

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

Municipal Annex  
for  
**ANSONIA, CT**



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MMI #3211-29

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## 1.0 INTRODUCTION

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### 1.1 Purpose of Annex

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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

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A meeting was held with Ansonia representatives on October 29, 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, Jared Heon.

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

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Ansonia lies within the landscape region of Connecticut called the "Naugatuck River Valley," which extends from Torrington to Derby and includes the city of Waterbury. The Route 8 corridor and the Waterbury branch of the Metro-North railroad line span this region.

In general, the topography of the region increases in elevation moving from the shorelines of the major rivers (the Housatonic and Naugatuck Rivers, which are nearly at sea level) to the east and/or west of either river. Within the region, elevations of 500 feet or greater are found along western and southwestern Seymour and western Shelton while there are a few other smaller, more concentrated areas of this elevation in northern and eastern Seymour and northeastern Ansonia.

The highest elevation in Ansonia is approximately 530 feet just to the north of the military reserve at the end of Osborne Lane in Woodbridge.

## 1.4 Land Cover

High-density industrial centers developed in the 19<sup>th</sup> and 20<sup>th</sup> centuries in downtown Ansonia, and remains the highest-density part of the City. Despite its urban core, the City is suburban on the whole, with populations that flourished during the last century as Connecticut's highway network was superimposed on its historical industrial centers. A decrease in developed land cover is evident with greater distance from either river. Small pockets of open space and rural land cover are found in other sections of the City.

Northeastern Ansonia is predominantly forested. Agricultural land use is minimal in Ansonia. Although residential land uses are interspersed throughout the City, higher density residential and nonresidential land uses are situated near the Naugatuck River and the Route 8 corridor.

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 36% of Ansonia is forested and approximately 48% is developed.

**Table 1-1: 2015 Land Cover by Area**

Land Cover	Area (acres)	Percent of Community
<b>Developed</b>	1,920.4	48.01%
<b>Turf &amp; Grass</b>	382.4	9.56%
<b>Other Grass</b>	43.3	1.08%
<b>Agricultural Field</b>	32.3	0.81%
<b>Deciduous Forest</b>	1,378.0	34.45%
<b>Coniferous Forest</b>	38.2	0.95%
<b>Water</b>	125.1	3.13%
<b>Non-Forested Wetland</b>	14.7	0.37%
<b>Forested Wetland</b>	42.5	1.06%
<b>Tidal Wetland</b>	0.0	0.00%
<b>Barren</b>	23.2	0.58%
<b>Utility Row</b>	0.0	0.00%
<b>Total</b>	<b>4,000</b>	<b>100%</b>

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

## 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 Ansonia.

The City is located in the northeastern part of the Appalachian Orogenic Belt, also known as the Appalachian Highlands, which extend from Maine southward to Mississippi and Alabama. The Appalachian Highlands were formed when Pangaea assembled during the late Paleozoic era. The region consists primarily of schist, granulite, and gneiss lying in fairly diagonal bands stretching from northeast to southwest in the same general orientation as the region. This bedrock is cut through by numerous thrust faults.

One main fault, the "East Derby Fault," is oriented from northeast to southwest and runs to the east of Route 8 through the eastern portion of Ansonia. Upon reaching the Shelton town line, the fault and the roadway are generally positioned in the same orientation from northeast to southwest. The East Derby Fault stretches from Bethany southwest to Bridgeport over a span of approximately 16.25 miles. The fault is classified as "FTO," an overturned thrust fault, and is currently inactive. There is one geologic contact (classified as "C") that branches off the East Derby Fault in Shelton.

Glaciers began forming in the northern hemisphere about three million years ago. Since then, the southernmost portions of these glaciers covered the region on at least two occasions. At the end of the ice age, the last of the glaciers' mineral holdings were released with the melting ice. The region's different formations born of bedrock while exposed to hydrological, atmospheric, and glacial processes include glacial till, **stratified drift**, rivers and lakes, outwash plains, and coastal formations.

**Stratified drift** formations were deposited in valleys by glacial streams. These valleys were later inherited by the larger of our present-day streams and rivers. Thus, stratified drift is generally coincident with inland floodplains.

The amount of stratified drift also has bearing on the relative intensity of earthquakes and the likelihood of soil subsidence in areas of fill.

## 1.6 Drainage Basins and Hydrology

The City is divided among two subregional watersheds. The Naugatuck River drains the majority of Ansonia, with the southeastern portion of the City falling within the Housatonic River mainstem watershed. Additionally, a very small portion of the easternmost edge of the City is within the Wepawaug River subregional watershed.

Watercourses in Ansonia – Beaver Brook, its unnamed tributaries, and other streams flow to the Naugatuck River while Twomile Brook flows southward toward Derby and the Housatonic Main Stem.

## 1.7 Climate and Climate Change

### Climate

In Ansonia, the summers are warm, humid, and wet; the winters are very cold; and it is partly cloudy year round. Over the course of the year, the temperature typically varies from 22°F to 81°F and is rarely below 7°F or above 88°F.

The warm season lasts for 3.5 months, from June 2 to September 17, with an average daily high temperature above 72°F. The hottest day of the year is July 21, with an average high of 81°F and low of 65°F. The cold season lasts for 3.3 months, from December 4 to March 13, with an average daily high temperature below 45°F. The coldest day of the year is January 29, with an average low of 22°F and high of 35°F.

The wetter season lasts 4.3 months, from April 10 to August 19, with a greater than 29% chance of a given day being a wet day. The chance of a wet day peaks at 35% on May 30. The drier season lasts 7.7 months, from August 19 to April 10. 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 3.9 inches. The snowy period of the year lasts for 5.0 months, from November 13 to April 11, 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 26, with an average total liquid-equivalent accumulation of 1.0 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<sub>2</sub> 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 Ansonia as 4.99 inches.

The NOAA Atlas 14, released on September 30, 2015 puts the 24-hour rainfall amount for a 10% annual-chance storm in Ansonia at 5.66 inches.

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

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

Source	24-Hour Rainfall Amount (inches) by Annual-Chance Occurrence		
	10%	4%	1%
<b>Technical Paper No. 40</b>	5.0	5.6	7.1
<b>NRCC</b>	5.0	6.2	8.7
<b>NOAA Atlas 14</b>	5.7	6.9	8.8

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 Ansonia 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

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The 2010 U.S. Census reported a population in Ansonia of 18,802 individuals. U.S. Census Bureau estimates for 2019 show a population around 20,265 individuals, an increase from 2010 of 7.8%. The Connecticut State Data Center predicts that population will increase by 0.7% through 2025 to an estimated population of 2,912 individuals.

According to the Connecticut Data Collaborative, the number of annual housing permits in Ansonia decreased somewhat over the last decade. The number of permits issued in 2010 and 2011 was 5 and 2, respectively, while 0 permits were issued in 2016, and 6 permits were issued in 2017. On average, 3 housing permits were issued each year in Ansonia between 2010 and 2017.

According to the U.S. Census Bureau, the overall number of housing units in Ansonia rose by approximately 6.6-percent between 2010 and 2019, from 8,148 units in 2010 to 8,728 units in 2019. In 2019, the housing stock was made up of approximately 56% single-unit structures, 25% two-unit structures, 19% multi-unit structures, and 0% mobile-homes or other types of structures.

According to the Connecticut Office of Policy and Management, Ansonia's 2019 Total Equalized Net Grand List was valued at \$998,000,000. 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 Ansonia, included as Appendix C.

Similar to many communities in the Naugatuck Valley, residential development in the area is concentrated along the Route 8 corridor and the Naugatuck River. On the whole, almost all developable parcels surrounding the Route 8 corridor within the City have been developed to date. Due to the smaller land area size of the City, developable parcels are generally sparse throughout.

The City saw a virtual halt in development during the economic hardships beginning in 2008, similar to residential and commercial development trends across the state and the rest of the United States. Development has resumed in recent years, with a major focus in Ansonia of redevelopment of existing sites.

According to the 2018 Plan of Conservation and Development (POCD), the historically industrial areas adjacent to the east and west of the Naugatuck River are to be redeveloped as mixed-use commercial land uses, with more dense residential development incorporated to support the commercial development. Additionally, an increasing residential density in the City center will result in three-unit and above multi-

family housing in the City Center Zone. This will encourage commercial services locating to this area to support the residential needs.

According to the 2019 NVCOG Transit Oriented Development (TOD) Scenario Report, there are approximately 72 acres of vacant or underutilized land around Ansonia's Metro North station that have TOD potential. If redeveloped and fully infilled, this land in the center of Ansonia could yield a total TOD development mix of some 1,200 housing units and over 1.3 million square feet of commercial building area mostly within a half-mile (reasonable walking distance) of the train station. Regarding the Metro North Waterbury branch line itself, the report mentions that the City of Ansonia is advocating for improvements to service and frequency including state purchasing of "new equipment and increasing the number of daily trains that stop at the Ansonia Train Station."

A bridge over the railroad tracks along the Naugatuck River Greenway was recently completed, increasing connectivity along this popular recreational trail. The Greenway trail has seen extensive use during the pandemic, and is considered an important asset for attracting development in Ansonia.

A major multi-use redevelopment project is planned for the property at 36 Olsen Avenue. While final plans have not yet been submitted, conceptual plans have included duplexes and a sports complex. Redevelopment at this property has reportedly been stalled due to concerns on the part of the US Department of Housing and Urban Development (HUD) because the site was previously used as low-income housing.

The demolition of a former factory near Liberty Street, classified as a brownfield site, is a top priority for the City over the next few years. The proposed remediation project includes the clearing of 40 to 70 acres and the construction of a new connector into Ansonia from Route 8 on the site. Other projects to renovate or rehabilitate unused or contaminated sites in the downtown area have been completed in recent years, or are being planned for coming years. An old factory at 36-70 Main Street has been renovated in the last few years. Another project resulted in the creation of new apartments for elderly and disabled residents.

### Summary

While a notable amount of new residential development has occurred in Ansonia over the past five years, this has been focused within existing developed areas, and has included redevelopment of existing sites. New land within hazard zones has not been developed, and new residences are near existing emergency and other services. Overall, recent development in Ansonia has not increased natural hazard risks. Similarly, continuation of these trends are not expected to increase natural hazard risks over the next five years; in fact, the focus on redevelopment, densification, and TOD is expected to reduce risk exposure and increase mitigation capabilities (such as through improved access to transportation services in case of evacuation).

## **1.9 Historic and Cultural Resources**

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



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

**Historic 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 resources in Ansonia 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

Ansonia is considered to have a Moderate to High level of social vulnerability, with a higher vulnerability scores for the SVI categories of Household Composition & Disability and Socioeconomic Status. In other words, particular challenges in Ansonia may include the presence of residents who need additional assistance during a disaster event, and a lack of access to financial resources.

## 2.0 MUNICIPAL CAPABILITIES

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### 2.1 Governmental Structure and Capabilities

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Ansonia is managed by a mayor and Board of Aldermen system. The mayor appoints the Board of Aldermen following election.

Appropriate municipal departments, commissions, and boards are involved with natural hazard mitigation. The following subsections describe general departmental responsibilities, and duties related to natural hazard mitigation within the City. Where applicable, one or more of the six types of mitigation (prevention, property protection, natural resource protection, structural projects, emergency services, and public education) are identified as relevant for each department.

#### **Public Works Department and Commission**

In Ansonia, the Public Works is under the general supervision of the Board of Aldermen. This department is responsible for planning, organizing, and administering the public works operations as well as managing the public works staff and budget. Responsibilities include directing highway construction and maintenance procedures.

As is common throughout Connecticut, the Public Works Department is often charged with implementing numerous structural projects that are related to hazard mitigation. Specifically, roadway/infrastructure maintenance and complaint logging/tracking are the two primary duties of the Public Works Department. For example, the Public Works Department tracks, plans, prepares for, and responds to flooding, inundation, and/or erosion of roads and infrastructure such as the sewer pumping station and the wastewater treatment plants. The Public Works Department also conducts snow removal and deicing on roads; tree and tree limb maintenance; and the appropriate maintenance and upgrades of storm drainage systems to prevent flooding caused by rainfall.

Because of the duties described above, Public Works Department personnel are often the de facto first responders during emergencies. The Public Works Department must maintain access for the Police and Fire Departments to respond to emergencies.

Within Ansonia, the Public Works Commission is appointed by the Board of Aldermen. Collectively, the commissions are charged with the following:

- Management and oversight of the Public Works Department
- Development of a proposed budget estimating anticipated expenditures and revenues for the operations of the Public Works Commission for each fiscal year
- Review of the municipality's needs with respect to public works and making such recommendations to the Board of Aldermen and other municipal agencies and departments as it deems appropriate
- Establishment of regulations for the effective operation of the Public Works Department including the duties of the department and its superintendent or director with respect to construction and maintenance of municipal buildings, highways, sidewalks, sewers and drains,

- the care of trees and grounds, collection and disposal of garbage and rubbish, and maintenance of apparatus and equipment used by the Department of Public Works
- Review and approval of the department's maintenance and repair of such other apparatus and equipment as may be used by other agencies or departments of the municipality upon request of such agencies or departments

### **Building and Engineering Departments**

The City has Building and Engineering personnel. The Building Official administers the City's building inspection program adhering to and enforcing all code requirements of the State of Connecticut relating to building construction. Additional responsibilities include administering and enforcing all related state codes for the safety, health, and welfare of persons and properties in the municipality, supervising departmental policies and procedures, and providing technical assistance to municipal officials.

