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

Municipal Annex
for

SOUTHBURY, CT

501 Main Street South
Southbury, CT 06488
MMI #3211-29

Prepared for:
NAUGATUCK VALLEY COUNCIL OF GOVERNMENTS
47 Leavenworth Street, 3rd Floor
Waterbury, CT 06702
(203) 489-0362
www.nvcogct.org

Prepared by:
SLR CONSULTING
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.slrconsulting.com

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

1.1 Purpose of Annex 1-1
1.2 Planning Process 1-1
1.3 Physical Setting 1-1
1.4 Land Cover 1-2
1.5 Geology 1-3
1.6 Climate and Climate Change 1-3
1.7 Development Trends 1-8
1.8 Historic and Cultural Resources 1-10
1.9 Social Vulnerability Index 1-10

2.0 MUNICIPAL CAPABILITIES 2-12

2.1 Governmental Structure and Capabilities 2-12
2.2 Infrastructure 2-12
2.3 Critical Facilities and Emergency Response 2-14

3.0 FLOODING 3-17

3.1 Existing Capabilities 3-17
3.2 Vulnerabilities and Risk Assessment 3-20

4.0 HURRICANES AND TROPICAL STORMS 4-26

4.1 Existing Capabilities 4-26
4.2 Vulnerabilities and Risk Assessment 4-27

5.0 SUMMER STORMS AND TORNADOES 5-28

5.1 Existing Capabilities 5-28
5.2 Vulnerabilities and Risk Assessment 5-29

6.0 WINTER STORMS 6-30

6.1 Existing Capabilities 6-30
6.2 Vulnerabilities and Risk Assessment 6-30

7.0 GEOLOGICAL HAZARDS 7-32

7.1 Existing Capabilities 7-32
7.2 Vulnerabilities and Risk Assessment 7-32

8.0 DAM FAILURE 8-34

8.1 Existing Capabilities 8-34
8.2 Vulnerabilities and Risk Assessment 8-34

9.0 WILDFIRES 9-39

9.1 Existing Capabilities 9-39
9.2 Vulnerabilities and Risk Assessment 9-40

10.0 MITIGATION STRATEGIES AND ACTIONS 10-42

10.1 Goals and Objectives 10-42
10.2 Status of Mitigation Strategies and Actions from Previous HMP 10-42
10.3 Prioritization of Strategies and Actions 10-45
10.4 Mitigation Strategies and Actions Implementation Table 10-45

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 Southbury representatives on November 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, Steve Schnell.

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 Southbury is located in New Haven County at the intersection of Interstate 84 and Route 67. It is bordered by the towns of Roxbury and Woodbury to the north, Middlebury and Oxford to the east, Newtown to the south, and Bridgewater to the west.

The Town is located in the lower portion of the Pomperaug River watershed, with the river flowing through the center of Town and adjacent to several residential areas. The Housatonic River and its two impoundments, Lake Zoar and Lake Lillinonah, comprise the entire southern border of the Town. Likewise, the Shepaug River forms the western border with Bridgewater, and the Eightmile River forms portions of the eastern borders with Middlebury and Oxford.

The Town is comprised of suburban neighborhoods, rural country areas, and historic districts nestled within and among its many river valleys and hills.

1.4 Land Cover

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 63% of Southbury is forested and approximately 16% is developed.

Table 1-1: 2015 Land Cover by Area

Land Cover	Area (acres)	Percent of Community
Developed	4,214.4	16.46%
Turf & Grass	1,946.1	7.60%
Other Grass	422.1	1.65%
Agricultural Field	2,022.4	7.90%
Deciduous Forest	14,066.4	54.94%
Coniferous Forest	1,679.7	6.56%
Water	734.8	2.87%
Non-Forested Wetland	14.0	0.05%
Forested Wetland	378.1	1.48%
Tidal Wetland	0.0	0.00%
Barren	58.9	0.23%
Utility Row	65.2	0.25%
Total	**25,602**	**100%**

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

The Town of Southbury is centered on a linear commercial and institutional district running northeast-southwest along Main Street and along the north side of Interstate 84, extending from Route 67 to Route 172. Many of the municipal facilities and various commercial plazas are located in and near this corridor. Outside of this central developed corridor, low density residential areas are interspersed with agricultural areas. However, the Town of Southbury contains several unique land uses, including the following:

- A very large age-restricted condominium complex known as Heritage Village is located north of the Town center. This complex is comprised of more than 2,500 housing units and has a population of more than 4,000.
- The Town hosts a national defense communications technology vendor, Vizada Americas (formerly Telenor Satellite Communications), located at the far west end of River Road near the Shepaug Dam. This facility provides service to NASA as well as other clients.
- A large IBM campus is located on the south side I-84 near the junction of I-84 and Route 67.
- The Southbury Training School (STS), a large state institutional facility, is located on 1,600 acres in the northwest part of Town on Route 172. The facility independently operates its own power, heat, sewage treatment, water, laundry, fire, ambulance, public safety, building maintenance, transportation and dietary services. It is listed as an historic district on the National Register of Historic Places. The school was built in the late 1930s as a home for individuals with intellectual disabilities. Over the years, residents of the STS campus have begun to transition to other continuous care facilities and on-site services have been scaled back. In 2021 there were approximately 200 residents. Due to the decrease in residents and required services, STS administration has begun to consolidate facilities and evaluate the existing and future uses of the property.

As a result of these unique land uses, the Town of Southbury has several vulnerable populations in Heritage Village and the Southbury Training School. However, the population at the STS will continue to decrease due to downsizing. Several nationally-important businesses within the town may also be vulnerable to certain hazards.

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 Southbury.

The Town of Southbury's bedrock consists of three general lithologies: volcanic and intrusive igneous silicate gneisses and basalts, sedimentary arkose, and metasedimentary and metaigneous schists. The bedrock intrusions trend northeast-southwest through the Town. Refer to Figure 2-4 for a depiction of the bedrock geology in the Town of Southbury.

The north-central portion of the Town is underlain by the New Haven Arkose, Portland Arkose, and associated rocks (Holyoke Basalt, Talcott Basalt, Shuttle Meadow Formation, East Berlin Formation, and Hampden Basalt) of the Newark Terrane. The arkoses are thick sequences of sedimentary rock striking north-northeast and dipping approximately 15° to the east.

The entire midsection of the Town of Southbury is highly fractured and faulted, and the Newark Terrane rocks are bounded to the west and east by faulted contacts.

At least twice in the late Pleistocene, continental ice sheets moved across Connecticut. As a result, surficial geology of the Town is characteristic of the depositional environments that occurred during glacial and postglacial periods.

Large areas of the Town are covered by glacial till. Tills contain an unsorted mixture of clay, silt, sand, gravel, and boulders deposited by glaciers as a ground moraine. Sections of the Town lying along the rivers consist primarily of stratified sand and gravel ("stratified drift") and alluvium deposits associated with these rivers. The stratified drift deposits accumulated by glacial meltwater streams during the outwash period following the latest glacial recession. Major stratified drift deposits are aligned along the Shepaug River, Pomperaug River, Transylvania Brook, Housatonic River, and Eightmile River.

1.6 Drainage Basins and Hydrology

The Town of Southbury is drained by seven defined drainage basins corresponding with the Housatonic River, Shepaug River, Hesseky Brook, Pomperaug River, Eight Mile Brook, Transylvania Brook, and Kettletown Brook. These subregional drainage basins are part of the Housatonic Main Stem, Shepaug River, and Pomperaug River regional basins which either directly, in the case of the Housatonic River Main Stem, or ultimately drain into the Housatonic River. The subregional drainage basins are described below.

Table 1-2: Drainage Basins

Drainage Basin	Area (sq. mi)	Percent of Town
Housatonic River	8.30	20.75
Shepaug River	3.12	7.80
Hesseky Brook	0.35	0.88
Pomperaug River	14.77	36.92
Eight Mile Brook	5.05	12.63
Transylvania Brook	4.61	11.53
Kettletown Brook	3.80	9.50
Total	*40.00*	*100.0*

Source: Drainage Basins, 2008 CT DEEP GIS Data for Connecticut

Housatonic River

The Housatonic River has its headwaters in western Massachusetts near the Town of Pittsfield. It flows almost 150 miles southward through Massachusetts and Connecticut before flowing into Long Island Sound between the City of Milford and the Town of Stratford. While approximately 624 square miles of land drain directly into the Housatonic River, regionally it is responsible for draining approximately 1,950 square miles of land across New England. The river has a history of contamination from industrial sources and still has resident levels of PCBs in some areas. In addition, it has been impounded in Connecticut in several places for hydroelectric power generation.

While all the land in Southbury eventually drains into the Housatonic River, only 8.30 square miles, representing 20.8% of the Town's land area, does so directly. Starting at its confluence with the Shepaug River, the Housatonic forms Southbury's border with Newtown to the south. In this same stretch of river there are a number of tributaries that feed into the Housatonic River. Cavandaug Brook, Little Pootatuck Brook, Pole Bridge Brook, Lee Brook, and a number of unnamed tributaries all feed into the Housatonic River from within its drainage basin. The Shepaug River, Pootatuck River, Pomperaug River and Kettletown Brook are all watercourses that correspond with other drainage basins that feed into the Housatonic River in this stretch along Southbury's southern boundary.

Two densely populated neighborhoods are located along the Housatonic River, near the end of the Pomperaug River and near the end of Lee Brook. These were cottage communities that now have numerous year-round residents.

Shepaug River

In its entirety, the Shepaug River drains 70.94 square miles of land stretching from a location at the border between the Town of Cornwall and the Town of Goshen to the river's confluence with the Housatonic River.

The Shepaug River is dammed on the border between the Town of Warren and the Town of Litchfield, forming the Shepaug Reservoir which is operated by the City of Waterbury. Upstream of the Shepaug Reservoir, the Shepaug River has two branches. The West Branch of the Shepaug River pertains to its own subregional drainage basin, and was dammed to form the Upper Shepaug Reservoir. The East Branch of the Shepaug River is considered to be part of the same Shepaug River Basin, and is joined by a number of tributaries to the north before it flows into the Shepaug Reservoir.

The western portion of Southbury is a part of the Shepaug River drainage basin. This small area covers only 3.12 square miles, or 7.8% of the Town's land area. Most of the area drains into the Shepaug River via Upper Purchase Brook, which meets the Shepaug River prior to its confluence with the Housatonic River. This part of Southbury is very sparsely populated.

Hesseky Brook

The drainage basin that corresponds to Hesseky Brook is by far the smallest in Southbury. Located along the Town's northern boundary, this area drains 0.35 square miles of land, or 0.9% of the Town's land area. The area drains to the north into Hesseky Brook, which passes through Transylvania Pond, Radey Pond, and Hesseky Meadow Pond before turning to the east and joining the Pomperaug River in the Town of Woodbury near the junction between Routes 317 and 6. Hesseky Brook is joined by a number of unnamed tributaries, as well as Good Hill Brook, which flows to the southeast into Hesseky Meadow Pond. In all, the Hesseky Brook drainage basin covers 6.22 square miles of land in the Towns of Southbury, Woodbury and Roxbury.

Pomperaug River

The Pomperaug River originates at the confluence of the Weekeepeemee and Nonnewaug Rivers in the Town of Woodbury. The river winds southward through Woodbury, converging with Hesseky Brook near the intersection of Routes 317 and 6. Downstream of this confluence, the Pomperaug River is joined by South Brook, which drains the Woodbury Reservoir. Just after crossing into Southbury, the Pomperaug River is met by Stiles Brook from the southeast. Further downstream it converges with several unnamed tributaries before meeting Transylvania Brook along East Flat Hill Road. After that point, the Pomperaug River continues southward and flows into the Housatonic River along Southbury's southern border. In all, the Pomperaug River Basin drains 21.39 square miles of land across Southbury and Woodbury.

