CT	361
Thomaston, CT	237	Middlebury, CT	302
Wolcott, CT	212	Southbury, CT	291
Bristol, CT	193	Naugatuck, CT	290

Quality of Life

Crime Rates (per 100,000 residents) (2017)

	Town	State
Property	1,373	1,777
Violent	83	228

Disengaged Youth (2013-2017)

	Town	State
Female	0.0%	4.2%
Male	7.9%	5.6%

	Town
Library circulation per capita	3.41

Distance to Major Cities

	Miles
Hartford	24
New York City	79
Providence	89
Boston	119
Montreal	272

Residential Utilities

Electric Provider
Eversource Energy
(800) 286-2000

Gas Provider
Eversource Energy
(800) 989-0900

Water Provider
Municipal Provider
Local Contact

Cable Provider
Cablevision of Litchfield, Inc.
(860) 567-3103