The Building Official has a unique responsibility when it comes to hazard mitigation as he or she is responsible for overseeing a number of codes such as those related to wind damage prevention as well as those related to inland flood damage prevention. Although other departments and commissions may review development plans and develop or revise regulations, many important types of pre-disaster mitigation are funneled through and enforced by the Building Department. For example, the Building Department enforces standards for floodproof construction and building elevations, maintain elevation certificates, and enforce building codes that protect against wind and fire damage. Thus, the types of mitigation that are administered by the Building Department include prevention and property protection.

The City Engineer plans, directs, and coordinates engineering contracts and construction projects, including bridges, sanitary, and different developments. The Engineer provides technical consultation to municipal boards and commissions and serves as the municipal liaison with various state agencies. As such, the Engineer will often need to review issues related to drainage, flood conveyance, and flood mitigation and related elements of structural hazard mitigation.

**Local NFIP Coordinator responsibilities are currently shared by the City Engineer and the Zoning Enforcement/Inland Wetland Officer.**

### **Fire Department and Emergency Management Department**

The Fire Department and Emergency Management Departments are the primary entities involved with hazard mitigation through emergency services in the City.

### **Police Department**

Typical day-to-day duties of the Police Department include crime prevention, criminal investigations, traffic enforcement, motor vehicle accident investigations, and patrols. Duties related to natural hazard mitigation include planning and coordination of personnel, equipment, shelters, and other resources necessary during an emergency. The types of mitigation that are directly administered by the Police Department include mainly emergency services and public education. Communication and coordination with the Fire Department is critical before, during, and after natural hazard emergencies.

Damage to individual properties from hazards is currently tracked through filed police reports, however, there is no electronic database. The new City CFO and the EMD have been discussing the need for an electronic record system for incidents, investigations, and resolutions.

## **Planning Department**

Planning and Zoning Commissions and municipal planning or land use staff are in charge of planning provide assistance to other applicable departments within the municipality, including the Building and Engineering personnel, and are responsible for housing and economic development planning. The Zoning Enforcement Officers/Inland Wetlands Enforcement Officers enforce the zoning regulations and are the administrators of the inland wetlands regulations on issues of zoning compliance.

Because the Planning staff assist the applicable commissions with administration of the Zoning Regulations, Subdivision Regulations, and Inland Wetland Regulations (described below in Section 2.8), the municipal departments are responsible for elements of almost all six facets of mitigation (prevention, property protection, natural resource protection, structural projects, emergency services, and public education).

## **Commissions Related to Hazard Mitigation**

In addition to the Public Works Commission and Emergency Management Committee described above where applicable, several commissions are involved with hazard mitigation:

- Conservation Commission – Charged with the development, conservation, supervision, and regulation of natural resources and water resources (hazard mitigation through natural resource protection)
- Inland Wetlands and Watercourses Commission – Charged with implementing and enforcing all provisions of the Connecticut General Statutes as regards the Inland Wetlands and Watercourses Act (hazard mitigation through prevention, natural resource protection, and structural projects)
- Planning and Zoning Commission – Charged with establishing, implementing, and overseeing planning and zoning regulations as provided by the Connecticut General Statutes (hazard mitigation through prevention, property protection, natural resource protection, structural projects, emergency services, and public education)
- Public Works Commission – As noted above
- Fire Commission

### **2.1.1 Existing Plans and Regulations**

#### Plans of Conservation and Development

The Ansonia Planning and Zoning Commission adopted the most recent update to the POCD in June 2008. The POCD is organized into six sections that cover conservation, development, and infrastructure strategies and recommendations. Section 3 identifies SFHAs, slopes in excess of 25%, wetlands as "significant conservation areas," and 500-year floodplains as "important conservation areas." The POCD notes that Ansonia already protects wetlands and SFHAs but notes that Ansonia "should consider strengthening regulations related to development on steep slopes and... 500-year floodplain areas." The listed conservation strategies are:

- Continue to enforce the 100-foot regulated area from wetlands.
- Consider adopting regulations to provide green space between development and the Naugatuck River.
- Discourage building and road development on steep slopes (15% or greater).
- Continue to allow exceptions for preservation of natural features.
- Create inventory of open spaces and identify opportunities for creation of parks.
- Preserve more open space to preserve natural resources.
- Study the feasibility of an elevated walkway along the Naugatuck River flood retaining wall.
- Encourage preservation of open space by private organizations.

All eight strategies are considered consistent with the goals of this HMP.

Section 5 of the POCD notes that "In order to lessen the effects of more utility poles and aboveground wires, all wired utilities should be placed underground. In addition, as improvements and redevelopment occurs in commercial and residential areas, consideration should be given to burying existing utilities." Infrastructure strategies numbers 18 and 19 articulate these goals and are considered consistent with the goals of this HMP.

#### Emergency Operations Plan

The Ansonia EOP was most recently updated in 2009.

Sections I and II of the City's EOP provide its purpose and assumptions. Section III of each EOP describes mitigation, increased readiness, emergency phase operations, and recovery phase operations. The EOP may list snowfall, ice storms, blizzards, hazardous material incidents, aircraft accidents, hurricanes, tornadoes, flooding, electrical storms, major fires, energy/fuel shortages, forest fires, dam failures, water contamination, earthquakes, and highway accidents as hazards covered by the EOP. Specific mitigation measures typically include the following:

1. Carry out hazard mitigation activities appropriate to the functions of departments, agencies, and offices
2. Restrict development in hazardous areas consistent with the degree of risk
3. Promote fire prevention
4. Work with commerce and industry to improve hazardous materials storage, use, transport, and disposal
5. Encourage public safety at all levels
6. Maintain a stock of sandbags
7. Develop and maintain all-hazard evacuation and mass care annexes with predesignated evacuation routes and shelter facilities
8. Maintain mutual aid agreements with neighboring communities
9. Maintain a radiological protection reference guide

Section IV of the EOP sets and describes roles and responsibilities. The EMD coordinates with the Chief Elected Official and other agencies. Roles of the Fire Department, Police Department, Health District, Public Works Department, and other specific people are also described. In Ansonia these are the Warning Coordinator, Emergency Operations Center [EOC] Manager, Communications Coordinator, Public Information Officer, Evacuation Coordinator, Shelter/Mass Care Coordinator, Resource Manager, Superintendent of Schools, and Animal Care Coordinator).

Section V of the EOP describes administration and logistics. This section also describes the duties of the American Red Cross (ARC) and Salvation Army such as provision of food, clothing, and various types of assistance. Section VI of the EOP describes plan maintenance. Section VII of each provides various attachments, such as templates for declaring an emergency.

### Zoning Regulations

The Ansonia Zoning Regulations were adopted in 1977 and have been amended through April 2011. The regulations are administered by the Planning and Zoning Commission.

- Section 220 of the Ansonia Zoning Regulations describes the Flood Plain District. The section sets forth the policies for administration and the detailed standards for flood damage prevention, which are generally a duplicate of the NFIP regulations. The Zoning Regulations were amended in 2011 to make reference to the December 2010 FIS and FIRM for New Haven County. Ansonia's regulations require that new residential structures must have the lowest floor elevated to one foot above the base flood elevation. The regulations require compensatory storage in flood zones and also require that floodplain encroachments shall not result in any ("0.00 feet") increase in base flood elevations.
- Sections 260.8 and 260.9 describe appeals and variances for the Flood Plain District. These sections limit the conditions under which a variance can be issued and also restrict variances to lots that are less than one-half acre in size and generally surrounded by lots with structures below base flood elevations.
- Section 520 describes soil erosion and sediment control, including the standards for soil erosion and sediment control and the need for developing soil erosion and sediment control plans.

### Subdivision Regulations

The Planning and Zoning Commission administers the Subdivision Regulations. These regulations were adopted in 1983 and have been amended through April 2011. Components of the regulations that directly or indirectly address hazard mitigation (flooding, public safety, etc.) are listed below:

- Section 2.3.10 requires assurances that a subdivision in a SFHA will not decrease the carrying capacity of a watercourse and that flood elevations will not increase as a result of construction, grading, excavation, etc.
- Section 2.3.11 requires a soil erosion and sediment control plan, and Section 3.9 provides the standards for such plan.
- Section 3.5 describes special considerations for flood hazard areas and floodways. When land to be subdivided is within a flood hazard area or floodway, the section requires that lots, streets, drainage, and other improvements shall be designed to be capable of use without danger from flooding. When base flood elevations are not available, the applicant must commission an engineering study to generate base flood elevations.

- Schedule C provides right-of-way and paved roadway widths, grades, etc. The design storm for on-site drainage is 25 years, and culverts are designed for the 50-year storm.

### Inland Wetland and Watercourses Regulations

The Inland Wetlands Commission is charged with administering the Inland Wetlands and Watercourses Regulations. These regulations were adopted in 1976 and amended in December 2000. In Connecticut, wetlands are identified as related to flood hazard mitigation within the state enabling regulations, and this is often stated as such in the title section of local regulations. The same is true in the Ansonia Inland Wetlands and Watercourses Regulations. Section 2.1.7 of the regulations sets a regulated review area of 100 feet from edge of wetlands. The majority of the regulations describe procedures, appeals, amendments, etc.

## **2.2 Infrastructure**

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### **Transportation**

The primary transportation routes into and out of the City are Route 8 and Route 115 running north-south, and Route 243 running east-west. Other key roads include Route 334, Wakelee Ave, Franklin St, Maple St, Olson Dr, Pershing Dr, Beaver St, Hill St, Jewett St, and Marshall Lane. There are only two bridges connecting the east and west sides of the City over the Naugatuck River: the Bridge Street Bridge and the Maple Street Bridge.

Ansonia is served by the Valley Transit District public transportation system, and by the CT transit bus system. The City also has a commuter rail station on the Waterbury Branch of the Metro-North Railroad's New Haven Line.

### **Utilities**

Public water in Ansonia is provided by the South Central Connecticut Regional Water Authority.

United Illuminating is the primary electricity provider in Ansonia. Natural gas service is provided by Eversource.

According to geoISP (geoISP.com), there are 1 DSL Providers, 2 Cable Internet providers, 2 Fiber Internet (FTTH) providers, and 0 Fixed Wireless (WISP) providers in Ansonia, CT. There are also 4 Mobile Broadband (cellular) providers with service available in Ansonia.

## **2.3 Critical Facilities and Emergency Response**

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

**Table 2-1: Critical Facilities**

Facility	Address or Location	Type	Emergency Power	Shelter	SFHA
<b>Police Department</b>	2 Elm Street	EOC	✓		
<b>Fountain Hose Co. No. 1</b>	191 Howard St.	Fire Dept.			
<b>Webster Hose Co. No. 3</b>	67 Platt St.	Fire Dept.	✓		
<b>Charters Hose Co. No. 4</b>	4 Murray St.	Fire Dept.			
<b>Hilltop Hose Co. No. 5</b>	80 Pulaski Hwy.	Fire Dept.	✓		
<b>Eagle Hose Co. No. 6</b>	1 Main St.	Fire Dept.			
<b>Public Works &amp; WPCA Complex</b>	1 North Division St	Utility	✓		✓*
<b>City Hall</b>	253 Main Street	Municipal			
<b>Ansonia Rescue Medical Services (ARMS)</b>	22 West Main St	EMS Supply Distribution	✓		✓*
<b>Armory</b>	6 State Street	Municipal			
<b>14 WPCA Sewer Pump Stations</b>	Multiple Locations	Utility	✓**		✓
<b>High School</b>	20 Pulaski Hwy.	Primary Shelter (Regional)	✓	✓	
<b>Middle School</b>	115 Howard Ave.	Secondary Shelter	✓	✓	
<b>John C. Mead School</b>	75 Ford Street	Tertiary Shelter Animal Shelter	✓	✓	
<b>Prendergast School</b>	59 Finney St.	Emergency Communications	✓		
<b>Julia Day Nursery &amp; Kindergarten</b>	76 Central Street	Daycare			✓*
<b>Ansonia Community Action</b>	4 Fourth Street	Daycare			
<b>Valley YMCA</b>	12 State Street	Daycare			
<b>Boys &amp; Girls Club</b>	28 Howard Ave.	Daycare			
<b>John J. Stevens Apts.</b>	75 Central Street	Elderly housing			✓*
<b>Monsignor Hynes Apts.</b>	70 Woodlawn Ave	Elderly housing			
<b>James J. O'Donnell Apts.</b>	63 Woodlawn	Elderly housing			
<b>Riverview Apts.</b>	15 West Main St	Disabled & Elderly			✓*
<b>Capital Plaza Apartments</b>	290 Main St	Disabled & Elderly			✓*
<b>Beaver Brook Apartments</b>	445 Beaver St & 110 Woodbridge Ave	Low-Income housing			
<b>United Illuminating Co. Substation</b>	Riverside Drive	Electrical	✓		✓*

\* Facility is located in a FEMA Zone designated as "X-Area with Reduced Flood Risk due to Levee"

\*\* Two of the 14 pump stations have generators. See text for more detail.