The drainage basin pertaining to the Pomperaug River is the largest in Southbury, covering 14.77 square miles, or 36.9% of the Town's total land area. It contains most of the critical facilities and most densely developed neighborhoods in the Town.

Eight Mile Brook

Eight Mile Brook has its headwaters in Lake Quassapaug in western Middlebury. South of Lake Quassapaug, Eight Mile Brook enters Kelley Pond. Beginning just to the south of Kelley Pond, Eightmile River makes up much of the eastern border of Southbury.

Several tributaries located within Southbury enter Eight Mile Brook throughout this stretch. An unnamed tributary enters the river in a wetland along Judd Road. Another unnamed tributary enters the river to the south near its crossing with Interstate 84. Walnut Hill Brook meets Eightmile River just upstream of Route 67. One final watercourse, Jeremy Brook, enters Eight Mile Brook from the Southbury side at the end of the section of the river that makes up Southbury's eastern border. Eight Mile Brook drains the easternmost 5.05 square miles of Southbury or 12.6% of the Town's land area.

After leaving Southbury and entering Oxford, Eight Mile Brook is joined by a number of watercourses, including Sevenmile Brook, Sixmile Brook, and several unnamed tributaries, before meeting the Housatonic

River in Oxford. In all, the Eight Mile Brook basin drains 17.44 square miles across the Towns of Oxford, Southbury, Middlebury, and Woodbury.

Transylvania Brook

The Transylvania Brook watershed drains 4.61 square miles, or 11.5% of Southbury's total land area in the north-central section of the Town. It has its headwaters in the Town of Roxbury near the border with the Town of Woodbury.

From its headwaters, Transylvania Brook flows southward through Roxbury then Woodbury before crossing the border into Southbury near the junction of Routes 67 and 172. As the Brook travels southward it converges with several tributaries before entering Gravel Pit Pond along the side of Route 172. Just south of the pond, Transylvania Brook passes by the Southbury Training School's wastewater treatment plant, the only point source discharge into the Brook. Downstream of this facility, Transylvania Brook continues southward and eventually converges with the Pomperaug River. In all, the Transylvania Brook basin drains 7.21 square miles of land across the Towns of Southbury, Roxbury, and Woodbury.

Kettletown Brook

The Kettletown Brook watershed drains 3.80 square miles, or 9.5% of Southbury's total land in the Town's southeastern corner. Kettletown Brook's headwaters are located near Georges Hill Road in Southbury. In this area, there are several small streams and ponds that flow together to form Kettletown Brook.

From this location, the Brook flows southward in the vicinity of Kettletown Road for about a mile before turning to the southwest. Kettletown Brook converges with several more unnamed tributaries before flowing into the Housatonic River at Kettletown State Park. In all, Kettletown Brook drains 4.87 square miles of land in the Towns of Southbury and Oxford.

1.7 Climate and Climate Change

In Southbury, 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 20°F to 82°F and is rarely below 5°F or above 89°F.

The warm season lasts for 3.5 months, from May 31 to September 16, with an average daily high temperature above 72°F. The hottest day of the year is July 21, with an average high of 82°F and low of 64°F. The cold season lasts for 3.3 months, from December 3 to March 12, with an average daily high temperature below 44°F. The coldest day of the year is January 29, with an average low of 20°F and high of 35°F.

The wetter season lasts 3.5 months, from May 4 to August 18, with a greater than 29% chance of a given day being a wet day. The chance of a wet day peaks at 36% on May 30. The drier season lasts 8.5 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 5.3 months, from November 4 to April 14, 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 25, with an average total liquid-equivalent accumulation of 1.1 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 New Haven County is 5 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 Southbury as 4.97 inches.

The NOAA Atlas 14, released on September 30, 2015 puts the 24-hour rainfall amount for a 10% annual-chance storm in Southbury at 5.61 inches.

These precipitation amounts, and more details, are summarized in Table 1-3, below.

Table 1-3: 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	5.0	5.6	7.1
NRCC	5.0	6.2	8.7
NOAA Atlas 14	5.6	6.9	8.9

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 Southbury can expect the 24-hour rainfall amount for a 10% annual-chance storm to be around 5.4 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

Southbury was settled in the late 1600s as part of the Town of Woodbury. Southbury was officially incorporated in 1787. The Town's origins were largely agrarian; industry developed in the 1800s which utilized water power from the Pomperaug and Housatonic Rivers, including mills, shoe making shops, tanneries and distilleries. Carpet and hat making centered in South Britain, a village located on the Pomperaug River in the western section of Southbury. Much of the industry migrated to the City of Waterbury as that area became an economic center.

The 2010 U.S. Census reported a population in Southbury of 19,681 individuals. U.S. Census Bureau estimates for 2019 show a population around 19,164 individuals, a decrease from 2010 of 2.6%. The Connecticut State Data Center predicts that population will decrease by 6.4% through 2025 to an estimated population of 6,640 individuals.

According to the Connecticut Data Collaborative, the number of annual housing permits in Southbury remained relatively steady over the last decade. The number of permits issued in 2010 and 2011 was 7 and 6, respectively, while 12 permits were issued in 2016, and 12 permits were issued in 2017. On average, 16 housing permits were issued each year in Southbury between 2010 and 2017.

According to the U.S. Census Bureau, the overall number of housing units in Southbury dropped by approximately 3.6-percent between 2010 and 2019, from 9,091 units in 2010 to 8,779 units in 2019. In 2019, the housing stock was made up of approximately 73% single-unit structures, 9% two-unit structures, 18% multi-unit structures, and 0% mobile-homes or other types of structures.

According to the Connecticut Office of Policy and Management, Southbury's 2019 Total Equalized Net Grand List was valued at $2,150,000,000. 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 Southbury, included as Appendix C.

Cul-de-sacs in new developments are discouraged, while the connectivity of roads is encouraged. Subdivisions featuring cul-de-sacs offer a single access point for emergency services, lengthening emergency response times and rendering those residential areas vulnerable if access is cut off by flooding or downed tree limbs. The Town of Southbury requires that cul-de-sacs, streets permanently closed at one end by building lots and which will not be extended in the future provide access to no less than 2 and no more than 20 lots.

Streets and common roadways shall have a minimum width of right-of-way which is determined based on their classification and as approved by the Commission. In addition, utilities serving new developments must be installed underground wherever possible. Exceptions are granted on a case-by-case basis.

The Town of Southbury has created an ordinance which prohibits dwellings from being constructed in Special Flood Hazard Areas (SFHA) and development on steep slopes is also prohibited within the Town. Based on the Town's 2012 Plan of Conservation and Development, efforts are being made to preserve Southbury's small-town charm and limit the impact of future development through an ongoing open space acquisition program.

Southbury is predominantly built out. Vacant, buildable land in town is scarce due to the significant amount of preserved open space. As a result, there have been few large subdivisions and commercial and industrial developments in several years. Instead, property redevelopment has been more prevalent. Only a few lot subdivisions have been completed in the last few years.

One notable project has been the expansion of the Comsat satellite facility on River Road. This facility has essentially doubled in size over the past few years.

Future growth opportunities include the proposed "Pierce Hollow Village" senior housing complex, which is under construction on 45-acres of land within the Southbury Training School campus. It is anticipated that this land will be conveyed to the Town from the State of Connecticut.

The Southbury Training School has also been consolidating patients and staff into fewer buildings, to open up space for future redevelopment. In 2013, a special task force, consisting of state and local representatives was created by the Governor to develop a comprehensive plan regarding the suture use of the Southbury Training School Campus. A summary of findings and recommendations regarding the future use of the campus was produced in 2014.

In addition, in 2013, approximately 800 acres of undeveloped land within the Southbury Training School property was transferred to the Department of Agriculture and a conservation easement was granted which ensures permanent agricultural use of the site.

Summary

Recent development in Southbury has been minimal, and has not increased the community's vulnerability to natural hazards; The Town has continued to ensure that new development is sited and approved with minimal risk from natural hazards. Continuation of recent development trends is not expected to lead to an increase in hazard vulnerability in the next five years.

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 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*

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 Southbury 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

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

Southbury is considered to have a Low to Medium level of social vulnerability, with a higher vulnerability score for the SVI categories of Household Composition & Disability and Housing Type & Transportation. In other words, a particular challenge in Southbury may include the presence of residents who need additional

assistance during a disaster event due to disabilities or mobility limitations, or the presence of lower-quality housing, or lack of access to transportation for evacuation.

2.0 MUNICIPAL CAPABILITIES

2.1 Governmental Structure and Capabilities

The Town of Southbury is governed by a Selectman-Town Meeting form of government in which legislative responsibilities are shared by the Board of Selectmen and the Town Meeting. The First Selectman serves as the chief executive.

In addition to Board of Selectmen and the Town Meeting, there are boards, commissions and committees providing input and direction to Town administrators. Also, Town departments provide municipal services and day-to-day administration. Many of these commissions and departments play a role in hazard mitigation, including the Planning Commission, the Zoning Commission, the Conservation Commission, the Inland Wetland Commission, the Local emergency Planning Committee (LEPC), the Building Official, the Fire Department, the Police Department, Emergency Medical Services, and the Highway Department/Public Works. Regional organizations such as the Pomperaug River Watershed Coalition, the Lake Lillinonah Authority and the Lake Zoar Authority also have roles to play in hazard mitigation.

The Department of Public Works is the principal municipal department that responds to problems caused by natural hazards. Complaints related to Town maintenance issues are routed to the Department of Public Works. The Public Works Department has instituted an automatic reporting mechanism via the Town's website and iWorks, whereby a resident can report an issue or incident directly through the website and monitor its progress in being addressed.

2.2 Infrastructure

Transportation

The Town of Southbury does not have any hospitals. Instead, residents use the nearby facilities in the City of Danbury and the City of Waterbury. As a means of accessing these facilities, the Town has convenient access on Interstate 84 west to Danbury and east to Waterbury.

Evacuation routes are regionally defined by the Regional Evacuation Plan. No local evacuation plan exists. During a major evacuation, Interstate 84 would presumably be the most effective means of evacuating Southbury. However, Routes 172, 67, and 6 are the main arterial roads and would also offer evacuation routes.

On a small scale, evacuation routes are reportedly determined on a case-by-case basis. There is frequent need to evacuate residents along River Trail, Pomperaug Trail and Flood Bridge Road. Prior to a flood, both the Town Police and the Town Fire Departments warn the residents of the danger. Both departments monitor the level of the Pomperaug River.

Berkshire Road is a long dead end and, because of its close orientation with the Pomperaug River, is noted as high priority to create connectivity with other roadways. This is important for emergency vehicles and options for transit if evacuation is needed.

Finally, many private roads and trails (including Hillside Road, Heritage Village and Berkshire Estates) are too narrow for emergency vehicular transit. They present the possibility of access problems during emergencies in the area.

Southbury is served by the CTtransit public bus system.

Utilities

Water service is a critical component of hazard mitigation, especially with regard to fighting fires. It is also necessary for everyday residential, commercial, and industrial use. The Heritage Village Water Company provides potable and fire fighting water to the majority of the central and northeastern section of Town, while the Aquarion Water Company provides the same services to a relatively small section of the extreme south-central portion of Town and Southbury Training School provides water service to itself.

An interconnection between the Connecticut Water Company's Middlebury System and the Heritage Village Water Company was permitted and constructed in 2009-2010, and an interconnection between the Waterbury Water Department and Connecticut Water Company's Middlebury System was permitted and constructed in 2010-2011. With these interconnections in place, potable water can be moved from Waterbury and Naugatuck into Middlebury and then into Southbury, if the Heritage Village Water Company wells are compromised.

The Fire Department uses alternative water supplies to fight fires in the less developed areas of Southbury, including fire ponds and underground water tanks. Depending upon the circumstances at the time of a fire emergency, the Fire Department transports as much water in its response vehicles as is allowed.

Sewer service is an often-overlooked critical facility. The Heritage Village and Pomperaug Woods Sewage Treatment Plants are located in the north-central section of Town, and the IBM Southbury Sewage Treatment Plant is located centrally in Southbury. These sewage treatment plants serve portions of the Town where large concentrations of residents or working populations are found.

The Southbury Training School sewage treatment plant was decommissioned subsequent to the adoption of the previous HMP, and the Southbury Training School now directs its wastewater to the Heritage Village treatment plant. The Heritage Village treatment plant has been upgraded significantly in recent years. The sewage pumping station at Southbury Training School is considered a critical facility, since it is responsible for moving sanitary wastewater to the Heritage Village treatment plant.

The "Southbury Green" Plaza at 775 Main Street South has installed a package treatment plant for its septic system.

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

According to geoISP (geoISP.com), access to Broadband Internet and Mobile Broadband (cellular) service is very limited in Southbury.

2.3 Critical Facilities and Emergency Response

The Town considers its police, fire, medical, governmental, and major transportation facilities to be its most important critical facilities, for these are needed to ensure that emergencies are addressed while day-to-day management of the Town of Southbury continues. Age-restricted, State facilities, life care centers, assisted / disabled living communities, a national defense satellite/communications facility, sewage treatment plants, and the Heritage Village Water Company wellfield are included with critical facilities, as these house populations of individuals and utilities that would require special assistance or are needed during an emergency. Critical facilities are summarized on Table 2-1 below.

Table 2-1: Critical Facilities

Facility	Address or Location	Comment	Emergency Power	Shelter	SFHA
Heritage Village	Heritage Village	Senior/Elderly			
Traditions	Route 172	Clustered Housing			
Southbury Training School	1461 S Britain Rd	Special Needs	✓		
The Hearth	655 Main St. South	Senior/Elderly			
Grace Meadows	Route 67	Vulnerable Population			
The Watermark	611 East Hill Rd	Senior/Elderly			
Pomperaug Woods	80 Heritage Rd	Senior/Elderly			
River Glen Health Care Center	162 South Britain Rd	Care Facility			
Lutheran Home of Southbury	990 Main St North	Care Facility			
STS Sewer PumpStation	Whale Pass/S. Britain Rd	Sewer			✓
Heritage Village WWTP	Heritage Village	Sewer			
IBM (Southbury) WWTP	150 Kettletown Rd	Sewer			
Heritage Village Water Co.	Heritage Village	Public Water			✓
Southbury Fire Dept.	461 Main St South	Em. Response			
Southbury Police Dept.	421 Main St South	Em. Response	✓		
Purchase Firehouse	100 Stillson Rd	Em. Response			
Southbury Ambulance Association	68 George Hill Rd	Em. Response			
Town Hall	501 Main St South	Municipal	✓		
Public Works Garage	60 & 66 Peter Rd	Municipal	✓		
Comsat Mobile Communications	2120 River Rd	National Defense	✓		*
Southbury Senior Center	561 Main St South	Primary Shelter	✓	✓	
Pomperaug High School	234 Judd Rd	Regional Shelter	✓	✓	

* Comsat facility located in 0.2% annual-chance flood zone

Emergency Response Capabilities

The Public Works Department is a critical municipal department related to hazard mitigation because it maintains, repairs, and constructs stormwater systems and roadways. The Department is responsible for maintaining stormwater systems for proper drainage and flood mitigation, as well as clearing snow and ice and maintaining access for emergency vehicles.

Likewise, the Public Works Department believes that establishment of working inter-municipal agreements with other public works departments in nearby communities would allow for sharing of resources when disasters affect one community more than others.

Sheltering Capabilities

Emergency shelters are considered to be an important subset of critical facilities, as they are needed most in emergency situations. Southbury has designated the Senior Center and the Pomperaug High School as the Town's two emergency shelters. The Town is evaluating the Heritage Village Activity Center to determine if it can be used as a shelter in the future.

In case of an extended power outage, it is anticipated that 10-20% of the population would relocate, although not all of those relocating would necessarily utilize the shelter facilities. Many communities only intend to use these facilities on a temporary basis for providing shelter until hazards such as hurricanes diminish. Southbury encourages residents to shelter in place whenever possible. Regionally-located mass care facilities operated and paid for by the American Red Cross may be available during recovery operations when additional sheltering services are necessary.

Backup Power

The Shop-Rite in the plaza has generator hookups and a contract for delivery and installation whenever there is an outage. The generator can power the entire supermarket which enabled it to maintain service when power was out during Isaias and the May 2018 tornado. The supermarket could be considered a critical facility as it provides an essential service for the Town.

Stop & Shop also has a generator, but it is reportedly only sufficient to power the freezers and coolers and not the entire supermarket.

The Public Works garage generator is old and the automatic shut-off does not function properly. Therefore, the generator needs to be repaired or possibly replaced.

A microgrid was ultimately not installed along Main Street South and will not be pursued. The proposed microgrid was intended to cover the municipal buildings in the area, however, the Town was concerned that installing a generator powered microgrid would result in a backup system with a single point of failure. This issue became apparent during Tropical Storm Isaias when certain standby generators were not functioning properly. A strategy is needed to address standby and portable generator needs including redundant hookups availability if permanent installations are not functioning properly.

Communications

The Town of Southbury has established the CodeRED Emergency Notification System in an effort to streamline emergency notifications to residents of the Town. This system allows Town of Southbury personnel to telephone all or targeted areas of the Town in case of an emergency situation that requires immediate action. The system is capable of dialing 50,000 phone numbers per hour. It then delivers a recorded message to a person or an answering machine, making three attempts to connect to any number.

The Town has also created an Emergency Management Director/Fire Marshal position and, for long-term planning, the Town has a Local Emergency Planning Committee which accomplishes tasks related to emergency preparedness.

3.0 FLOODING

3.1 Existing Capabilities

Participation in the NFIP

Southbury has participated in the NFIP since 03/28/1980. The Flood Insurance Rate Map (FIRM) for the community was most recently updated in 07/08/2013. Southbury does not participate in the FEMA Community Rating System (CRS) program.

According to FEMA, there are 64 flood insurance policies in force in Southbury as of 6/30/2019 with an insurance value of $15,484,100.

The Land Use Administrator is the NFIP Coordinator responsible for ensuring flood prone development meets all applicable standards.

Regulatory Capabilities

The Town of Southbury has in place a number of measures to prevent flood damage. These include regulations, codes, and ordinances preventing encroachment and development near floodways. Developments in floodplains are no longer allowed as the Town has approved an ordinance which prohibits further development within these areas.

The Town Planning and Zoning Commissions use the 100-year flood lines from the FIRM and FIS delineated by FEMA as the official maps and report for determining special flood hazard areas. Ordinances require that all structures in flood hazard areas have their lowest floor be above established flood elevations. 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 Southbury Inland Wetlands Commission also reviews new developments and existing land uses on and near wetland courses.

Regulations, codes, and ordinances that apply to flood hazard mitigation in conjunction with and in addition to NFIP regulations include:

- ***Flood Damage Prevention and Control Ordinance*** (Section 6 of Southbury Code). This section of the Town code promotes the public health, safety and general welfare and minimizes public and private losses due to flood conditions by establishing standards and elevations for construction and renovations in flood hazard areas. Section 6 of the Southbury code is essentially the local version of the NFIP regulations.

- ***Flood Plain District*** (Section 5 of Southbury Zoning Regulations). This section defines the boundaries of the flood plain district and states that no building or structure within the boundaries of the district may be constructed, moved, or substantially improved without a Flood Hazard Area Permit obtained from the Building Official of the Town of Southbury in accordance with the *Flood Damage Prevention and Control Ordinance* listed above. This

requirement has terms which the project must meet in order to be in compliance with the ordinance. New construction is prohibited within the 100-year floodplain.

- ***Drainage*** (Section 7.2.6 of Southbury Zoning Regulations). This section outlines the Town's provision to manage storm water, which includes the collection and disposal thereof in an attempt to:

  - *avoid storm water flow across sidewalks;*
  - *protect water courses and wetlands from pollution, erosion and sedimentation;*
  - *avoid an amount of discharge and time of concentration of flow beyond the capacity of downstream drainage channels; and*
  - *avoid downstream flooding.*

  This section also calls for the improvement of existing watercourses, channels, and additional drainage systems on lots or downstream of lots.

- ***Drainage*** (Section 7.2.6 of Southbury Zoning Regulations). This section outlines the design standards for stormwater and other non-sanitary drainage facilities, including location, suitable receiving water bodies, design specifications for pipes, manholes, and culverts, and the use of underdrains.

- ***Wetlands and Water Courses*** (Section 7.2.7 of Southbury Zoning Regulations). This section calls for site development plans to provide protection of all wetlands and watercourses, which includes floodplains in their natural state, unless prior modification approval has been given.

- ***Soil Erosion and Sedimentation Control*** (Section 7.2.16 of Southbury Zoning Regulations). This section calls for a provision be made for soil erosion and sediment control in accordance with the standards of the Town of Southbury Soil Erosion Sediment Control Ordinance.

- ***Setbacks and Slopes*** (8.7.4 of Southbury Zoning Regulations). This section states that no earth removal or placement shall occur within 50 feet of an abutting property line without written approval from abutting property owner. However, this practice may occur at approximate grade and within 50 feet of an abutting street line. Finished slopes cannot exceed 25% grade or some lesser slope that is necessary to provide stability, safety, and the opportunity for future reuse and development.

- ***Natural Features*** (Section 4.8 of Southbury Subdivision Regulation) specifies that a subdivision should avoid filling or excavation or other encroachment upon wetlands, water courses, floodplains, and other land subject to potential flooding.

- ***Terrain*** (Section 4.9.1 of Southbury Subdivision Regulation) specifies that each lot shall be capable of accommodating [permitted buildings]…with driveway access, parking spaces and suitable sites for on-site sewage disposal and water supply, without disturbing wetlands and water courses.

- ***Special Flood Hazard Areas/Floodways*** (Section 4.23 of Southbury Subdivision Regulation) specifies that when a subdivision includes land in a Special Flood Hazard Area or floodway,

the lots, streets, drainage and other improvements shall be reasonably safe from flood damage and shall capable of use without danger from flooding.

- ***Aquifer Protection Area Regulations.*** The Southbury Training School and Heritage Village Water Company each operate a public water supply wellfield in the Town of Southbury. The Southbury Training School wellfield is located along Transylvania Brook within its delineated floodplain. Likewise, the Heritage Village Water Company wellfield is located along the Pomperaug River within its delineated floodplain.

  - The Southbury Training School wellfield has a final DEEP-approved aquifer protection area (APA). The Southbury Water Pollution Control Authority has been designated the official Aquifer Protection Agency. As such, the Authority has developed APA Regulations. These regulations are a zoning overlay and control land use and development in the affected part of the Town located within the APA. Therefore, the APA Regulations indirectly provide a level of protection against development of certain commercial and industrial properties in or near floodplains in this portion of Southbury.

  - The Heritage Village Water Company wellfield has a preliminary aquifer protection area (APA). After formal APA mapping has been developed by Heritage Village Water Company, the Town will be required to apply the APA regulations as a zoning overlay in this part of Southbury, potentially affecting a much more developed area as compared to the Southbury Training School APA. Therefore, the APA Regulations will indirectly provide a level of protection against development of certain commercial and industrial properties in or near floodplains in this central location in Southbury.

Structural and Maintenance Projects

The Southbury Public Works Department is in charge of the maintenance of the Town's drainage systems and performs clearing of public streets, bridges, culverts, and other structures as needed. Drainage and other flooding related complaints are typically routed to the Public Works Department. The Department records these complaints and uses the documents to identify potential problems and plan maintenance and upgrades to infrastructure prior to extensive precipitation events.