## Emergency Response Capabilities

### Municipal Facilities

City Hall is home to critical records and departments, the city-wide phone system, and network servers. City staff report that the building requires a generator.

The Armory is a gymnasium with a few associated offices. The facility is used for public programs, public meetings, youth sports, and is a polling location; therefore, it is considered a critical facility.



### Fire Department Facilities

The Ansonia Fire Department is comprised of five firehouses that are staffed by volunteer men and women who train year-round to develop and maintain their firefighting skills. The five firehouses that comprise the Ansonia Fire Department are Fountain Hose Company No. 1 located at 191 Howard Avenue, Webster Hose Company No. 3 at 67 Platt Street, Charters Hose Company No. 4 at 4 Murray Street, Hilltop Hose Company No. 5 at 80 Pulaski Highway, and Eagle Hose Company No. 6 at 1 Main Street. The Hilltop Hose Company No. 5 has radio communication technologies and is the city's backup EOC. Generators have been installed at two of the fire stations. The other three stations still need permanent generators. None of the firehouses is located in a flood zone.

### Police Department Facilities

The Ansonia Police Department is located at 2 Elm Street and is the city's EOC. Ansonia is currently redeveloping the former Farrel Corporation headquarters on 65 Main Street into a new Police Department and Emergency Operations Center, which will be equipped with a generator. Upon completion, the Police Department and EOC will move out of its current location at 2 Elm Street and into this new facility. It is unknown at this time what will become of the old building. Neither the current Police Department nor the new facility is located in a flood zone.

### Public Works Facilities

The City believes that the Public Works facility is situated in appropriate locations relative to hazard mitigation, disaster resiliency, and outside of FEMA flood zones. The Public Works and Water Pollution Control Authority (WPCA) complex at 1 North Division Street has a generator that powers the entire facility. This facility is also the refueling station for both Ansonia and the City of Derby.

### Wastewater Pump Stations

There are 14 wastewater pump stations in Ansonia, some of which are located within the 1% annual-chance flood zone (Zone AE) of the Naugatuck River.

Two pump stations have permanent generators. Backup power for the remaining 12 is reportedly not essential for the system to function; however, it is necessary to pump out those stations approximately every eight hours when the power is out. The City reports that such pump-out activities were necessary during Tropical Storm Isaias. The City desires to have a standardized portable generator hookup at each sewer pump station and a dedicated portable generator that can be used to pump the chambers down on a rotating basis.

The City would also like to connect the pump stations to the WPCA through a Supervisory Control and Data Acquisition (SCADA) system. Currently, the pump stations operate automatically, but an operator needs to visit regularly to check the effluent stage in the chamber. Being able to track the effluent stage from the WPCA would allow for better management and better prioritization during power outages.

### Evacuation Preparedness

The City does not have set evacuation routes, and operates on a case-by-case basis.

## Sheltering Capabilities

The Ansonia High School located at 20 Pulaski Highway is the primary shelter while the John C. Meade School located at 75 Ford Street is the secondary shelter facility. Both facilities are certified by the American Red Cross (ARC). Ansonia Middle School at 115 Howard Avenue has become the city's third shelter. This location is needed in the event that a flooded Naugatuck River were to divide the city and remove the possibility of transit across the Naugatuck River from one side of the city to the other. The John C. Meade School shelter facility is also animal compatible so long as owners remain with their animals.

All existing shelter facilities have a generator on site. The Ansonia High School generator can power the entire building; however, only the shelter area and kitchen are connected to the generator. Electrical upgrades are required to tie the entire building into the backup power supply. The generators at Mead School and the Middle School are only able to power approximately 25% of each building. The City would like to replace these generators with larger units.

## Communications

The City's emergency communication hub is located at Prendergast School. The site also has a tower for State Police communications. The on-site generator is equipped to run the boilers (for heat), the communication equipment, and can power approximately 50% of the building. This generator is considered sufficient for this site. The facility is not used as a shelter.

Prior to severe storm events, the City ensures that warning/notification systems and communication equipment are working properly and prepare for the possible evacuation of impacted areas. Ansonia relies on Reverse 911 for communicating emergency alerts to citizens, as well as radio, cable television, area newspapers, and the internet to spread information on the location and availability of shelters. It is understood that several of these information sources can be cut off due to power failure, so emergency personnel should also pass this information on manually.

## High Population or Vulnerable Population Centers

None of the apartment complexes identified as critical facilities have emergency power. The James J. O'Donnell Apartments building has an elevator that cannot be used during outages.

Beaver Brook Apartments is low-income housing and has many senior and elderly residents. This facility has been added to the list of critical facilities because of the presence of these vulnerable populations.

The Julia Day Nursery and Kindergarten, John J. Stevens Apartments (elderly housing), Riverview Apartments, and Capital Plaza Apartments are all located in flood zones (see Section 3.2).

## 3.0 FLOODING

### 3.1 Existing Capabilities

#### Existing Programs and Policies

##### NFIP Participation

Ansonia has participated in the NFIP since 09/02/1981. The Flood Insurance Rate Map (FIRM) for the community was most recently updated in 05/16/2017. Ansonia does not participate in the FEMA Community Rating System (CRS) program.

According to FEMA, there are 18 flood insurance policies in force in Ansonia as of 6/30/2019 with an insurance value of \$4,865,900.

##### Flood Reporting

Flooding-related calls are routed to the Police Department during an emergency. The Police Department records the report and then contacts Public Works and the City Engineer who review the concern and develop a plan to address the flooding.

##### Regulations, Codes, and Ordinances

The Planning and Zoning Commissions, Inland Wetlands and Watercourses Commissions, and the Building Officials are all charged with reviewing projects and developments in SFHAs as well as projects not located in SFHAs that will alter hydrology and runoff.

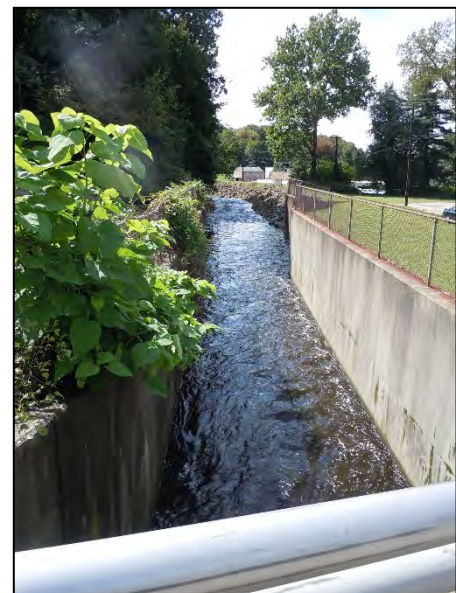
The City has adopted regulations that are at least as stringent as the NFIP regulations. A few of the provisions of these codes and regulations are especially notable relative to preventing flood damage:

- Structures must be elevated more than one foot above the base flood elevation.
- Applicants must provide base flood elevations for all subdivision proposals in A zones without available base flood elevations.
- The City of Ansonia has set 100-foot review areas for projects to be reviewed by the Inland Wetlands and Watercourses Commissions.

##### Flood Control Structural Projects

A system of levees and floodwalls lies along a portion of the Housatonic River and along the entire west bank of the Naugatuck River within the city of Derby and part of Ansonia. The Ansonia flood control projects were constructed by the U.S. Army Corps of Engineers in the late 1960s and early 1970s.

The Ansonia portions of the flood control system extend 9,260 feet along both sides of the Naugatuck River beginning at the Division Street bridge and terminating upstream near the Ansonia Copper & Brass Company hydroelectric plant. The system also extends



*Section of flood control system in Ansonia*

along Beaver Brook from the confluence with the Naugatuck River to 400 feet above Central Street. The flood control system in Ansonia provides protection from the base flood for approximately 120 private and municipally owned properties with an assessed value (in 2012) of approximately \$80,000,000.

The flood control systems in Ansonia provide protections that are *additional* to the protection from the upstream dams. They are necessary because Ansonia is located at the end of the Naugatuck River, far from the flood control dams located upstream, and because the Naugatuck River can experience backwater conditions in Ansonia due to tidal flooding of the Housatonic River downstream of the point that the two rivers conjoin. During Tropical Storm Irene in 2011, the floodgates in the levee system in Ansonia were closed for the first time in 47 years as backwater conditions occurred in the Naugatuck River.

The Naugatuck River levee system in Ansonia has been recertified by the U.S. Army Corps of Engineers in 2010. The certification allowed FEMA to maintain the classification of the floodplain area protected by the levee as "Zone X: Protected by Levee." One consequence of this recertification was that many residents and businesses within this zone continued to not require flood insurance. The levee system is considered to be in good condition although many of its components are aging and must be manually operated.

#### Bridge Replacements, Drainage, and Maintenance

The Public Works Department is in charge of the maintenance of drainage systems and perform clearing of catch basins, bridges, and culverts and other maintenance as needed. Drainage complaints are routed to the departments and recorded. The City uses these reports to identify potential problems and plan for maintenance and upgrades.

#### Flood Watches and Warnings

The City receives regular weather updates through DEMHS Region 3 email alerts and can also access the Automated Flood Warning System to monitor precipitation totals and river stage changes. The Connecticut DEEP installed the Automated Flood Warning System in 1982 to monitor rainfall totals as a mitigation effort for flooding throughout the state.

### **New Capabilities and Completed Actions**

Ansonia continues to maintain its strong flood mitigation capabilities.

Ansonia's levee system has recently been recertified by FEMA. The City plans to seek funding to install a flood warning system and ideally to install automatic controls to reduce the manual effort needed to operate the levee.

### **Summary**

Ansonia primarily mitigates flood damage and flood hazards by restricting activities in floodprone areas and relying on existing flood control structures such as dams and levees. The former is primarily carried out through the Planning and Zoning Commission working with the Building Officials. The City anticipates that a wider range of mitigation efforts will be utilized in the future, including additional elevations and acquisitions of floodprone structures.

## 3.2 Vulnerabilities and Risk Assessment

### 3.2.1 Riverine Flooding

Flood prone areas in the community today, as mapped by FEMA, are presented in Figure 3-1. Flooding is known to occur along numerous watercourses in the City. These areas are described below.

#### Naugatuck River

The Naugatuck River is largely controlled by upstream flood control dams and the flood control system of levees and floodwalls in Ansonia. Areas behind the levees are designated as "Zone X Protected by Levee," but they can be flooded.

During Tropical Storm Irene, the floodgates on the Naugatuck River were reportedly closed for the first time in 47 years. The Housatonic River experienced backwater conditions in this area as a result of the incoming storm surge, which led to water moving northward up the Naugatuck River. The Olsen Drive area in Ansonia was nearly flooded, which would have forced the city to evacuate the many apartments on this road.

#### Beaver Brook

Properties between Father Salemi Drive and Central Street have been flooded by Beaver Brook. The flooding has likely been caused by beaver dams along the brook.



View of Beaver Brook

#### Unnamed Tributary to Beaver Brook

An unnamed tributary to Beaver Brook flows northward through culverts of insufficient capacity and sections of open air in the Prindle Avenue area of Ansonia. The watercourse extends from Fairview Street to the east of Upland Terrace to just north of Shortell Drive. The watercourse flows through Nelligen Park in this area of the city. The yards and basements of some homes along Prindle Avenue and Doyle Drive become inundated following a significant rainfall event or a succession of rainfall events, which exhausts the drainage network in this area.

#### Unnamed Drainage Course at Kielys Lane

An unnamed drainage course originating near Prindle Avenue flows to the northwest and past the north end of Kielys Lane. Four residential properties are flooded by this watercourse.

#### Unnamed Drainage Course Along Ells Street

An unnamed drainage course along Ells Street runs under two to three homes and through back yards in this area. A home has experienced significant flooding along the headwall.

#### Unnamed Watercourse Along Wakelee Avenue (Route 334)

An unnamed watercourse along Wakelee Avenue inundates the roadway during large-scale rain events. This occurs just to the north of the Wakelee Avenue (Route 334)-Franklin Street intersection and in conjunction with potential Connecticut Department of Transportation (CT DOT) drainage issues along this stretch of the roadway.

### Wetland Area East of Route 8

A wetland area located to the east of Route 8 at the western end of side streets off Wakelee Avenue receives a significant amount of ponding during large-scale rain events. Residents in the area have expressed concern with drainage piping from Route 8 in the past.

### **3.2.2 Poor Drainage Flooding**

Properties located along Division Street and near the railroad tracks have been flooded in the past due to poor drainage.

### **3.2.3 Vulnerability Analysis of Private Properties**

The software platform *ArcGIS* was utilized along with 2010 *Microsoft Virtual Earth* aerial photography to determine the number of structures located within the various floodplains within the City. According to the 2010 FEMA FIRM GIS data layers, and 2010 data on structure locations, Ansonia has 107 structures within the 1% annual-chance flood zone.