Several bridge and culvert projects were recently completed by Public Works including:

- Culvert capacity was increased in 2020 to better convey the unnamed tributary to Eight Mile Brook passing beneath Plaster House Road.
- Improvements were constructed in 2019 at East Flat Hill Brook to mitigate flooding of Transylvania Brook.
- The intersection of Hulls Hill Road and Jeremy Swamp Road passes Jeremy Brook and was prone to flooding. The intersection was elevated, and additional culverts were installed in 2018 to increase conveyance and mitigate the flooding.
- The River Road bridge over the Pomperaug River was replaced in 2016-2017. MMI provided design and construction inspection services. This project was to replace an aging structure and not to increase flood conveyance, although scour concerns with the abutments were reportedly addressed as part of the project.

- The Spruce Brook Road bridge was replaced and increased conveyance capacity for Transylvania Brook. An overflow bypass structure was also installed to provide more high-flow conveyance capacity.

Property Protection

There are ongoing discussions among Town residents about the possibilities of raising homes above established flood elevations or moving homes entirely out of floodplains in several areas within Town, with focus on the Pomperaug River. One single family home along River Trail has been elevated at the expense of the homeowner, and the Town received an HMGP grant to acquire and demolish the repetitive loss property on Flood Bridge Road.

Emergency Services

The Town's Police and Fire Departments regularly monitor the stage of the Pomperaug River and combine forces to provide advanced notice to residents in the floodplain surrounding the river of potential flooding problems.

The Town of Southbury has instituted the CodeRED Emergency Notification System. This system allows the Town to telephone all or targeted areas of the Town in case of an emergency situation that requires immediate action. The system is capable of dialing 50,000 phone numbers per hour. It then delivers a recorded message to a person or an answering machine, making three attempts to connect to any number.

New Capabilities and Completed Actions

Southbury continues to maintain its strong flood mitigation capabilities. The Town has acquired and demolished six Repetitive Loss Properties in recent years, removing that significant source of risk. Erosion issues along the Pomperaug River have generally been mitigated. This included a bank stabilization project behind the basketball court at Ballantine, and erosion repair at George Bennett Park.

Many of Southbury'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. Overall, the increased knowledge of vulnerable areas, combined with other local planning efforts, has assisted community officials and commissions to provide a variety of flood mitigation recommendations for new development and existing homeowners.

Summary

Southbury 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. The September 2018 rain event did not cause any major issues for the Town.

Vulnerability of Critical Facilities

In general, municipal facilities and shelters are sited outside floodplains and are centrally-located to be as accessible as possible to the majority of the population. By virtue of their locations near watercourses, public water supply wellfields and wastewater treatment plants are often in or near floodplains. The two sewage treatment plants in Southbury are located outside of floodplains. The Heritage Village Water Company wellfield is located in the 100-year floodplain of the Pomperaug River and the water utility must take precautions to prevent contamination from floodwaters.

Vulnerability Analysis of Repetitive and Severe Repetitive Loss Properties

According to FEMA, Southbury has fifteen Repetitive Loss Properties (RLP). Of those, zero are classified as Severe RLP. Two of the RLPs in Southbury are identified as having been mitigated in the past. Since adoption of the previous HMP, Southbury received FEMA funding to acquire one RLP on Flood Bridge Road and Five RLPs on River Trail. The Town acquired and demolished these structures, significantly reducing the number of RLPs in the community (and mitigating more than the two RLPs noted by FEMA). Southbury should coordinate with CT DEEP and FEMA to update and validate the official RLP list.

Table 3-1: Repetitive Loss Properties in Southbury

Total	Residential	Non-Residential	Mitigated	SRL
15	15	0	2	0

Vulnerability Analysis of Areas Along Watercourses

There are two major waterways in the Town of Southbury. The Housatonic River forms the southern Town boundary at Lakes Zoar and Lillinonah. The second major waterway, the Pomperaug River, flows generally from north to south through the center of the Town. The secondary waterways include Eight Mile Brook, Jeremy Brook, Bullet Hill Brook and Transylvania Brook. These four watercourses and the remaining small watercourses are streams and brooks which are significant for water supply, conservation purposes, and play a role in flooding events, but are not sufficient recreational resources.

The areas with the highest vulnerability to flood events are concentrated along the Pomperaug River. Other areas are vulnerable due to large amounts of rainfall in conjunction with snowmelt, ice jams, and due to undersized road culverts and/or storm drains. The areas listed below were collected from residents and from Town personnel.

Primary Areas of Concern

- Flood Bridge Road and River Hill Road – Approximately 20 homes and cottages located along Flood Bridge Road, north of Flood Bridge Road, and along the lower portion of River Hill Road at Branch Road experience flooding during sustained storm events, including in 2011. These homes are located within the 100 and 500-year floodplains of the Pomperaug River, and some are believed to be adjacent to the floodway. Four properties addressed on Flood Bridge Road are listed as Repetitive Loss properties.

  The property at 111 Flood Bridge Road has been acquired by the Town using an HMGP grant.

- River Trail – Homes located along River Trail experience flooding during sustained storm events, including as recently as 2011. These homes are located within the 100-year floodplain of the Pomperaug River. Seven properties addressed on River Trail are listed as Repetitive Loss properties, as five were recently acquired and demolished using FEMA funding.

- Lower Pomperaug River – Manor Road and Pomperaug Trail – The approximately 30 homes located along Manor Road on the east side of the river, and Pomperaug Trail on the west side of the river, are within or adjacent to the 100-year floodplain and are often flooded by the overtopping of Pomperaug River's banks. Flooding typically takes place during sustained precipitation events in the early spring, late summer/early fall or winter when the ground is covered with snow and ice. Additionally, Pomperaug Trail and Manor Road are under constant threat of flooding associated with ice jams. These roads are long and have dead ends, having only one entrance/exit. During a flooding event, this can be problematic for evacuations.

- River Road – In the past, various sections of the road were closed at times throughout the course of the year due to flooding issues including the clogging of culverts, undersized culverts, and the overtopping of small unnamed streams that flow into the Housatonic River from Flat Hill. Between South Flat Hill Road and Purchase Brook Road, flooding of River Road previously occurred on a normal basis. Within the last few years, River Road has not needed to be closed. Sections of this road have experienced roadway subsidence and the development of sinkholes. These areas need to be stabilized, particularly along the section of road adjacent to the water. Part of the issue is that First Light reportedly makes high volume releases in order to minimize sedimentation behind the dam. The releases can exacerbate scour along the riverbanks. Another major concern for this project is that the road is of substandard width. The cost to widen the road to the standard 26 feet may make the project too costly to perform. The Town would rather the project be conducted at the current width as "narrow access to the Shepaug Dam is better than no access". The Town covers the costs associated with repairs to the roadway. River Road provides the primary access to the satellite communications facility. In addition, River Road becomes a detour route or informal bypass whenever the section of I-84 between Exits 13 and 11 is closed. Therefore, the road is very important to the Town and the region.

- Old Waterbury Road – This road is a primary bypass route when traffic on I-84 is congested between Exits 16 and 15. There are multiple crossings of Bullet Hill Brook along this road as well as the crossing of a tributary. When flooding occurs, a partial or full closing of the road is problematic for traffic. In particular, the tributary crossing (near the west end of Old Waterbury Road) has multiple private crossings just upstream of the bridge. Additional conveyance capacity is needed in this area to mitigate flooding and maintain access to private properties. The Town has priced out the potential cost of this project as being $1 million.

Secondary Areas of Concern

- Hulls Hill Road/Jeremy Swamp Road Intersection – The intersection is at a low elevation and road closures are common due to flooding in the roadway. Flooding at this intersection occurs due to the overtopping of the Jeremy Brook watercourse. The culvert currently in

place is insufficient in capacity for large scale rain events. Serious flooding has occurred in the past and residents have been evacuated when large scale precipitation events have become imminent or have been ongoing.

- Spruce Brook Road Near Route 172 – This area experiences mainly road flooding during large scale precipitation events. However, there has been residential damage reported to the Town. The road and residents in the area may benefit from an increase in the elevation and replacement of the existing bridge over Transylvania Brook. The Town has been working over the past 15 years with design engineers, DOT, Army Corps of Engineers and other regulatory agencies to address this flooding issue and replace the culvert with a more appropriately sized structure.

- Lakeside Road and Lee Farm Drive – Flooding occurs in association with the insufficient capacity and clogging of storm drainage systems. This is a densely-populated area along Lee Brook and near the Lake Zoar shoreline. The clogging of the storm systems has historically caused nuisance flooding for residences.

- Community House Road – This roadway regularly floods during severe rainstorms. Bullet Hill Brook, the minor watercourse which the roadway is oriented along, sometimes overtops during these events. There has not been flooding in this area for several years.

- Route 172 Bridge over the Pomperaug River – Due to the low elevation of the bridge at this location, flooding is a common occurrence during large scale rain events. Flooding on Route 172 is ultimately under DOT's jurisdiction.

- Route 172 at "Hay Fever Farm" – The road becomes inundated during large scale rainfall events. Flooding on Route 172 is ultimately under DOT's jurisdiction.

- River Road between Purchase Brook Road and South Flat Hill Road – Whenever flooding is expected, the road is shut-down and the traffic is re-routed. This is a common occurrence during the rainy season of the spring.

- Little Fox Lane – This roadway has one way in/out and has historically had nuisance flooding associated with an unnamed watercourse.

- Flag Swamp Road – This road extends from Southbury to Roxbury. This road is orientated along the watercourse associated with Flag Swamp, and nuisance flooding can occur. The northern unpaved section of the road occasionally floods near the unnamed watercourse separated from a nearby pond by the road. This is a relatively minor flooding issue.

Ice Jams

The Town of Southbury is vulnerable to ice jams along the lower Pomperaug River, as the hydraulic conditions at this location present favorable ice jam forming conditions.

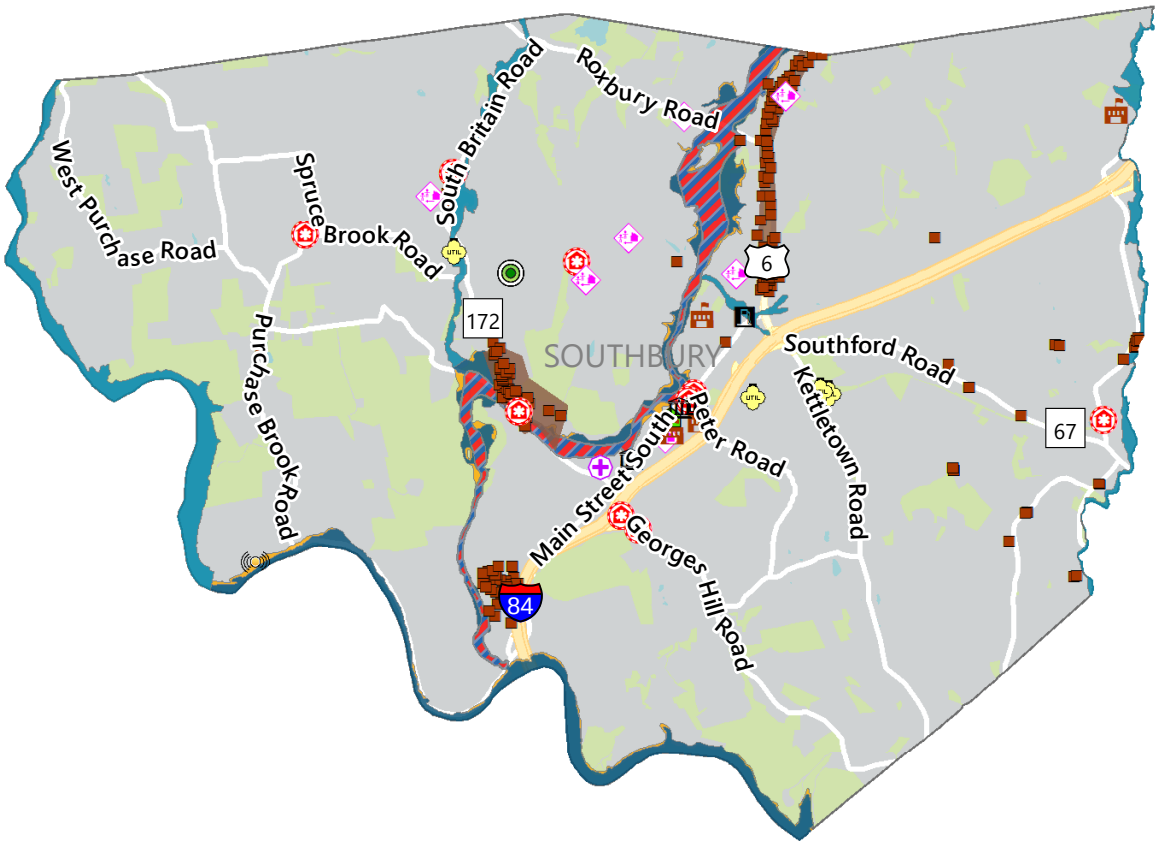
The neighborhoods within the Town of Southbury vulnerable to flooding as a result of ice jams include those along Manor Road and Pomperaug Trail. Because flood waters can carry ice, extensive damage to