The City recognizes that many private properties may suffer flood damage that is not reported because the structures are not insured under the NFIP. These residents and business owners are likely repairing structures on their own. Flood mitigation as recommended in this plan will likely help many of these property owners.

Ansonia has zero Repetitive Loss Properties (RLP). Of those, zero are classified as Severe RLP. Zero of the RLPs in Ansonia have been mitigated in the past.

### **3.2.4 Vulnerability Analysis of Critical Facilities**

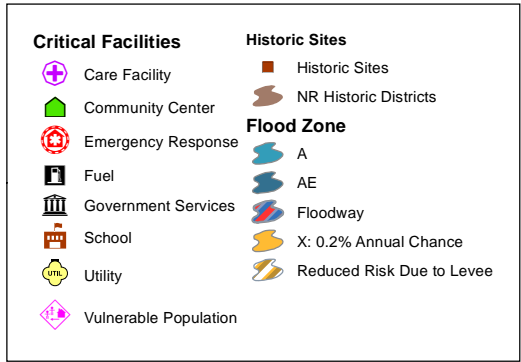
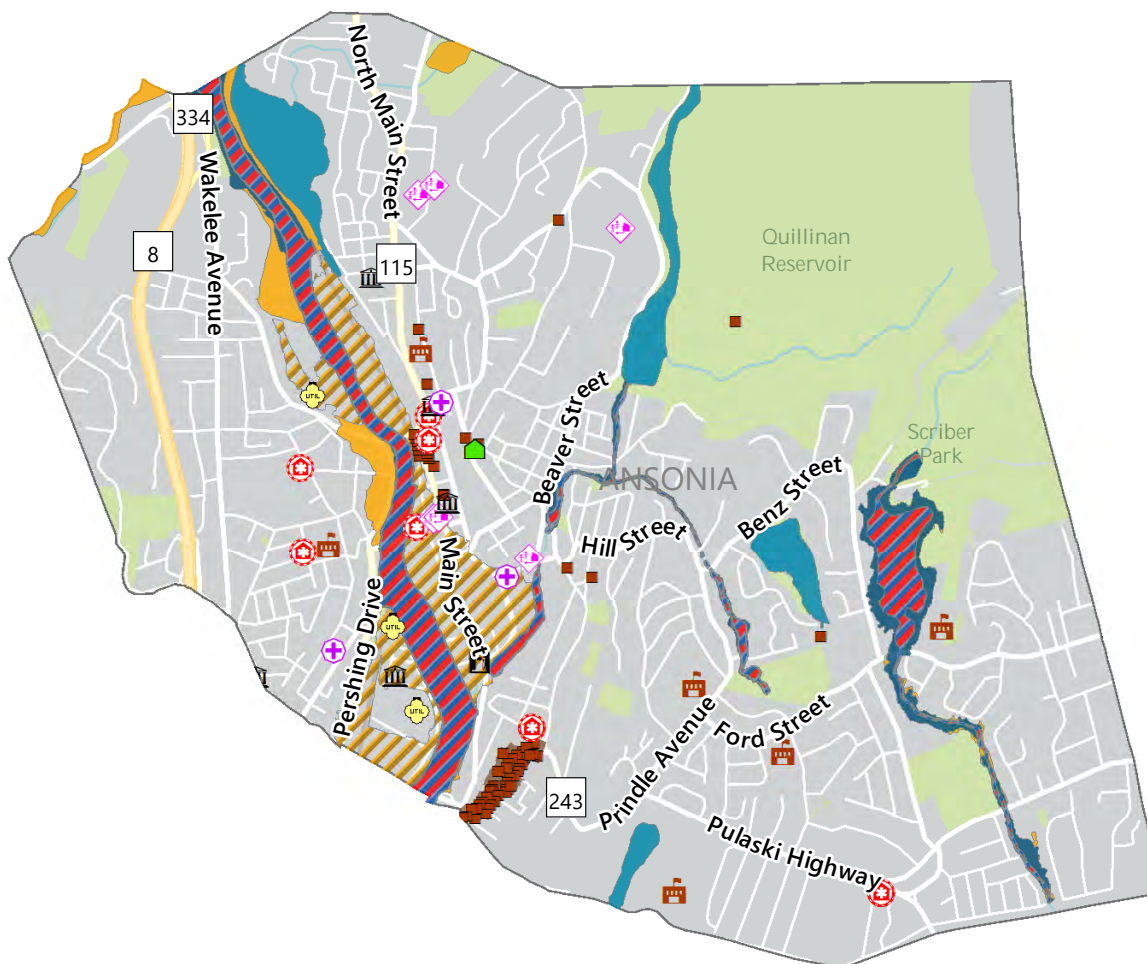
A total of eight critical facilities in Ansonia are found to be associated with either a SFHA or 500-year inland floodplain. These are summarized in the table below. The table also indicates which of these facilities may house vulnerable populations, an issue of particular concern for the City.

**Table 3-1: Critical Facilities Located Within or Adjacent to Floodplains**

Name or Type	Location	Flooding Source	Vulnerable Population
Public Works & WPCA Complex	North Division St	Naugatuck River	
Ansonia Rescue Medical Services (ARMS)	West Main Street	Naugatuck River	
WPCA Sewage Pump Stations	Multiple Locations	Naugatuck River	
Julia Day Nursery and Kindergarten	Central Street	Naugatuck River	Children (Daycare)
John J. Stevens Apartments	Central Street	Naugatuck River	Elderly (Senior Housing)
Riverview Apartments	West Main Street	Naugatuck River	Elderly & Disabled
Capital Plaza	Main Street	Naugatuck River	Elderly & Disabled
United Illuminating Company Substation	Riverside Drive	Naugatuck River	

Although most of these facilities are protected by the Ansonia flood control systems, the potential exists that these critical facilities can become flooded any year as was evident with the Riverside Housing Complex on Olsen Drive in 2011 when it was almost evacuated because of a significantly high water level in the Housatonic and Naugatuck Rivers caused by Tropical Storm Irene (this facility no longer exists).

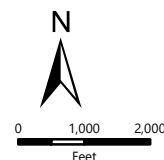




99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

## Flood Hazards in Ansonia

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



DATE 6/15/2021  
141.3211.00029  
PROJ. NO.

**FIG. 3-1**

## 4.0 HURRICANES AND TROPICAL STORMS

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### 4.1 Existing Capabilities

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#### **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 Ansonia is 115 mph for a Category 1 event, 125 mph for a Category 2, and 135 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.

United Illuminating, the local electric utility, provides tree maintenance near its power lines. The Director of Public Works was serving as the interim municipal Tree Warden at the time of plan development. The Tree Warden's responsibilities and resources are as noted below:

- A budget is in place for tree maintenance, and the city performs regular visual inspections.
- Public Works bring branches or trees removed by UI to designated areas for chipping.
- The city has the right to remove entire trees that pose threat to human life and property and does so as necessary.
- The city often identifies problematic instances on private lands so that home/facility owners can take the time to remove these threats.
- Wherever a private home/facility owner does not heed the city's warning, the Tree Warden may step in when the threat becomes serious.

#### **New Capabilities and Completed Actions**

Ansonia continues to maintain its strong tropical cyclone mitigation capabilities.

#### **Summary**

Ansonia 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

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Ansonia is vulnerable to wind damage throughout and to flooding along the rivers as well as in areas with poor drainage. High winds typically cause tree damage city-wide. To reduce the potential for future damage, United Illuminating has been removing damaged trees near their powerlines. Currently, there are no specific areas with dead or damaged trees.

Of particular concern to the City are the blockage of roads and the damage to the electrical power supply from falling trees and tree limbs. According to municipal officials, most areas within the City are vulnerable to falling trees and limbs with the exception of the City center where the number of trees is significantly lower.

In August 2020, Tropical Storm Isaias required City response but did not cause significant damage. Trees fell on five to six homes, causing minor to moderate damage. A large tree fell on the main transmission line leading to the electrical substation; as a result, power was lost to the entire city until the tree could be removed and the electrical line repaired. The entire city was without power for one to two days, with full restoration occurring after four to five days. The city EOC coordinated the event response and communicated with the electric utility liaison.

The ARMS building was opened as a cooling station and supplied water and ice to the public (the City distributed several thousand pounds of ice). Bottled water was also distributed to residents with private wells that could not operate without power. The COVID-19 pandemic created an additional challenge, as social distancing requirements needed to be followed and supplies needed to be sanitized prior to distribution.

## 5.0 SUMMER STORMS AND TORNADOES

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### 5.1 Existing Capabilities

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

- Developing and disseminating emergency public information and instructions concerning tornado, thunderstorm wind, lightning, and hail safety, especially guidance regarding in-home protection and evacuation procedures and locations of public shelters.
- Designating appropriate shelter space in the community that could potentially withstand lightning and tornado impact.
- Periodically test and exercise tornado response plans.
- Putting emergency personnel on standby at tornado "watch" stage.
- Providing all summer storm and tornado mitigation procedures and plans to the public in appropriate municipal buildings, on municipal websites, and through municipal social media platforms.

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 Ansonia as explained in Section 4. In addition, the Connecticut State Building Code includes guidelines for the proper grounding of buildings and electrical boxes. Utilities in new subdivisions must be located underground whenever possible in order to mitigate storm-related wind damage. The Public Works Department has the necessary equipment to clean up downed tree limbs and brush following major wind events.

#### **New Capabilities and Completed Actions**

Ansonia 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**

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

### 5.2 Vulnerabilities and Risk Assessment

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Thunderstorms are expected to impact the City at least 20 days each year. The majority of these events do not cause any measurable damage. Although lightning is usually associated with thunderstorms, it can occur on almost any day. The likelihood of lightning strikes in the City is very high during any given thunderstorm. The risk of at least one hailstorm occurring in City is considered moderate in any given year.

Most thunderstorm damage is caused by straight-line winds exceeding 100 mph. Straight-line winds occur as the first gust of a thunderstorm or from a downburst from a thunderstorm and have no associated rotation. The risk of downbursts occurring during such storms and damaging the City is believed to be moderate for any given year. All areas of the City are susceptible to damage from high winds although more building damage is expected in the City center and the densely populated neighborhoods surrounding them.

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

A thunderstorm in May of 2018 generated extremely high winds in Ansonia, causing widespread damage and power outages. Power was reportedly restored quickly. A tornado spawned by this storm in the region did not directly affect Ansonia. The EF1 tornado that caused minor property damage along a 0.5-mile path through eastern Shelton in 2009 and the EF1 tornado that struck Bridgeport in 2010 have also raised awareness regarding the potential catastrophic damage such storms can cause and the possibility of one taking place within the area.

## 6.0 WINTER STORMS

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### 6.1 Existing Capabilities

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

The Connecticut DOT works with Ansonia's Public Works Departments to conduct the majority of plowing within the municipality. Within the City, the Connecticut DOT plows Routes 8, 115, 243, and 334. Private developments are responsible for their own plowing while municipal roadways are plowed in the order of primary routes and bus routes to secondary routes as conditions permit.

The Connecticut Building Code specifies that a weight of 30 pounds per square foot be used as the base "ground snow load" for computing snow loading for different types of roofs.

#### **New Capabilities and Completed Actions**

Ansonia continues to maintain its strong winter storm mitigation capabilities.

#### **Summary**

Ansonia 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

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Winter storms present some unique transportation vulnerabilities. There is a high propensity for traffic accidents during heavy snow and even light icing events. Roads may become impassable, inhibiting the ability of emergency equipment to reach trouble spots as well as the accessibility to medical and shelter facilities. Stranded motorists, especially senior and/or handicapped citizens, are at a particularly high risk during a blizzard.

Reportedly, many tree limbs on City roadways are not suited to withstand high wind and snow or ice loads. If trees or tree limbs fall on the roadways, the proximity of structures puts them at risk for damage.

During Winter Storm Nemo in February 2013, Ansonia received 38 inches of snow. The City needed to respond quickly to remove snow from the roofs of public buildings (such as schools) and prevent damage. Private contractors were hired to assist with plowing and clearing efforts.

Winter Storm Juno in January 2015 did not result in damages within the City. However, extra plowing efforts were needed to clear the snow.

## 7.0 GEOLOGICAL HAZARDS

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### 7.1 Existing Capabilities

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Due to the infrequent nature of damaging earthquakes, land use policies in the City do not directly address earthquake hazards. However, various regulations indirectly address areas susceptible to earthquake damage and regulations that help to minimize potential earthquake damage.

The Ansonia POCD makes reference to steep slopes within the Natural-Resources discussion, indicating that the community desires avoiding development on steep slopes. However, much of the available land in Ansonia consists of steep slopes, and the city personnel will need to be careful in their review of development proposals.

Specific landslide prevention programs, policies, or mitigation measures are not outlined in the regulations governing zoning, land use, or development plans in the City; however, many of the programs and policies regarding steep slopes will help address landslides. Landslides, slumps, and retaining wall failures that occur on private properties are considered to be the responsibility of the property owners. When such failures occur on municipal property or affect municipal utilities, then, generally, the Public Works Department is in charge of repairs.