the landscape, the riverbed and riverbanks, and residential housing is possible. Streets often become flooded and have the potential to become littered with fallen branches, poles, residential materials, and/or tree limbs, preventing egress. Ice jam flooding in the Manor Road area last occurred in the winter of 2017 or 2018. The Town can provide pictures of this event. Steve will work with Jeff to send the pictures to MMI. The Fire Department evacuated the neighborhood and conducted a few shallow water rescues during this event.

The Town of Southbury can evacuate on the order of 50 to 100 people in the area of Town mentioned above that is prone to flooding as a result of ice jams. The Town of Southbury continuously monitors the river's stage and ice conditions to determine when to evacuate residents in this area.

Date Saved: 6/15/2021

Document Path: C:\Users\noahs\Documents\MMI\ArcGIS\Maps\NVCOG.mxd



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

Historic Sites
- Historic Sites
- NR Historic Districts

Flood Zone
- A

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

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773

Flood Hazards in Southbury

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

N

0 3,500 7,000
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 Southbury 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.

Tree limbs and trees may fall during heavy wind events, potentially damaging structures, utility lines, and vehicles. Eversource Energy, the local electric utility, provides tree maintenance near its power lines. The company was under intense scrutiny after storms Irene and Alfred in 2011.

The Town of Southbury Department of Public Works performs tree maintenance near roadways. Eversource also performs tree maintenance, but landowners are primarily responsible for conducting tree maintenance on private property. Additionally, all utilities in new subdivisions must be placed underground, whenever possible, in order to mitigate storm-related damages.

The Emerald Ash Borer, combined with recent strong wind events, has caused significant damage to trees in Southbury. More than 1,000 trees have been affected by the ash borer. Removal is ongoing. As a result, the tree maintenance budget is reportedly very high. Public Works has a 3 to 4-man crew working on tree removal and processing each day except during storms or when plowing is needed. The crew conducts full tree removal but does not perform elevated work near power lines. A chipper and a bucket truck is available for elevated work in other areas with a 75-foot maximum height.

As discussed previously, the Town of Southbury has instituted the CodeRED Emergency Notification System. However, this feature is relatively new to the Town of Southbury. The Town therefore also relies on radio and television to spread information on the location and availability of shelters. Prior to a hurricane, the Town ensures that warning/notification systems and communication equipment is working properly and prepares for the possible evacuation of susceptible areas.

New Capabilities and Completed Actions

Southbury continues to maintain its strong tropical cyclone mitigation capabilities. The Town has improved its tree maintenance capabilities.

Summary

Southbury 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

The Town of Southbury is vulnerable to hurricane damage from wind and flooding, and from any tornadoes accompanying the storm.

Southbury's housing stock consists of a handful 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 much of the existing housing stock in the town 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 Southbury.

Town-owned critical facilities do not 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 town are as likely to be damaged by hurricane-force winds as any other. However, 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 are considered to be more susceptible to wind damage.

Loss of power during tropical storms is an important concern for the Town.

The Emerald Ash Borer, combined with recent strong wind events, has caused significant damage to trees in Southbury. More than 1,000 trees have been affected by the ash borer.

Tropical Storm Isaias in early August 2020 primarily affected the southern portions of Southbury along with the northeastern corner (Bucks Hill area). The northwestern portion of town was generally less affected. Coordination with Eversource was reportedly poor during the event. Town staff could not coordinate with Make Safe crews and therefore could not remove downed trees in many areas. As a result, most residents experienced approximately one week of power outages, with some isolated cases taking longer for restoration. Fallen trees and wires blocked the single mode of egress into several neighborhoods. Community House Road was an example where fallen trees and wires isolated a section of road and residents could not drive out for four days. During Tropical Storm Isaias, the Police Department generator was overheating and could not be used. The generator still needs to be repaired.

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 Southbury as explained in Section 4. In addition, the Connecticut State Building Code includes guidelines for the proper grounding of buildings and electrical boxes.

In the Town of Southbury, the local utilities are responsible for tree branch removal and maintenance. In addition, all new developments in the Town must place utilities underground wherever possible. The Public Works Department also performs annual tree maintenance on municipal right of ways.

Municipal responsibilities relative to tornado mitigation and preparedness include:

- Developing and disseminating emergency public information and instructions concerning tornado safety, especially guidance regarding in-home protection and evacuation procedures, and locations of public shelters.
- Designate appropriate shelter space in the community that could potentially withstand tornado impact.
- Periodically test and exercise tornado response plans.
- Put emergency personnel on standby at tornado 'watch' stage.
- Utilizing the "CodeRED" 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 Southbury. 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

Southbury 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

Southbury 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 historic record, only a few summer storms and tornadoes have resulted in costly damages in Southbury. Most damages are relatively site-specific and occur to private property (and therefore are paid for by private insurance). For municipal property, the budget for tree removal and minor repairs may need to be adjusted from time to time to address storms. Given the limited historic record for damaging tornado events, an estimate of several million dollars in damage may be reasonable for an EF2 tornado striking Southbury, and with a greater damage amount to be expected should an EF3 or stronger tornado strike.

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 tornado caused significant damage in Southbury. Approximately 99% of all town residents lost power for 5 to 7 days. Mutual aid was called in from surrounding communities to help open roads and process tree debris. The Town processed approximately 3,000 to 4,000 cubic yards of tree debris. The response to this event was very strong. Despite the damage occurring on a Tuesday, schools were able to open for class the following Monday. The Town recently completed the FEMA After Action Report that discusses areas of damage.

First Light reportedly lost contact with its dam due to damage caused by the May 2018 tornado. A SCADA system is used to remotely operate the dam and track water levels. This reinforced the need to ensure that access is maintained along River Road to the dam, as First Light would need to manually operate the dam on-site following a combined wind and flood event (such as a hurricane).

6.0 WINTER STORMS

6.1 Existing Capabilities

Programs that are specific to winter storms are generally those related to preparing plows, sand and salt trucks; tree-trimming to protect power lines; and other associated snow removal and response preparations.

The Town of Southbury primarily uses Town staff for plowing operations. The Town plows approximately 135 miles of road, including approximately 7 to 9 miles that are unpaved. Public Works has set plow routes, but these are not posted publicly. The Connecticut Department of Transportation plows Interstate 84, Route 6, Routes 67, and Route 172. The Department of Public Works has a list of priority snowplow routes. During emergencies, a plow vehicle can be dispatched ahead of an emergency vehicle. The Town should continue to discourage the creation of cul-de-sacs whenever a feasible connection to a through street can be created. This policy presents residents and emergency personnel with two means of egress into neighborhoods in the Town, ensuring that residents will not be cut off from critical facilities during times of need.

The Town found it necessary to remove snow from school roofs in January-February 2011 when several barns collapsed. As a result of this experience, the town has been careful to watch for conditions that may lead to damage from snow loads.

In summary, Southbury's capabilities to mitigate for winter storm damage and prevent loss of life and property has improved since the initial hazard mitigation plan was adopted, such as the increased attention to removing snow from buildings.

New Capabilities and Completed Actions

Southbury continues to maintain its strong winter storm mitigation capabilities.

Summary

Southbury 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. 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. 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, as did the snow associated with Winter Storm Alfred in October 2011 and storm Nemo in February 2013.

A few areas in the Town of Southbury have been identified by Town personnel as having problems with ice during the winter months. Icing causes difficult driving conditions throughout the hillier sections of Town such as Berkshire Road, Pascoe Drive, and higher elevations of Old Waterbury Road. These roadways are not easily traveled upon when ice accumulates. Icing due to poor drainage also occurs along Pomperaug Trail.

As for other winter hazards, drifting snow is not as large a problem in Southbury as other areas, but it still occurs such as East Flat Hill Road. This problem is mitigated through municipal plowing efforts. Ice jams are a significant problem along the stretch of the Pomperaug River near Manor Road. Refer to Section 4.0 for a discussion of ice jams.

The January 2015 winter storm did not cause any major damage to the Town. Extra plowing efforts were needed to clear the snow.

7.0 GEOLOGICAL HAZARDS

7.1 Existing Capabilities

The Connecticut Building Codes include design criteria for buildings specific to municipalities, as adopted by the Building Officials and Code Administrators (BOCA). These include the seismic coefficients for building design in the Town of Southbury. The Town has adopted these codes for new construction and they are enforced by the Town Building Inspector.

Due to the infrequent nature of damaging earthquakes, land use policies in the Town of Southbury do not directly address earthquake hazards. However, the Town of Southbury is deliberate about regulating land use on steep slopes. Section 1.2.15 of the Subdivision Regulations defines steep slopes as those portions of land with slope/topography in excess of 25%. Section 4.11.9 regulates the maximum grade for any street as not exceeding 10% for local residential streets, 8% for throughfares, and 3% for turnarounds.

Likewise, Section 8.7 of Southbury Zoning Regulations (Setbacks and Slopes) states that no earth removal or placement shall occur within 50 feet of an abutting property line without written approval from abutting property owner. Finished slopes cannot exceed 25% grade or some lesser slope that is necessary to provide stability, safety, and the opportunity for future reuse and development.

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

New Capabilities and Completed Actions

Southbury continues to maintain its earthquake and landslide mitigation capabilities.

Summary

Southbury 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

Portions of the Town of Southbury are underlain by sand and gravel. Structures in these areas are at increased risk from earthquakes due to amplification of seismic energy and/or collapse. The best mitigation for future development in areas of sandy or filled material may be application of the most stringent building codes, or possibly the prohibition of certain types of new construction. The areas that are not at increased risk during an earthquake due to unstable soils are the areas underlain by glacial till.

Landslide Vulnerabilities

Southbury does not have significant concerns about landslides, although they are concerned about the erosion occurring at the toe of the slopes along River Road. The Town has also had to address erosion issues elsewhere along the Pomperaug River, including by performing a bank stabilization project at Ballantine and at George Bennett Park.

8.0 DAM FAILURE

8.1 Existing Capabilities

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.

Actions Completed and New Capabilities

Southbury continues to maintain its capabilities for mitigating and responding to dam failure risks.

Recently, maintenance was completed on Jenny Pierce Dam, a detention basin dam east of Colonial Drive. In addition, Heritage Village recently rebuilt a dam.