#### **New Capabilities and Completed Actions**

Ansonia continues to maintain its earthquake and landslide mitigation capabilities.

#### **Summary**

Ansonia 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

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#### **Earthquake Vulnerabilities**

Areas of Ansonia underlain by alluvium sand and gravel (such as the center of Ansonia near the Naugatuck River) are at increased risk from earthquakes due to amplification of seismic energy and/or collapse. The areas that are not at increased risk during an earthquake due to unstable soils are those underlain by glacial till.

Seismic activity can break utility lines such as water mains, natural gas pipes, and electric lines, and stormwater management systems. Damage to utility lines can lead to utility outages and fires. Dam failure can also pose a significant threat to developed areas during an earthquake.

A series of earthquake probability maps was generated using the 2009 interactive web-based mapping tools hosted by the USGS. These maps were used to determine the probability of an earthquake of greater than magnitude 5.0 or 6.0 damaging the region municipalities. Results are presented below.

**Table 7-1: Probability of a Damaging Earthquake**

Time Frame (Years)	Probability of the Occurrence of an Earthquake Event > Magnitude 5.0	Probability of the Occurrence of an Earthquake Event > Magnitude 6.0
50	1% to 2%	<1%
100	4% to 6%	<1%
250	8% to 10%	2% to 3%
350	12% to 15%	2% to 3%

### Landslide Vulnerabilities

Areas of steep slopes can collapse, creating landslides. This tends to occur when the ground is saturated with water, though an earthquake can also trigger landslides.

All of the developed areas on steep slopes are considered vulnerable to landslides. These areas are found throughout the City but are concentrated on the *peripheries* of the central business district or historic downtown area of Ansonia. Landslides are typical within peripheral areas. Vulnerabilities are highest in these areas and will continue to be high as infill occurs, as properties are redeveloped, and as annual precipitation increases.

Minor landslides have occurred on Platt Street, South Division Street, the backside of Jewett Street, Tremont Street, and Williams Street since the last update. The City indicated that the landslides are caused by a combination of steep slopes and groundwater emerging from the ground. A former residence on Williams Street was demolished by the City after it was undermined by a landslide. A landslide also damaged a retaining wall on Tremont Street near East Main Street. Portions of the wall a deteriorated and have been overtopped by debris.

On the other hand, the downtown area is often more level and occupied by commercial and industrial structures as it is located immediately adjacent to the Housatonic and Naugatuck Rivers; the rural parts of the City are less densely developed. Landslide risks are lower in these areas and, thus, the vulnerabilities are also lower.

## 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

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

#### Summary

Ansonia 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 9 DEEP-inventoried dams within the City of Ansonia. Three of these dams had a Significant or High Hazard Potential rating. These dams are listed in Table 8-1 and shown in Figure 8-1.

**Table 8-1: DEEP-Inventoried Dams in Ansonia**

Number	Name	Class	Owner
201	QUILLINAN RESERVOIR DAM	C	State Owned
202	FOUNTAIN LAKE DAM	C	Municipal
203	CANAL RESERVOIR DAM	BB	Power Utility
204	BEAVER BROOK	A	Municipal
205	PARKERS POND DAM	A	Land Trust
206	COLONEY POND DAM	A	Municipal
207	UPPER RESERVOIR	AA	Municipal
208	BASSATTS POND DAM	AA	State Owned
209	ANSONIA LEVEE	C	Municipal

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

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

Dam#	Name	Hazard Class	EAP Status	EAP Status Date
201	QUILLINAN RESERVOIR DAM	C	Review letter sent revisions needed	3/8/2017
202	FOUNTAIN LAKE DAM	C	Review letter sent revisions needed	10/7/2019
209	ANSONIA LEVEE	C	Working with Municipality - LEVEE	

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

In addition to these dams, Ansonia reports that the Middle Reservoir Dam on a tributary to Beaver Brook (downstream of Peat Swamp Reservoir, at the intersection of Rimmon Road and Clinton Road) in Seymour is in need of repair. The dam is currently owned by the South-Central Connecticut Regional Water Authority. The water utility has drained the impoundment to a low level to prevent further deterioration. Downstream areas in Ansonia could be impacted if this dam failed.

#### Quillinan Reservoir Dam (No. 201)

Quillinan Reservoir Dam (No. 201) is located at the southern end of the Quillinan Reservoir off Beaver Street to the north of Buswell Street in Ansonia. The dam impounds Beaver Brook. The impoundment was originally created as a water supply source, which was most recently owned by Birmingham Utilities. However, the reservoir no longer serves this purpose and is now owned by the South-Central Connecticut Regional Water Authority.

The dam's length is approximately 300 feet with a spillway length of 25 feet, impounding approximately 11 acres. The dam was extensively reconstructed in 1991 when the spillway was lowered, and an auxiliary spillway was constructed to the left of the original spillway. Additionally, the dam's thickness increased to approximately nine feet at the level of the spillways, and new concrete training walls were constructed along with a new apron for the auxiliary spillway. Other changes included a concrete cap on the stone masonry wall, a concrete gravity wall constructed, a galvanized trash rack installed, and others. A history of maintenance was not available in the Dam Safety Section.



Although neither dam failure mapping nor a description of dam failure impacts were available, on preliminary topographic mapping review, it is likely that if the dam were to fail it would cause damage to the roads to the north of Myrtle Avenue in the area, south to Beaver Brook, and the tributary to Beaver Brook.

#### Fountain Lake Dam (No. 202)

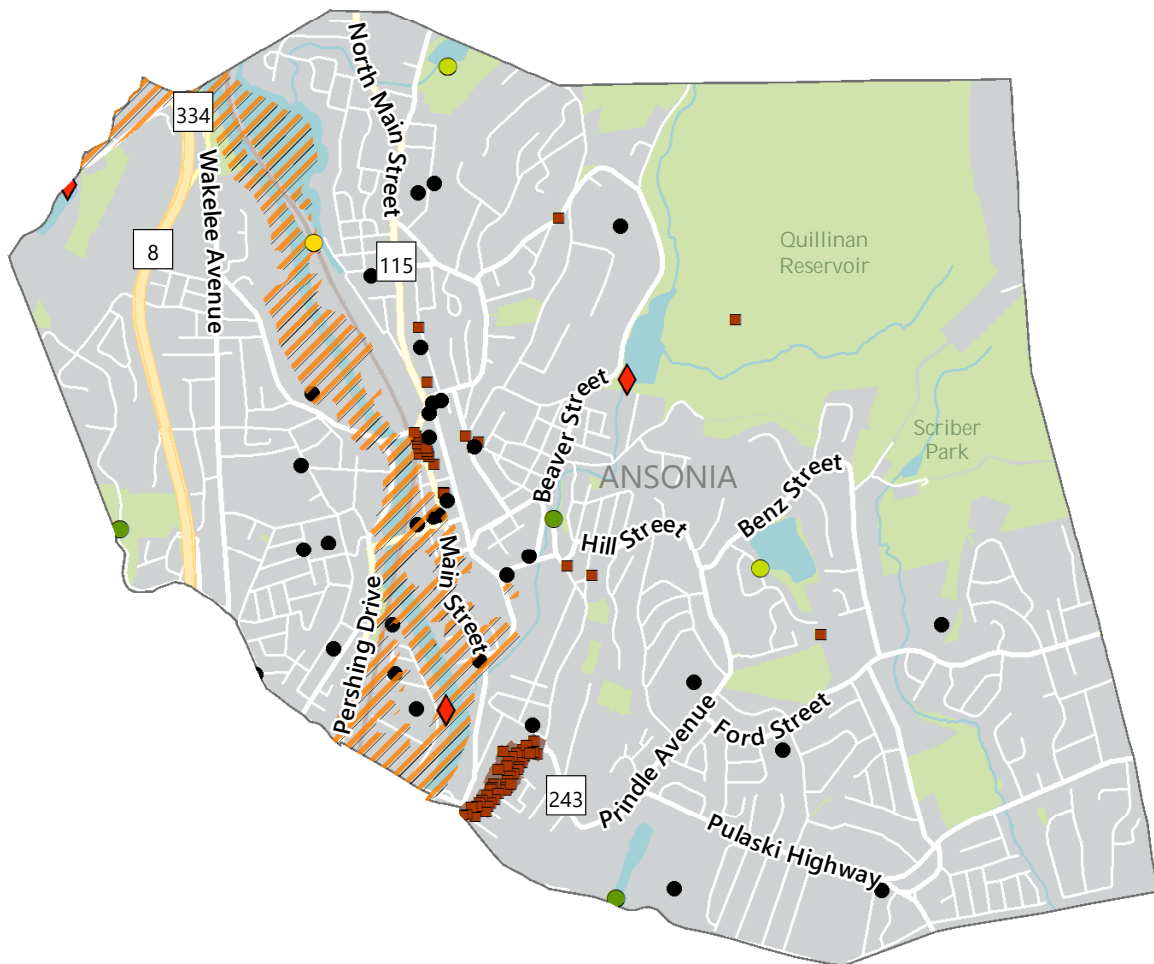
Fountain Lake Dam (No. 202) is on the north end of Fountain Lake between Fountain Lake Road (Route 334) and Birmingham Boulevard on the municipal line between Ansonia and Seymour near the municipal border with the northeast section of Derby. The City of Ansonia owns the dam which is considered to be in good condition.

The dam has a right embankment of 160 feet and a left embankment of 140 feet with a one-foot high concrete wall and a maximum height of 20 feet and a minimum top width of 10 feet. The dam is comprised of concrete and stone and has a 21-foot spillway. The spillway has a nine-foot flow notch that underwent repairs that were completed in 1989, and the spillway was lowered at that time. The intake structure has two valves 20 feet to the right of the spillway in the pond. The lake above the dam covers a surface area of 7.4 acres. The most recent EOP on file at the Dam Safety Section is dated 1983.

The most recent inspection in the Dam Safety Section is described in a July 7, 2006 letter from the CT DEEP to the City of Ansonia. The most recent inspection on file at the Dam Safety Section was dated June 13, 2006. The inspection stated that the dam was in need of maintenance including the removal of debris, monitoring seepage, an updated EOP, removal of the bridge over the spillway or a hydraulic and hydrologic study on the bridge if it were to remain, the investigation of the operability of the gates and repairs as needed, monitoring of the cracking of the spillway, and other repairs as needed. The inspection stated that the dam has an earthen embankment upstream face and a mortared stone masonry downstream face.

Failure of the Fountain Lake Dam would likely cause catastrophic damage along the tributary to the Naugatuck River, which runs along the municipal border between Seymour and Ansonia toward the Naugatuck River. Within the files at the Dam Safety Section and within the EOP, it is described that there would be immediate flooding impact on the downstream residential area of Fountain Lake Road (Seymour)/Great Hill Road (Ansonia) (Route 334). Water would likely travel approximately 300 feet downstream before overtopping Route 334 by approximately six feet, and residential homes and roads between the dam and Derby Avenue to the north would flood including the commercial plaza, which currently includes a martial arts and fitness business, a liquor store, a Dunkin' Donuts, and parking lot bordering Derby Avenue to the northeast of the dam.

However, flooding of Route 8 would not be anticipated if the dam were to overtop as flood storage available to the west of Derby Avenue and large culverts under Route 8 would be expected to hold water levels low enough. In Ansonia, Great Hill Road (Route 334) between Wakelee Avenue and the dam, and Ansmour Road between Route 334 and the municipal line with Seymour are within the limits of potential flooding. In Seymour, Ansmour Road between the Ansonia municipal boundary and Brookdale Road, Brookdale Road (600 feet south of Ansmour Road to Terrace Road), Derby Avenue (Great Hill Road and 2,000 feet northward), Bungay Road (Derby Avenue and 200 feet northward), and the Tri-Town Plaza are within limits of potential flooding.

**Dam Hazard Class**

● AA - Negligible Hazard

● A - Low Hazard

● BB - Moderate Hazard

◆ C - High Hazard

Dam Breach Inundation Area

**Critical Facilities**

● Critical Facilities

**Historic Sites**

■ Historic Sites

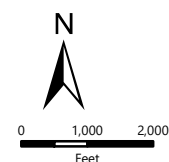
■ NR Historic Districts



99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

## Dam Failure Hazards in Ansonia

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



DATE 6/15/2021

141.3211.00029

PROJ. NO.

**FIG. 8-1**

## 9.0 WILDFIRES

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### 9.1 Existing Capabilities

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Existing mitigation for wildland fire control is typically focused on Fire Department training and maintaining an adequate supply of equipment. The City's Subdivision Regulations require provision of supplemental water supply systems for fire protection and stipulate that the Fire Department reviews and approves the location, size, design, construction specifications, and installation of these water supply systems. In addition, new roads, subdivisions, and fire ponds are required to allow for fire truck access.