The Town is seeking to elevate the Hidden Pond Dam (in Hidden Pond Park) a couple of feet because water levels are too low in the impoundment and encourages plant growth.

Summary

Southbury 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 61 DEEP-inventoried dams within Southbury. Five of these dams had a Significant or High Hazard Potential rating. A selection of Southbury dams that have assigned Hazard Classes are listed in Figure 8-1 and shown in Figure 8-1.

Table 8-1: DEEP-Inventoried Dams in Southbury

Number	Name	Class	Owner
13001	SHEPAUG HYDROPOWER DAM	C	Power Utility
13002	PAPER MILLPOND DAM	B	State Owned
13003	UNIROYAL POND DAM	AA	Private
13004	GRAVEL PIT POND DAM	BB	State Owned
13005	HILLHOUSE ROAD POND DAM	BB	Private Corporation
13007	JEREMY BROOK DAM	BB	Private
13008	KETTLESouthbury BROOK POND DAM	B	Private Corporation
13009	NORTH GEORGES HILL ROAD POND DAM	A	Private Corporation
13010	LOWER HILLHOUSE ROAD POND DAM	BB	Private Corporation
13011	MIDDLE HILLHOUSE ROAD POND DAM	B	Private Corporation
13012	POMPERAUG RIVER DAM	BB	Private Corporation
13013	YUCHNYK POND DAM	BB	Private
13014	GOODMAN UPPER POND DAM	BB	Private
13015	WEST POND DAM	A	Private
13016	DUBLIN HILL ROAD POND DAM	A	Private
13017	NAZELROD POND DAM	BB	Private
13018	KLEEMAN DAM	BB	Private
13019	FLAT HILL POND DAM	A	Private
13021	BENNETT'S POND DAM	A	Private
13024	LOWER CASE RD POND DAM	A	Private
13025	TRIANGLE POND DAM	A	Private Corporation
13026	SANFORD ROAD POND DAM	A	Private
13027	WAKELEE PLOW SHOP POND DAM	AA	Private
13028	LAKE STIBBS DAM	A	Institution
13029	HIDDEN POND PARK DAM	BB	Municipal
13031	PIERCE'S DETENTION DAM	B	Private Corporation
13032	LOOP ROAD DETENTION POND DAM	A	Private Corporation
13033	KETTLESouthbury DETENTION DAM	BB	Private Corporation
13034	WILDLIFE POND DAM	AA	Private
13036	O'BRIEN DAM	AA	Private
13037	JAMES POND #1 DAM	A	Private
13038	JAMES POND #2 DAM	AA	Private
13039	VENO POND DAM	AA	Private
13040	LOVDAL POND DAM	AA	Private
13042	LYONS POND DAM	AA	Private

Number	Name	Class	Owner
13043	CHAPELAKE POND DAM	AA	Private
13044	HICKORY POND DAM	AA	Private
13045	MAC LELLAN'S POND DAM	BB	Private
13046	WIESE POND DAM	A	Private
13061	SUMMA DAM	A	Private

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

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

Number	Name	Class	EAP Status	EAP Status Date
13001	SHEPAUG HYDROPOWER DAM	C	FERC Regulated Dam No Review Needed	12/30/2016
13008	KETTLESouthbury BROOK POND DAM	B	Updated EAP Not Received	1/22/2018
13011	MIDDLE HILLHOUSE ROAD POND DAM	B	Revised EAP received for re-review	12/19/2019
13031	PIERCE'S DETENTION DAM	B	Updated EAP Not Received	1/22/2018

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

Shepaug Dam

The Shepaug Dam is owned by the First Light Power Resources. Based on dam failure inundation maps on file at the DEEP, a dam failure at full pool height (worst-case scenario) would cause flooding along the Housatonic River in the Towns of Southbury and Newtown. Residents downstream of the Shepaug Dam including those located along River Road, Manor Drive, and Pomperaug Trail would be in serious danger. Additionally, residents in other communities along the river would experience flooding. The satellite communication facility at the end of River Road in Southbury is located adjacent to the dam and could be in serious threat of major damages if the Shepaug Dam failed. Such a failure would cause backwater conditions along the Pomperaug River and the unnamed tributaries that join the Housatonic River along this stretch.

Other Dams in Southbury

additional dams described 3 can also have an effect on residents of Southbury. Although Town personnel did not describe these dams as having potential problems or becoming potential threats to residents, review of DEEP files indicated that the Pomperaug River Dam is currently in poor condition. Without regular maintenance performed on the existing dams, additional problems and threats may surface.

Long Meadow Pond Dam, Town of Bethlehem

The Long Meadow Pond dam located in the Town of Bethlehem requires discussion in context of flooding from dam failure. This dam is owned by the Town of Bethlehem and is currently rated below a Class B dam. The dam overtopped during the April 2007 nor'easter, and though the dam sustained some damage, it did not fail. The Connecticut DEEP sent the Town of Bethlehem an engineering request letter in October 2007

requiring the Town to retain an engineer to perform a hydraulic and hydrologic analysis of the dam, and to design improvements to allow the dam to safely pass the 100-year storm event.

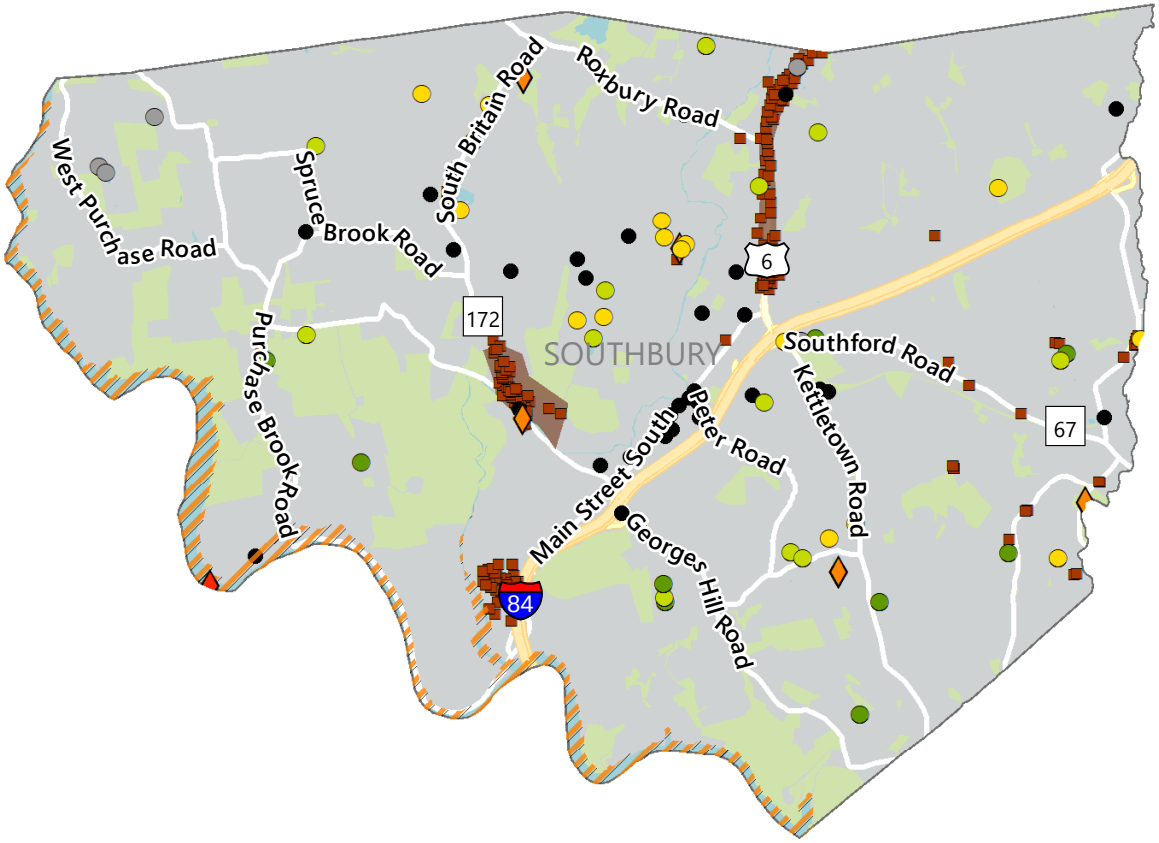
Should this dam fail, it is likely that floodwaters would continue southwest into the Weekeepeemee River. If the dam failure occurs during heavy rain, the Weekeepeemee could already be flooded, and the additional waters would exacerbate flooding conditions downstream in the Towns of Woodbury and then Southbury, where the Pomperaug River would convey floodwaters from the pond and the Weekeepeemee River.

Residents living along the Pomperaug River in Southbury remain concerned with the Long Meadow Pond dam in Bethlehem. They were notified in 2007 when sandbagging was taking place at the dam, and were displeased that a formal notification and process for evacuation were not available at that time. They recommend that the notification process be improved.

In an effort to augment overtopping of the spillway, the Town of Bethlehem has recently installed culverts to divert water from the dam to the Weekeepeemee River. However, the spillway and the culverts combined still don't pass the 100-year storm event.

Date Saved: 6/15/2021

Document Path: C:\Users\noahs\Documents\MMI\ArcGIS\Maps\NVCOG.mxd



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

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773

Dam Failure Hazards in Southbury

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

N

0 3,500 7,000
Feet

DATE 6/15/2021

141.3211.00029
PROJ. NO.

FIG. 8-1

9.0 WILDFIRES

9.1 Existing Capabilities

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

Existing mitigation for wildland fire control is typically focused on Fire Department training and maintaining an adequate supply of equipment. The Town of Southbury typically requires developments outside of the Heritage Village Water Company's existing service area to use water tanks for fire protection. All new development projects are required to include water tanks as part of their projects, while some older, established neighborhoods have tanks. The Town does not promote the use of fire ponds or dry hydrants for fire protection. In addition, new roads and subdivisions are required meet specifications for fire truck access.

Unlike wildfires on the west coast of the United States where the fires are allowed to burn toward development and then stopped, the Southbury Fire Department goes to the fires. This proactive approach of going on the offense is believed to be effective for controlling wildfires. The fire department has some water storage capability, but primarily relies on the Heritage Village Water Company service to fight fires throughout the northeastern portion of Town. Since the adoption of the previous HMP, the Heritage Village Water Company made important improvements to the public water system by interconnecting with the Connecticut Water Company's public water system in Middlebury, increasing Southbury's firefighting capabilities. In the remainder of the Town, the fire department relies heavily on the use of local water bodies and water tanks within developments to supply firefighting water.

Education is also an important element of existing mitigation. Fire prevention information is being updated and will be available through the Southbury Volunteer Fireman's Association website (www.southburyfire.com).

With regards to new subdivisions, the Town Subdivision Regulations requires that "the existing street to which the proposed subdivision street connects shall be of sufficient width and have a suitable travelway, grade and alignment as determined by the Commission to provide adequate access for fire protection, other emergency, utility and highway maintenance services to the subdivision…"

As most of the Town has fire-fighting water available nearby, a large amount of water can be made readily available for firefighting equipment. The Town also has the support of the HVWC and the state to provide access to their owned lands in case of a wildfire.

Actions Completed and New Capabilities

Southbury 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

The approximately 17,692 acres of forests and undeveloped land in Southbury may be susceptible to drought conditions that make them more vulnerable to wildfires. The approximately 2,445 acres of agricultural fields and maintained grasses may be vulnerable to direct damage from drought conditions.