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

#### **Actions Completed and New Capabilities**

Ansonia continues to maintain its capabilities for mitigating and responding to wildfire risks. A forest thinning project completed by the State Forestry Division in 2018 has improved accessibility to forests in the northeast corner of Ansonia, and reduced the presence of fuel for forest fires.

#### **Summary**

The City 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

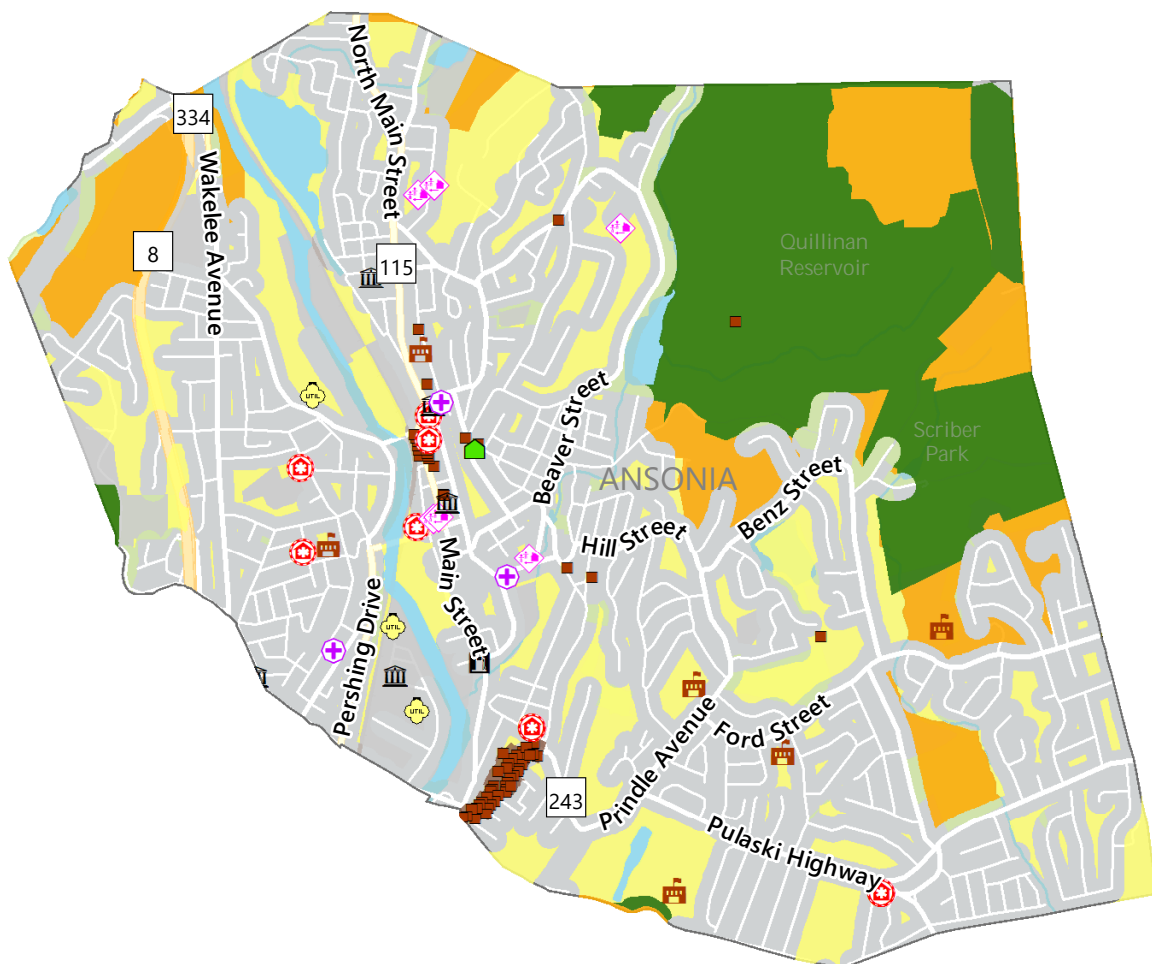
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Ansonia city officials report that wildfires are almost nonissues in the city.

The approximately 1,799 acres of forests and undeveloped land in Ansonia may be susceptible to drought conditions that make them more vulnerable to wildfires. There are areas of the City where roads are narrow or are windy through areas of steeper slopes; this hinders emergency access to fight fires. The northeast corner of Ansonia near the border with Seymour and Woodbridge is most susceptible to wildfires. This area is not easily accessible; however accessibility was improved after the State Forestry Division completed a thinning project in this area in 2018. The City has also fought a few brush fires over the past few years in the vicinity of Beaver Street. Wildfire risk zones are mapped in Figure 9-1.

Should a wildfire occur, it is reasonable to estimate that the average area to burn would be five acres during a drought period and one to two acres during wetter periods, consistent with the state averages. 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. This is also consistent with actual data in Connecticut. Residential areas bordering such lands would thus be vulnerable to wildfires.

The approximately 76 acres of agricultural fields and maintained grasses may be vulnerable to direct damage from drought conditions.

**Critical Facilities**

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

**Historic Sites**

- Historic Sites
- NR Historic Districts

**Wildland Urban Interface Type**

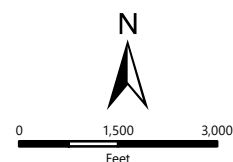
- Wildland-Urban Intermix
- Wildland-Urban Interface
- Vegetated: Low Housing Density
- Vegetated: No Housing
- Non-vegetated
- Water



99 REALTY DRIVE  
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203.271.1773

## Wildfire Hazard in Ansonia

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



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	Party	Status	Notes
<b>ANS-1</b>	Obtain copies of the disaster planning guides and manuals from the "Are You Ready?" series and make them available at the City and Town Halls	EMD	Complete	Pamphlets have been distributed, including CERT team information.
<b>ANS-2</b>	Disseminate informational pamphlets regarding natural hazards to public locations	EMD	Complete	Pamphlets have been distributed, including CERT team information.
<b>ANS-3</b>	Develop checklists for permittees that cross-references regulations and codes related to disaster resilience	PZC, B&E, EMD	Complete	There is an online permitting program now that guides applicants through the various regulations.
<b>ANS-4</b>	Require that utilities be placed underground in new developments	PZC	Drop	Not required yet, insufficient interest by commission
<b>ANS-5</b>	Pursue funding to place utilities underground in existing developments	BOS/BOA	Drop	Very expensive projects, would only occur with significant redevelopment projects.
<b>ANS-6</b>	Encourage residents to purchase and use NOAA weather radio with an alarm feature	EMD	Complete	This is a capability.
<b>ANS-7</b>	Review and update evacuation route maps at least annually	EMD	Complete	This is a capability and performed with the regular EOP update.
<b>ANS-8</b>	Install evacuation signs in SFHAs	EMD	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-9</b>	Consider establishing a back-up EOC as the ARMS building at 22 West Main Street is in the floodplain	EMD	Carry Forward with Revision	Action not yet completed due to limited funding.
<b>ANS-10</b>	Consider floodproofing measures for sewer pumping stations in SFHAs	PW	Carry Forward with Revision	Action is too broad. Carried forward with revisions.

Strategy	Description	Party	Status	Notes
<b>ANS-11</b>	Develop a site-specific evacuation plan for Riverside Housing Complex	EMD	Drop	Riverside Housing Complex has been demolished. Redevelopment plan is underway.
<b>ANS-12</b>	Develop a site-specific evacuation plan for John J. Stephens Apartments at 75 Central Street	EMD	Carry Forward	Action not yet completed due to limited municipal capacities.
<b>ANS-13</b>	Develop a site-specific evacuation plan for Riverview Apartments	EMD	Carry Forward	Action not yet completed due to limited municipal capacities.
<b>ANS-14</b>	Develop a site-specific evacuation plan for Capital Plaza at 290 Main Street	EMD	Carry Forward	Action not yet completed due to limited municipal capacities.
<b>ANS-15</b>	Develop a site-specific evacuation plan for Julia Day Nursery & Kindergarten	EMD	Carry Forward	Action not yet completed due to limited municipal capacities.
<b>ANS-16</b>	Continue to regulate activities within SFHAs to the greatest extent possible with the municipal codes and Zoning and Subdivision Regulations	PZC, B&E	Capability	This is a capability.
<b>ANS-17</b>	Consider requiring new buildings in floodprone areas to be protected to the highest recorded flood level regardless of SFHA status	PZC, B&E	Drop	Use of the elevations in the FIS (plus freeboard) is more appropriate for the City.
<b>ANS-18</b>	Ensure that new buildings be designed and graded to shunt drainage away from the building	PZC, B&E	Capability	This is a capability (building code).
<b>ANS-19</b>	Require developers to demonstrate whether detention or retention of storm water is the best option for reducing peak flows downstream	PZC, B&E	Capability	This is a capability.
<b>ANS-20</b>	Provide technical assistance to owners of non-residential structures regarding floodproofing measures such as wet and dry floodproofing	EMD, B&E	Capability	This is a capability.
<b>ANS-21</b>	Pursue elevation of residential structures that suffer flood damage; RLPs should be prioritized.	EMD, BOS/BOA	Capability	City has the capacity to provide guidance and technical assistance to property owners interested in pursuing elevation.
<b>ANS-22</b>	Consider enrolling in the Community Rating System	EMD, B&E	Drop	City is not intending to enroll in CRS in the near future.
<b>ANS-23</b>	Provide outreach regarding structure elevation, flood barriers, dry and wet floodproofing, and other improvement techniques	EMD, B&E	Capability	This is a capability.
<b>ANS-24</b>	Ensure that EMDs and other personnel attend DEEP and other training workshops such as the FEMA-sponsored training at EMI in Maryland	EMD, B&E	Capability	This is a capability.

Strategy	Description	Party	Status	Notes
<b>ANS-25</b>	Pursue acquisition/demolition of residential structures that suffer flood damage; RLPs should be prioritized.	EMD, BOS/BOA	Capability	There are no RLPs in Ansonia. Acquisition and demolition of floodprone properties can be conducted by the City provided that properties and funding are available. This is a capability.
<b>ANS-26</b>	Pursue the acquisition of additional municipal open space in SFHAs	BOS/BOA	Capability	Purchase of floodprone parcels can be conducted by the City provided that properties and funding are available. This is a capability.
<b>ANS-27</b>	Selectively pursue conservation recommendations listed in the Plan of Conservation and Development and other studies and documents	BOS/BOA	Capability	This is a capability.
<b>ANS-28</b>	Continue to regulate development in protected and sensitive areas, including steep slopes, wetlands, and floodplains	PZC	Capability	This is a capability.
<b>ANS-29</b>	Develop a hydraulic/hydrologic model of floodprone river systems to prioritize mitigation such as bridge and culvert replacement, property acquisitions, etc.	EMD, PW	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-30</b>	Upgrade the Wakelee Avenue (Route 334) area drainage network to reduce flooding	PW, CT DOT	Carry Forward	A project is still needed in this area, although CT DOT may need to be the lead agency.
<b>ANS-31</b>	Upgrade and replace drainage along Prindle Avenue which carries a tributary to Beaver Brook which causes home flooding	PW	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-32</b>	Upgrade/replace the drainage network associated with the unnamed stream in the Ells Street area to reduce flooding	PW	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-33</b>	Work with CT DOT to review drainage east of Route 8 where flooding occurs after rain events, and upgrade as needed to reduce potential for property damage	PW, CT DOT	Carry Forward	Action not yet completed due to limited municipal capacities.
<b>ANS-34</b>	Pursue drainage/culvert improvements at Kielys Lane to reduce nuisance flooding	PW	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-35</b>	Consider localized flood walls or berms for the Olsen Drive area; or ensure that structures are flood damage resistant with dry land access available	PW	Carry Forward with Revision	City needs additional guidance regarding what action is appropriate for this area.



Strategy	Description	Party	Status	Notes
<b>ANS-36</b>	Continue tree limb inspections and maintenance and outreach to private property owners regarding branches above powerlines	TW	Capability	This is a capability.
<b>ANS-37</b>	Increase funding for the Tree Warden to address a wider range of tree limb hazards than the current budget allows	TW, BOS/BOA	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-38</b>	Provide for the Building Department to make literature available during the permitting process regarding appropriate design standards for wind	B&E	Capability	Information is available through the State Building Code
<b>ANS-39</b>	Encourage the use of wind-mitigation structural techniques in new structures to protect new buildings to a greater level than the required standard	B&E	Drop	City implements State Building Code locally. This is considered sufficient.
<b>ANS-40</b>	Conduct a study to identify municipal buildings, critical facilities, and commercial/industrial buildings that are vulnerable to roof damage or collapse	PW, B&E	Carry Forward	Action not yet completed due to limited funding.
<b>ANS-41</b>	Develop a plan to prioritize snow removal from the roof of municipal buildings (especially critical facilities) and have funding available for clearing	PW, B&E	Capability	This is a capability.
<b>ANS-42</b>	Retrofit or modify critical facilities as needed to strengthen roofs and structures and make them more resilient to snow loading	PW, B&E	Drop	City does not believe this is a cost-effective approach, and will focus on snow removal instead.
<b>ANS-43</b>	Consider posting the snow plowing routes in municipal buildings and the municipal web sites	PW	Drop	City does not believe this action will contribute to hazard mitigation.
<b>ANS-44</b>	Identify areas that are difficult to access during winter storm events and develop contingency plans	PW	Capability	This is a capability.
<b>ANS-45</b>	Provide information for mitigating icing, insulating pipes, and retrofits for flat roofed buildings	PW, B&E	Capability	Information is available through the State Building Code
<b>ANS-46</b>	Consider preventing residential development in areas prone to collapse such as below steep slopes, or in areas prone to liquefaction	PZC	Carry Forward with Revision	Action not yet completed. New action carried forward to audit zoning regulations in order to identify appropriate updates to limit development in areas at risk of liquefaction, landslides, or other geological hazards.
<b>ANS-47</b>	Consider restricting construction on 15%, 20%, or 25% slopes and restricting excavation and clearing above and below such slopes	PZC	Drop	Merged with action above.