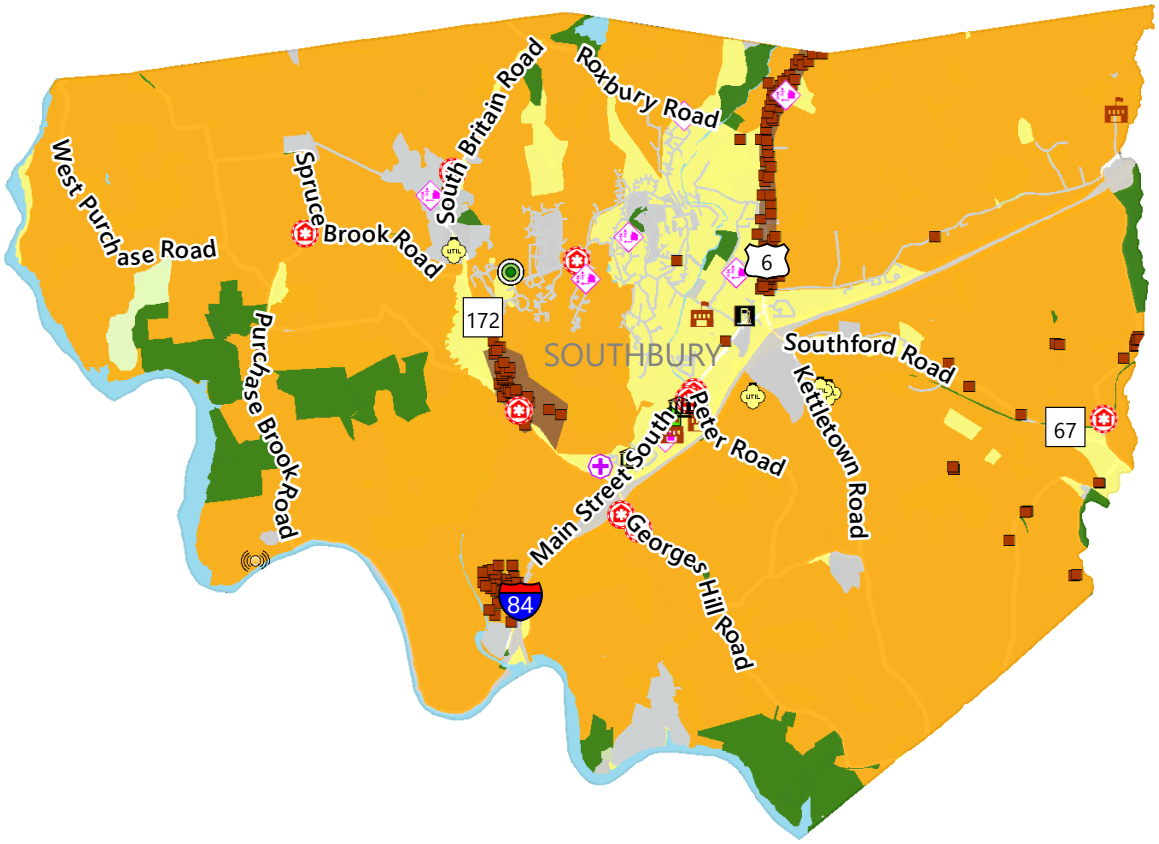
Wildfire risk areas in Town are generally associated with state-owned forests, land trust property, and Town owned open space. As each area borders residential sections of the Town, residents within these risk areas are most vulnerable to fire, heat, and smoke effects of wildfires. The western and south-southwestern parts of Town nearest to development are considered most at risk from wildfires. Additionally, there is concern about those wooded areas in the other heavily forested sections of Town. These areas located in the southern, western, and southeastern portions Southbury present potential access problems for firefighting purposes in the event of a wildfire.

Despite having a considerable amount of forest/urban interface, the overall risk of wildfires occurring in the Town of Southbury is also considered to be low. Such fires fail to spread far due speed of detection and strong fire response. Should a wildfire occur, it seems reasonable to estimate that the average area to burn would be five acres, consistent with the state average during long periods of drought. In the case of an extreme wildfire during a long drought on forested lands, it is estimated that up to 300 acres could burn before containment due to the limited access of those lands. Residential areas bordering such lands would also be vulnerable to wildfire, but would likely be more impacted by heat and smoke than by structure fires due to the strong and timely fire response in the Town.

Wildfire risk zones are mapped in Figure 9-1. The Town recently fought a 1-acre brush fire in Little York Park in July 2020. According to Town staff, this fire would have been much larger if it had occurred on a windy day.

Date Saved: 6/15/2021

Document Path: C:\Users\noahs\Documents\MMIArcGIS\Maps\NVCOG.mxd



Critical Facilities

- Care Facility
- Communications
- Community Center
- Emergency Response
- Fuel
- Government Services
- Population Center
- School
- Utility
- Vulnerable Population

Historic Sites

- Historic Sites
- NR Historic Districts

Wildland Urban Interface Type

- Wildland-Urban Intermix
- Wildland-Urban Interface
- Vegetated: Low Housing Density
- Vegetated: No Housing
- Non-vegetated
- Water

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773

Wildfire Hazard in Southbury

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

N

0 3,500 7,000
Feet

DATE 6/15/2021

141.3211.00029
PROJ. NO.

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
SBY-1	Support efforts to make the Heritage Village Activity Center/Community Center into a third shelter for the town	Selectman's Office	Drop	This shelter would be only for people from Heritage Village, but a true shelter must support entire community, not just specific populations. Therefore, Pomperaug High School (regional shelter) is a better choice to maintain as a large-scale shelter as it has a generator and sufficient capacity.
SBY-2	Pursue microgrid for the municipal buildings on Main Street South	Public Works	Carry Forward with Revision	Standby power supplies for certain facilities, with portable generator hookups as a backup, are a better option than a standalone microgrid and they would offer more flexibility. A microgrid with a single point of failure is a concern. A strategy is needed to standardize generator hookups for portable generator connections.
SBY-3	Acquire standby power for the town hall if the microgrid is not developed	Public Works	Complete	There is a now a generator at the Town Hall.
SBY-4	Identify ways to reduce confusion about duties of the Zoning Commission vs. the Zoning Board of Appeals	Planning	Capability	There is information on the Town website explaining commission duties.
SBY-5	Consider acquiring residences along Flood Bridge Road, River Hill Road, River Trail, Manor Drive, and Pomperaug Trail	Selectman's Office	Capability	This is a long-term capability that the Town can accomplish as properties and funding are available. Considerable progress has been made in the past. No specific acquisitions are in progress at this time.

Strategy	Description	Responsible Party	Status	Notes
SBY-6	Increase the conveyance capacity for the culvert at Jeremy Brook under Hull Hills Road at the intersection of Jeremy Swamp Road	Public Works	Complete	
SBY-7	Increase in the elevation and replace the bridge over Transylvania Brook at Spruce Brook Road.	Public Works	Complete	
SBY-8	Work toward development of an inventory and multi-year plan for addressing trees.	Public Works	Complete	The Town understands where problem areas are and track resident concerns with a work order management system. Tree management is ongoing and will never truly be finished. The Town retains an arborist to conduct inspections and identify areas of concern.
SBY-9	Provide educational materials to property owners regarding using shutters, storm windows, pipe insulators, and removing snow from flat roofs	Public Works	Drop	The Town notifies the public during heavy snow events to inform public about snow load concerns. Social media can be used for much of this outreach. Developers and property owners need to comply with the building code, and as some of these actions may require permits, education is best done through conversations with the Building Department.
SBY-10	Obtain EOPs/EAPs when they are completed	Public Works	Complete	The Town has copies for most dams.
SBY-11	Keep abreast of changes in the requirements for Class A, AA, and unranked dams; and compile information for these dams as it becomes available	Public Works	Capability	The Town corresponds with DEEP about dams.
SBY-12	Consider specifically including dam failure areas in the CodeRED emergency notification system.	Fire & EMD	Capability	CodeRED has the capability to target phone calls into specific areas of a community.
SBY-13	With regard to Long Meadow Pond Dam, support the Town of Bethlehem's efforts to address repairs to Long Meadow Pond Dam.	Public Works	Complete	The Town of Bethlehem has reportedly completed all planned projects to address the dam and downstream culverts, and has no further upgrades planned.
SBY-14	Pursue the acquisition of additional municipal open space properties inside SFHAs and set those aside as greenways, parks, etc.	Selectman's Office	Capability	This is a long-term capability that the Town can accomplish as properties and funding are available.

Strategy	Description	Responsible Party	Status	Notes
SBY-15	Develop greenways along rivers as homes are acquired and removed	Selectman's Office	Capability	This is a long-term capability that the Town can accomplish as properties and funding are available.
SBY-16	Oakdale Manor Road drainage system should be upgraded	Public Works	Complete	This road was repaved recently. A collapsed pipe was fixed, so that may have been the concern. There is also a pump station nearby, but no flooding concerns associated with that structure.
SBY-17	Install and repair storm drains and drainage systems on Lakeside Road and Lee Farm Road.	Public Works	Complete	Repairs have been completed. These areas have not been recent concerns for flooding.
SBY-18	Consider purchasing residences along Manor Dr and Pomperaug Tr that may be at risk from ice jams, and work with owners to educate about the benefits of floodproofing.	Selectman's Office	Capability	This is a long-term capability that the Town can accomplish as properties and funding are available.
SBY-19	When funds are available, place utilities underground along Main Street South (prior estimate was $4 million)	Public Works	Drop	This area is of concern when the power goes out as it includes many municipal facilities and essential services. There are design concerns about how the connection will occur from the electrical substation near Route 6. Town staff noted that they have done some major tree cutting to try to reduce vulnerability in this area. This is a long-term wish list item that will not occur over the next five years.
SBY-20	Ensure that municipal departments have adequate backup facilities in case earthquake damage occurs to municipal buildings.	Public Works	Capability	In general, the Town has adequate backup facilities but is not necessarily 100% redundant for all services. The Town's primary concern is maintaining backup communications (many cell towers are on battery backups) and the logistics of operating backup systems – the Town would like a strategy in the Plan to address communications concerns.
SBY-21	Evaluate critical facilities to determine if any interior systems should be braced.	Public Works	Carry Forward with Revision	Town will look into this (the IT racks may be secured already). An action may be needed upon further review.

Strategy	Description	Responsible Party	Status	Notes
SBY-22	Heritage Village Water Company should continue to extend the public water supply systems into areas that require water for fire protection.	Fire & EMD	Capability	Ultimately, the public water supply system is privately owned, and the Town can only encourage extensions short of directly funding them. If there are any specific water main extension projects the Town would be willing to fund, they could be listed as projects for the next five years.
SBY-23	Heritage Village Water Company & Southbury Training School should continue to identify and upgrade portions of the systems that are substandard for firefighting.	Fire & EMD	Capability	These systems are not owned by the Town. The EMD and FD regularly meet with these systems to identify substandard fire pressures. This is a capability.

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 SBY-01	
Take one of the following actions that will mitigate natural hazard risks while also meeting Sustainable CT objectives: 1. Disseminate a toolkit for pre-disaster business preparedness. 2. Revise regulations to promote Low Impact Development. 3. Include the goals of this Hazard Mitigation Plan, and at least three other sustainability concepts, in your next POCD update.	
Lead	Plan
Cost	$0 - $25,000
Funding	OB, CT DEEP, Sustainable CT
Timeframe	2022
Priority	High

Action SBY-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 SBY-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 SBY-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 SBY-05	
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	Plan, FS, NFIP Coordinator
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Low

Action SBY-06	
Increase Substantial Damage and Substantial Improvement lookback periods to two or more years.	
Lead	Plan, FS, NFIP Coordinator
Cost	$0 - $25,000
Funding	OB, FEMA Grant, CT DEEP
Timeframe	2022
Priority	Low

Action SBY-07	
Remain engaged with CIRCA's Resilient Connecticut project and utilize vulnerability mapping tools to help with local planning and project development.	
Lead	Plan
Cost	$0 - $25,000
Funding	OB, CT DEEP, Resilient CT
Timeframe	2022
Priority	Low

Action SBY-08	
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	Low

Action SBY-09	
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 SBY-10	
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 SBY-11	
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 SBY-12	
Evaluate critical facilities to determine if any interior systems should be braced (for example, IT racks should be secured).	
Lead	Public Works
Cost	$25,000 - $50,000
Funding	OB, CIP
Timeframe	2022 – 2024
Priority	Low

Action SBY-13	
Secure grant funding to perform flood mitigation along Old Waterbury Road.	
Lead	DPW
Cost	$100,000 - $500,000
Funding	OB, CIP, FEMA Grant
Timeframe	2024 – 2026
Priority	Low

Action SBY-14	
Repair River Road.	
Lead	EM
Cost	$100,000 - $500,000
Funding	OB, CT DEMHS
Timeframe	2024 – 2026
Priority	Low

Action SBY-15	
Identify a standardized portable generator hookup for use in critical facilies, and install or retrofit hookups to this standard, to facilitate easier deployment of portable generators as needed. Acquire additional portable generators compatible with standardized hookup.	
Lead	EM, DPW
Cost	$100,000 - $500,000
Funding	CIP, FEMA Grant
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	
SBY-01	Take one of the following actions that will mitigate natural hazard risks while also meeting Sustainable CT objectives: 1. Disseminate a toolkit for pre-disaster business preparedness. 2. Revise regulations to promote Low Impact Development. 3. Include the goals of this Hazard Mitigation Plan, and at least three other sustainability concepts, in your next POCD update.	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
SBY-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.	RLP	EM, Plan, FS	$0 - $25,000	OB	2022	1	1	1	0	1	1	0	0	0	0	0	0	0	0	7
SBY-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.	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
SBY-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
SBY-05	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.	Flood Regulations	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
SBY-06	Increase Substantial Damage and Substantial Improvement lookback periods to two or more years.	Flood Regulations	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
SBY-07	Remain engaged with CIRCA's Resilient Connecticut project and utilize vulnerability mapping tools to help with local planning and project development.	Resilient CT	Plan	$0 - $25,000	OB, CT DEEP, Resilient CT	2022	0	1	1	1	1	1	0	0	0	0	0	0	0	0	7
SBY-08	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
SBY-09	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.	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
SBY-10	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
SBY-11	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
SBY-12	Evaluate critical facilities to determine if any interior systems should be braced (for example, IT racks should be secured).	Critical Facility Protection	Public Works	$25,000 - $50,000	OB, CIP	2022 – 2024	0	0.5	1	0	1	1	0	0	0	0	0	0	0	0	5
SBY-13	Secure grant funding to perform flood mitigation along Old Waterbury Road.	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
SBY-14	Repair River Road.	Evacuation & Access	EM	$100,000 - $500,000	OB, CT DEMHS	2024 – 2026	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	3.5
SBY-15	Identify a standardized portable generator hookup for use in critical facilities, and install or retrofit hookups to this standard, to facilitate easier deployment of portable generators as needed. Acquire additional portable generators compatible with standardized hookup.	Backup Power	EM, DPW	$100,000 - $500,000	CIP, FEMA Grant	2025 – 2027	0.5	0.5	1	1	0	1	0	0	0	0	0	0	-1	-1	3.5

APPENDIX B

RECORD OF MUNICIPAL ADOPTION

CERTIFICATE OF ADOPTION
SOUTHBURY BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE NAUGATUCK VALLEY COUNCIL OF GOVERNMENTS HAZARD MITIGATION PLAN UPDATE, 2021-2026

WHEREAS, the Town of Southbury 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 Southbury Board of Selectmen approved the previous version of the Plan in 2014; and

WHEREAS, the Town of Southbury 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 Southbury; and

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

WHEREAS, adoption of this Plan will make Southbury eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Southbury;
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 Board of Selectmen.

Adopted this 18th day of November, 2021 by the Board of Selectmen of Southbury, Connecticut

First Selectman

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of Southbury this 19 day of NOV, 2021.

Town Clerk

APPENDIX C

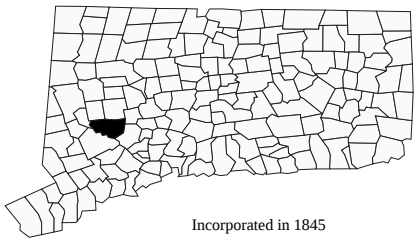
CERC Town Profile 2019

Southbury, Connecticut

CERC Town Profile 2019 *Produced by Connecticut Data Collaborative*

Town Hall
501 Main Street South
Southbury, CT 06488
(203) 262-0647

Belongs To
New Haven County
LMA Bridgeport - Stamford
Naugatuck Valley Planning Area



Incorporated in 1845

Demographics

Population

	Town	County	State
2000	18,567	824,008	3,405,565
2010	19,904	862,477	3,574,097
2013-2017	19,675	862,127	3,594,478
2020	19,357	898,514	3,604,591
'17 - '20 Growth / Yr	-0.5%	1.3%	0.1%

	Town	County	State
Land Area (sq. miles)	39	605	4,842
Pop./Sq. Mile (2013-2017)	505	1,426	742
Median Age (2013-2017)	52	40	41
Households (2013-2017)	7,756	327,402	1,361,755
Med. HH Inc. (2013-2017)	$90,324	$64,872	$73,781

	Town	State
Veterans (2013-2017)	1,322	180,111

Race/Ethnicity (2013-2017)

	Town	County	State
White Non-Hisp	17,395	553,000	2,446,049
Black Non-Hisp	242	105,661	350,820
Asian Non-Hisp	680	33,678	154,910
Native American Non-Hisp	10	783	5,201
Other/Multi-Race Non-Hisp	290	20,448	84,917
Hispanic or Latino	1,058	148,446	551,916

	Town	County	State
Poverty Rate (2013-2017)	7.7%	12.1%	10.1%

Educational Attainment (2013-2017)

	Town		State	
High School Graduate	3,022	21%	673,582	27%
Associates Degree	1,224	8%	188,481	8%
Bachelors or Higher	7,370	51%	953,199	38%

Age Distribution (2013-2017)

	0-4		5-14		15-24		25-44		45-64		65+		Total	
Town	993	5%	2,290	12%	1,936	10%	2,977	15%	5,937	30%	5,542	28%	19,675	100%
County	45,072	5%	100,549	12%	120,727	14%	216,208	25%	240,037	28%	139,534	16%	862,127	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%

Economics

Business Profile (2018)

Sector	Units	Employment
Total - All Industries	668	7,878
23 - Construction	52	247
31-33 - Manufacturing	8	27
44-45 - Retail Trade	63	831
54 - Professional, Scientific, and Technical Services	102	1,124
62 - Health Care and Social Assistance	84	1,520
Total Government	21	1,458

Top Five Grand List (2018)

	Amount
CL & P 38,220,640	-$9,999
IBM 19,580,840	-$9,999
Heritage Village Water 11,549,830	-$9,999
Comsat 4,258,130	-$9,999
Banc of America Leasing 4,170,110	-$9,999
Net Grand List (SFY 2016-2017)	$2,120,635,420

Major Employers (2014)

Southbury Training School
Kmart
Heritage Resort & Conference
Heritage Master Assoc Inc
Shop Rite Supermarket

Education

2018-2019 School Year

	Grades	Enrollment
Regional School District 15	PK-12	3628

Smarter Balanced Test Percent Above Goal (2017-2018)

	Grade 3		Grade 4		Grade 8	
	Town	State	Town	State	Town	State
Math	77.8%	53.8%	78.7%	51.3%	53.3%	43.0%
ELA	69.6%	53.1%	72.8%	54.9%	66.0%	56.1%

Pre-K Enrollment (PSIS)

	2018-2019
Regional School District 15	61

Rate of Chronic Absenteeism (2017-2018)

	All
Connecticut	10.7%
Regional School District 15	4.1%

4-Year Cohort Graduation Rate (2017-2018)

	All	Female	Male
Connecticut	88.3%	91.8%	85.1%
Regional School District 15	94.5%	96.1%	93.3%

Public vs Private Enrollment (2013-2017)

	Town	County	State
Public	85.4%	88.2%	86.8%
Private	14.6%	11.8%	13.2%

Southbury, Connecticut

CERC Town Profile 2019

Connecticut Economic Resource Center

Government

Government Form: Selectman - Town Meeting

Total Revenue (2017)	$67,528,535	Total Expenditures (2017)	$62,244,095	Annual Debt Service (2017)	$1,241,475
Tax Revenue	$61,235,925	Education	$45,470,046	As % of Expenditures	2.0%
Non-tax Revenue	$6,292,610	Other	$16,774,049	Eq. Net Grand List (2017)	$3,110,267,822
Intergovernmental	$4,489,954	Total Indebtedness (2017)	$12,830,310	Per Capita	$158,922
Per Capita Tax (2017)	$3,124	As % of Expenditures	20.6%	As % of State Average	105.3%
As % of State Average	106.6%	Per Capita	$656	Moody's Bond Rating (2017)	Aa2
		As % of State Average	26.1%	Actual Mill Rate (2017)	28.80
				Equalized Mill Rate (2017)	19.66
				% of Net Grand List Com/Ind (2017)	13.6%

Housing/Real Estate

Housing Stock (2013-2017)

	Town	County	State
Total Units	8,571	365,546	1,507,711
% Single Unit (2013-2017)	58.1%	53.6%	59.2%
New Permits Auth (2017)	12	750	4,547
As % Existing Units	0.1%	0.2%	0.3%
Demolitions (2017)	2	202	1,403
Home Sales	NA	4,763	21,880
Median Price	$325,000	$244,400	$270,100
Built Pre-1950 share	11.6%	33.2%	29.3%
Owner Occupied Dwellings	6,714	204,037	906,798
As % Total Dwellings	86.6%	62.3%	66.6%
Subsidized Housing (2018)	129	46,013	167,879

Distribution of House Sales

	Town	County	State
Less than $100,000	NA	106	536
$100,000-$199,999	NA	1,232	5,237
$200,000-$299,999	NA	1,785	6,681
$300,000-$399,999	NA	888	3,863
$400,000 or More	NA	752	5,563

Rental (2013-2017)

	Town	County	State
Median Rent	$1,494	$1,100	$1,123
Cost-burdened Renters	63.4%	54.5%	52.3%

Labor Force

	Town	County	State
Residents Employed	8,365	438,576	1,827,070
Residents Unemployed	344	20,171	78,242
Unemployment Rate	3.9%	4.4%	4.1%
Self-Employed Rate	11.1%	8.5%	10.0%
Total Employers	668	24,958	122,067
Total Employed	7,878	366,848	1,673,867

Connecticut Commuters (2015)

Commuters Into Town From:		Town Residents Commuting To:	
Southbury, CT	1,099	Southbury, CT	1,099
Waterbury, CT	698	Danbury, CT	809
Danbury, CT	325	Waterbury, CT	552
Naugatuck, CT	306	Newtown, CT	378
Watertown, CT	291	Hartford, CT	306
Woodbury, CT	244	New Haven, CT	242
Newtown, CT	240	Shelton, CT	241

Quality of Life

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

	Town	State
Property	798	1,777
Violent	15	228

Disengaged Youth (2013-2017)

	Town	State
Female	0.0%	4.2%
Male	7.7%	5.6%

	Town
Library circulation per capita	14.05

Distance to Major Cities

	Miles
Hartford	35
New York City	67
Providence	97
Boston	129
Montreal	282

Residential Utilities

Electric Provider
The United Illuminating Co.
(800) 257-0141

Gas Provider
Eversource Energy
(800) 989-0900

Water Provider
Aquarion Water Company
(800) 732-9678

Cable Provider
Charter Communications of Western CT
(800) 827-8288