Strategy	Description	Party	Status	Notes
<b>ANS-48</b>	Consider adopting or codifying USDA guidelines to regulate development in areas of steep slopes	PZC	Drop	Merged with action above.
<b>ANS-49</b>	Consider preserving areas of steep slopes as protected open space through acquisitions or modified zoning	BOS/BOA	Drop	Merged with action above.
<b>ANS-50</b>	Continue to require adherence to the state building codes	B&E	Capability	This is a capability.
<b>ANS-51</b>	Encourage through-streets instead of dead-end streets	PZC	Capability	This is a capability.
<b>ANS-52</b>	Ensure that utility providers are aware of landslide potentials and have responder teams available to repair damage caused by slides	EMD	Capability	City works closely with utility companies on service reliability.
<b>ANS-53</b>	Make education materials available at Building and Engineering departments regarding identification of landslide risk areas	B&E	Drop	City does not believe this action is necessary.
<b>ANS-54</b>	Consider expanding and over-sizing drainage systems in the vicinity of steep slopes	PW	Carry Forward with Revision	Action has not yet been pursued due to limited municipal capacities.
<b>ANS-55</b>	Encourage property owners to have retaining walls inspected by structural engineers	EMD	Capability	This is a capability.
<b>ANS-56</b>	Ensure that municipal departments and critical facilities have adequate backup facilities in case damage occurs	EMD	Capability	This is a capability.
<b>ANS-57</b>	Work with property owner to remove trees and reinforce the wall along South Main Street just to the north of Columbia Street	PW	Carry Forward	Action has not yet been completed due to limited funding.
<b>ANS-58</b>	Work with the owners of the Platt Street landslide site to conduct maintenance and prevent future slides	PW	Carry Forward	Action has not yet been completed due to limited funding.
<b>ANS-59</b>	Include dam failure areas in the Reverse 911 and CodeRed emergency contact database	EMD	Drop	Because CodeRED can specifically target calls into specific areas, a specific program is not necessary.
<b>ANS-60</b>	Work with DEEP to develop an EOP for Quillinan Reservoir Dam	EMD	Drop	This is owned by SCCRWA who is responsible for dam operations.
<b>ANS-61</b>	Continue to support public outreach programs to increase awareness of forest fire danger, equipment usage, and protecting homes from wildfires	FD	Capability	This is a capability
<b>ANS-62</b>	Ensure that provisions of Subdivision Regulations regarding fire protection facilities are being enforced	PZC	Capability	This is a capability

Strategy	Description	Party	Status	Notes
<b>ANS-63</b>	Pursue additional sources of fire-fighting water where adequate supplies do not exist	FD, BOS/BOA	Capability	This is a capability.
<b>ANS-64</b>	Patrol municipal-owned open space and parks to prevent campfires	FD, PD	Capability	This is a capability.
<b>ANS-65</b>	Continue to promote inter-municipal cooperation in fire-fighting efforts	FD	Capability	This is a capability.
<b>ANS-66</b>	When wildfire threats are high, monitor the northeast section of Ansonia	FD	Capability	This is a capability.
<b>ANS-67</b>	Enforce regulations and permits for open burning	FD, PD	Capability	This is a capability.

B&E:	Building & Engineering	FD:	Fire Department
BOA:	Board of Aldermen	PD:	Police Department
BOS:	Board of Selectmen	PW:	Public Works
CT DOT:	CT Department of Transportation	PZC:	Planning & Zoning Commission
EMD:	Emergency Management Director	TW:	Tree Warden

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

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

<b>Action ANS-02</b>	
<b>Increase funding for the Tree Warden to address a wider range of tree limb hazards than the current budget allows</b>	
<b>Lead</b>	TW, BOS/BOA
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB
<b>Timeframe</b>	2022
<b>Priority</b>	High

<b>Action ANS-03</b>	
<b>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.</b>	
<b>Lead</b>	Plan, FS, NFIP Coordinator
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, FEMA Grant, CT DEEP
<b>Timeframe</b>	2022
<b>Priority</b>	High

<b>Action ANS-04</b>	
<b>Increase Substantial Damage and Substantial Improvement lookback periods to two or more years.</b>	
<b>Lead</b>	Plan, FS, NFIP Coordinator
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, FEMA Grant, CT DEEP
<b>Timeframe</b>	2022
<b>Priority</b>	High

<b>Action ANS-05</b>	
<b>Remain engaged with CIRCA's Resilient Connecticut project and utilize vulnerability mapping tools to help with local planning and project development.</b>	
<b>Lead</b>	Plan
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, CT DEEP, Resilient CT
<b>Timeframe</b>	2022
<b>Priority</b>	High

Action ANS-06	
<b>Remain engaged with FEMA and the State during the Housatonic River Watershed flood map updates. Review draft maps and provide comments to FEMA.</b>	
<b>Lead</b>	Plan, FS, NFIP Coordinator
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, FEMA Grant, CT DEEP
<b>Timeframe</b>	2022
<b>Priority</b>	High

Action ANS-07	
<b>Work with CIRCA to develop potential risk reduction pilot projects in the identified "adaptation/resilience opportunity areas" near and in locations of transit-oriented development (TOD).</b>	
<b>Lead</b>	Plan
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, CT DEEP, Resilient CT
<b>Timeframe</b>	2022
<b>Priority</b>	High

Action ANS-08	
<b>Work with property owner to remove trees and reinforce the wall along South Main Street just to the north of Columbia Street</b>	
<b>Lead</b>	PW
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB
<b>Timeframe</b>	2022
<b>Priority</b>	Med

Action ANS-09	
<b>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.</b>	
<b>Lead</b>	EM, FS
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	CT DEEP
<b>Timeframe</b>	2022
<b>Priority</b>	Med

<b>Action ANS-10</b>	
<b>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.</b>	
<b>Lead</b>	Plan, HC/HDC
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, CT SHPO
<b>Timeframe</b>	2022 – 2023
<b>Priority</b>	Low

<b>Action ANS-11</b>	
<b>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.</b>	
<b>Lead</b>	Plan, HC/HDC
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB, CT SHPO
<b>Timeframe</b>	2022 – 2023
<b>Priority</b>	Low

<b>Action ANS-12</b>	
<b>Conduct and analysis of the Olsen Drive area to identify appropriate measures to mitigate flood problems.</b>	
<b>Lead</b>	PW
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	OB, CIP, FEMA Grant, CT DEEP
<b>Timeframe</b>	2022 – 2023
<b>Priority</b>	High

<b>Action ANS-13</b>	
<b>Audit zoning regulations in order to identify appropriate updates to limit development in areas at risk of liquefaction, landslides, or other geological hazards.</b>	
<b>Lead</b>	PZC
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low

<b>Action ANS-14</b>	
<b>Require that drainage systems in the vicinity of steep slopes be expanded and oversized, if doing so will not increase flood risk downstream, in order to avoid saturation of the slopes and the landslides that may result.</b>	
<b>Lead</b>	PW
<b>Cost</b>	\$0 - \$25,000
<b>Funding</b>	OB
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low

<b>Action ANS-15</b>	
<b>Conduct an analysis of sewer pumping stations in SFHAs in order to identify pumping stations in need of flood mitigation as well as appropriate flood mitigation measures, and to prioritize actions.</b>	
<b>Lead</b>	DPW
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	OB, CIP
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low

<b>Action ANS-16</b>	
<b>Develop a hydraulic/hydrologic model of floodprone river systems to prioritize mitigation such as bridge and culvert replacement, property acquisitions, etc.</b>	
<b>Lead</b>	EMD, PW
<b>Cost</b>	\$50,000 - \$100,000
<b>Funding</b>	FEMA Grant, CT DEEP
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Med

<b>Action ANS-17</b>	
<b>Conduct a study to identify municipal buildings, critical facilities, and commercial/industrial buildings that are vulnerable to roof damage or collapse</b>	
<b>Lead</b>	PW, B&E
<b>Cost</b>	\$50,000 - \$100,000
<b>Funding</b>	FEMA Grant, CT DEEP
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Med

Action ANS-18	
<b>Replace the generators at Mead School and the Middle School; which are currently small, old, and can only power approximately 25% of each building. Mead School is the pet shelter, and the Middle School is the backup shelter.</b>	
<b>Lead</b>	EM
<b>Cost</b>	\$100,000 - \$500,000
<b>Funding</b>	CIP, FEMA Grant, CT DEMHS
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	High

Action ANS-19	
<b>Install evacuation signs in SFHAs</b>	
<b>Lead</b>	EMD
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	OB, CT DEMHS
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low

Action ANS-20	
<b>Develop a site-specific evacuation plan for John J. Stephens Apartments at 75 Central Street</b>	
<b>Lead</b>	EMD
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	OB, CT DEMHS
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low

Action ANS-21	
<b>Develop a site-specific evacuation plan for Riverview Apartments</b>	
<b>Lead</b>	EMD
<b>Cost</b>	\$25,000 - \$50,000
<b>Funding</b>	OB, CT DEMHS
<b>Timeframe</b>	2022 – 2024
<b>Priority</b>	Low



Action ANS-22	
Develop a site-specific evacuation plan for Capital Plaza at 290 Main Street	
Lead	EMD
Cost	\$25,000 - \$50,000
Funding	OB, CT DEMHS
Timeframe	2022 – 2024
Priority	Low

Action ANS-23	
Develop a site-specific evacuation plan for Julia Day Nursery & Kindergarten	
Lead	EMD
Cost	\$25,000 - \$50,000
Funding	OB, CT DEMHS
Timeframe	2022 – 2024
Priority	Low

Action ANS-24	
Identify an appropriate location for establishing a back-up EOC outside of the floodplain.	
Lead	EMD
Cost	More than \$500,000
Funding	CIP, FEMA Grant
Timeframe	2023 – 2025
Priority	High

Action ANS-25	
Connect the pump stations to the WPCA through a SCADA system. Currently, the pump stations operate automatically but an operator needs to visit regularly to check effluent stage in the chamber. Being able to track effluent stage from the WPCA would allow for better management and better prioritization during power outages.	
Lead	DPW
Cost	\$25,000 - \$50,000
Funding	CIP, CT DEEP
Timeframe	2023 – 2025
Priority	Low

Action ANS-26	
<b>Complete demolition of the former factory Brownfield located near Liberty Street. Approximately 40 to 70 acres will be cleared.</b>	
<b>Lead</b>	DPW, FS, ConCom
<b>Cost</b>	More than \$1 million
<b>Funding</b>	OB, FEMA Grant, CT DEEP
<b>Timeframe</b>	2021 – 2023
<b>Priority</b>	High

Action ANS-27	
<b>Mitigate flooding issue on Route 334</b>	
<b>Lead</b>	DPW
<b>Cost</b>	More than \$500,000
<b>Funding</b>	OB, CIP, FEMA Grant, CT DEEP
<b>Timeframe</b>	2023 – 2025
<b>Priority</b>	Med

Action ANS-28	
<b>Upgrade the Wakelee Avenue (Route 334) area drainage network to reduce flooding</b>	
<b>Lead</b>	PW, CT DOT
<b>Cost</b>	More than \$500,000
<b>Funding</b>	OB, CIP, FEMA Grant, CT DEEP
<b>Timeframe</b>	2023 – 2025
<b>Priority</b>	Med

Action ANS-29	
<b>Upgrade and replace drainage along Prindle Avenue which carries a tributary to Beaver Brook which causes home flooding</b>	
<b>Lead</b>	PW
<b>Cost</b>	More than \$500,000
<b>Funding</b>	OB, CIP, FEMA Grant, CT DEEP
<b>Timeframe</b>	2023 – 2025
<b>Priority</b>	Med

Action ANS-30	
Upgrade/replace the drainage network associated with the unnamed stream in the Ells Street area to reduce flooding	
Lead	PW
Cost	More than \$500,000
Funding	OB, CIP, FEMA Grant, CT DEEP
Timeframe	2023 – 2025
Priority	Med

Action ANS-31	
Work with CT DOT to review drainage east of Route 8 where flooding occurs after rain events, and upgrade as needed to reduce potential for property damage	
Lead	PW, CT DOT
Cost	More than \$500,000
Funding	OB, CIP, FEMA Grant, CT DEEP
Timeframe	2023 – 2025
Priority	Med

Action ANS-32	
Pursue drainage/culvert improvements at Kielys Lane to reduce nuisance flooding	
Lead	PW
Cost	More than \$500,000
Funding	OB, CIP, FEMA Grant, CT DEEP
Timeframe	2023 – 2025
Priority	Med

Action ANS-33	
Develop a flood warning system.	
Lead	EM
Cost	\$50,000 - \$100,000
Funding	OB, CT DEMHS
Timeframe	2024 – 2026
Priority	Low

<b>Action ANS-34</b>	
<b>Complete relocation of the Police Department and Emergency Operations Center to a new facility with a generator.</b>	
<b>Lead</b>	EMD
<b>Cost</b>	More than \$1 million
<b>Funding</b>	CIP, FEMA Grant, CT DEMHS
<b>Timeframe</b>	2024 – 2026
<b>Priority</b>	Med

<b>Action ANS-35</b>	
<b>Work with the owners of the Platt Street landslide site to conduct maintenance and prevent future slides</b>	
<b>Lead</b>	PW
<b>Cost</b>	\$100,000 - \$500,000
<b>Funding</b>	CIP, CT DEEP
<b>Timeframe</b>	2024 – 2026
<b>Priority</b>	Low

<b>Action ANS-36</b>	
<b>Install a permanent generator at City Hall capable of supporting the services based in that facility, including critical records and departments, the City-wide phone system, and network servers.</b>	
<b>Lead</b>	EM, DPW
<b>Cost</b>	\$100,000 - \$500,000
<b>Funding</b>	CIP, FEMA Grant
<b>Timeframe</b>	2025 – 2027
<b>Priority</b>	Low

<b>Action ANS-37</b>	
<b>Develop a standardized portable generator hookup at each sewer pump station and acquire a dedicated portable generator that can be used to pump the chambers down on a rotating basis.</b>	
<b>Lead</b>	EM, DPW
<b>Cost</b>	\$100,000 - \$500,000
<b>Funding</b>	CIP, FEMA Grant
<b>Timeframe</b>	2025 – 2027
<b>Priority</b>	Low

<b>Action ANS-38</b>	
<b>Install permanent emergency generators at the three fire stations that do not yet have.</b>	
<b>Lead</b>	EM, DPW, FD
<b>Cost</b>	More than \$500,000
<b>Funding</b>	CIP, FEMA Grant
<b>Timeframe</b>	2025 – 2027
<b>Priority</b>	Low

<b>Action ANS-39</b>	
<b>Develop a new connector into Ansonia from Route 8 through the Brownfield located near Liberty Street, providing improved access and egress in case of emergencies.</b>	
<b>Lead</b>	EM
<b>Cost</b>	More than \$1 million
<b>Funding</b>	OB, CT DEMHS
<b>Timeframe</b>	2026 – 2027
<b>Priority</b>	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				
#	Action	Theme	Lead	Cost	Funding	Time	S	T	A	P	L	E	E2	S3	T4	A5	P6	L7	E8	E9	Score			
ANS-01	Register as a Sustainable CT community and make progress with the hazard mitigation goals associated with registration.	Sustainable CT	Plan	\$0 - \$25,000	OB, CT DEEP, Sustainable CT	2022	1	1	1	1	1	1	1	0	0	0	0	0	0	0	9			
ANS-02	Identify an appropriate location for establishing a back-up EOC outside of the floodplain.	Relocate/Retreat	EMD	More than \$500,000	CIP, FEMA Grant	2023 – 2025	0	1	1	1	1	1	1	0	0	0	0	0	0	0	8			
ANS-03	Complete demolition of the former factory Brownfield located near Liberty Street. Approximately 40 to 70 acres will be cleared.	Acquisition & Open Space	DPW, FS, ConCom	More than \$1 million	OB, FEMA Grant, CT DEEP	2021 – 2023	1	1	0	1	1	1	1	0	0	0	0	0	0	0	8			
ANS-04	Conduct and analysis of the Olsen Drive area to identify appropriate measures to mitigate flood problems.	Drainage	PW	\$25,000 - \$50,000	OB, CIP, FEMA Grant, CT DEEP	2022 – 2023	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-05	Increase funding for the Tree Warden to address a wider range of tree limb hazards than the current budget allows	Tree and Debris Management	TW, BOS/BOA	\$0 - \$25,000	OB	2022	0	0.5	1	1	1	1	1	0	0	0	-1	0	0	0	6			
ANS-06	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			
ANS-07	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			
ANS-09	Remain engaged with FEMA and the State during the Housatonic River Watershed flood map updates. Review draft maps and provide comments to FEMA.	Flood Map Updates	Plan, FS, NFIP Coordinator	\$0 - \$25,000	OB, FEMA Grant, CT DEEP	2022	1	1	1	0	1	0	1	0	0	0	-1	0	0	0	5			
ANS-10	Work with CIRCA to develop potential risk reduction pilot projects in the identified "adaptation/resilience opportunity areas" near and in locations of transit-oriented development (TOD).	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			
ANS-11	Replace the generators at Mead School and the Middle School; which are currently small, old, and can only power approximately 25% of each building. Mead School is the pet shelter, and the Middle School is the backup shelter.	Sheltering Capabilities	EM	\$100,000 - \$500,000	CIP, FEMA Grant, CT DEMHS	2022 – 2024	1	1	1	0	1	1	0	0	0	0	0	0	0	0	7			
ANS-12	Mitigate flooding issue on Route 334	Drainage	DPW	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-13	Upgrade the Wakelee Avenue (Route 334) area drainage network to reduce flooding	Drainage	PW, CT DOT	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-14	Upgrade and replace drainage along Prindle Avenue which carries a tributary to Beaver Brook which causes home flooding	Drainage	PW	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-15	Upgrade/replace the drainage network associated with the unnamed stream in the Ells Street area to reduce flooding	Drainage	PW	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-16	Work with CT DOT to review drainage east of Route 8 where flooding occurs after rain events, and upgrade as needed to reduce potential for property damage	Drainage	PW, CT DOT	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-17	Pursue drainage/culvert improvements at Kielys Lane to reduce nuisance flooding	Drainage	PW	More than \$500,000	OB, CIP, FEMA Grant, CT DEEP	2023 – 2025	0	1	0	1	1	1	0.5	0	0	0	0	0	0	0	6.5			
ANS-18	Work with property owner to remove trees and reinforce the wall along South Main Street just to the north of Columbia Street	Tree and Debris Management	PW	\$0 - \$25,000	OB	2022	0	0.5	1	1	1	1	1	0	0	0	-1	0	0	0	6			
ANS-19	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			
ANS-20	Develop a hydraulic/hydrologic model of floodprone river systems to prioritize mitigation such as bridge and culvert replacement, property acquisitions, etc.	Study	EMD, PW	\$50,000 - \$100,000	FEMA Grant, CT DEEP	2022 – 2024	1	1	1	0	1	0	0	0	0	0	0	0	0	0	5			
ANS-21	Conduct a study to identify municipal buildings, critical facilities, and commercial/industrial buildings that are vulnerable to roof damage or collapse	Study	PW, B&E	\$50,000 - \$100,000	FEMA Grant, CT DEEP	2022 – 2024	1	1	1	0	1	0	0	0	0	0	0	0	0	0	5			
ANS-22	Complete relocation of the Police Department and Emergency Operations Center to a new facility with a generator.	Critical Facility Protection	EMD	More than \$1 million	CIP, FEMA Grant, CT DEMHS	2024 – 2026	0	1	1	0	1	1	0	0	0	0	0	0	0	0	6			

#	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		
ANS-23	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	0	5
ANS-24	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	0	5
ANS-25	Conduct an analysis of sewer pumping stations in SFHAs in order to identify pumping stations in need of flood mitigation as well as appropriate flood mitigation measures, and to prioritize actions.	Critical Facility Protection	DPW	\$25,000 - \$50,000	OB, CIP	2022 – 2024	0	0.5	1	0	1	1	0	0	0	0	0	0	0	0	0	5
ANS-26	Work with the owners of the Platt Street landslide site to conduct maintenance and prevent future slides	Landslide Mitigation	PW	\$100,000 - \$500,000	CIP, CT DEEP	2024 – 2026	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	4
ANS-27	Install evacuation signs in SFHAs	Evacuation & Access	EMD	\$25,000 - \$50,000	OB, CT DEMHS	2022 – 2024	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-28	Develop a site-specific evacuation plan for John J. Stephens Apartments at 75 Central Street	Evacuation & Access	EMD	\$25,000 - \$50,000	OB, CT DEMHS	2022 – 2024	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-29	Develop a site-specific evacuation plan for Riverview Apartments	Evacuation & Access	EMD	\$25,000 - \$50,000	OB, CT DEMHS	2022 – 2024	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-30	Develop a site-specific evacuation plan for Capital Plaza at 290 Main Street	Evacuation & Access	EMD	\$25,000 - \$50,000	OB, CT DEMHS	2022 – 2024	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-31	Develop a site-specific evacuation plan for Julia Day Nursery & Kindergarten	Evacuation & Access	EMD	\$25,000 - \$50,000	OB, CT DEMHS	2022 – 2024	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-32	Develop a flood warning system.	Emergency Response, Alerts, & Communication	EM	\$50,000 - \$100,000	OB, CT DEMHS	2024 – 2026	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-33	Install a permanent generator at City Hall capable of supporting the services based in that facility, including critical records and departments, the City-wide phone system, and network servers.	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	0	-1	-1	3.5
ANS-34	Develop a standardized portable generator hookup at each sewer pump station and acquire a dedicated portable generator that can be used to pump the chambers down on a rotating basis.	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	0	-1	-1	3.5
ANS-35	Install permanent emergency generators at the three fire stations that do not yet have.	Backup Power	EM, DPW, FD	More than \$500,000	CIP, FEMA Grant	2025 – 2027	0.5	0.5	1	1	0	1	0	0	0	0	0	0	0	-1	-1	3.5
ANS-36	Develop a new connector into Ansonia from Route 8 through the Brownfield located near Liberty Street, providing improved access and egress in case of emergencies.	Evacuation & Access	EM	More than \$1 million	OB, CT DEMHS	2026 – 2027	1	0	1	1	1	0	0	0	0	-1	0	0	0	0	0	3.5
ANS-37	Audit zoning regulations in order to identify appropriate updates to limit development in areas at risk of liquefaction, landslides, or other geological hazards.	Landslide Mitigation	PZC	\$0 - \$25,000	OB	2022 – 2024	0	1	0	0	1	0	1	0	0	0	-1	0	0	0	0	3
ANS-38	Require that drainage systems in the vicinity of steep slopes be expanded and oversized, if doing so will not increase flood risk downstream, in order to avoid saturation of the slopes and the landslides that may result.	Landslide Mitigation	PW	\$0 - \$25,000	OB	2022 – 2024	0	1	0	0	1	0	1	0	0	0	-1	0	0	0	0	3
ANS-39	Connect the pump stations to the WPCA through a SCADA system. Currently, the pump stations operate automatically but an operator needs to visit regularly to check effluent stage in the chamber. Being able to track effluent stage from the WPCA would allow for better management and better prioritization during power outages.	Utility Resilience	DPW	\$25,000 - \$50,000	CIP, CT DEEP	2023 – 2025	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3

## **APPENDIX B**

### **RECORD OF MUNICIPAL ADOPTION**



CERTIFICATE OF ADOPTION  
ANSONIA BOARD OF ALDERMEN

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

WHEREAS, the City of Ansonia 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 Ansonia Board of Aldermen approved the previous version of the Plan in 2012; and

WHEREAS, the City of Ansonia 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 Ansonia; and

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

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

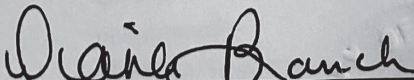
RESOLVED by the Board of Aldermen:

1. The Plan is hereby adopted as an official plan of the City of Ansonia;
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 Aldermen.

Adopted this 9<sup>th</sup> day of NOV., 2021 by the Board of Aldermen of Ansonia, Connecticut

  
\_\_\_\_\_  
Mayor

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of Ansonia this  
10<sup>th</sup> day of NOV., 2021.

  
\_\_\_\_\_  
City Clerk

ant.

SEAL



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## APPENDIX C

CERC City Profile 2019

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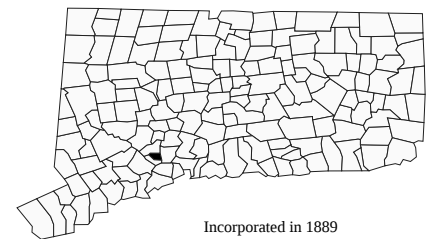


# Ansonia, Connecticut

## CERC Town Profile 2019 *Produced by Connecticut Data Collaborative*

**City Hall**  
253 Main Street  
Ansonia, CT 06401  
(203) 736-5900

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



Incorporated in 1889

### Demographics

#### Population

	<b>Town</b>	<b>County</b>	<b>State</b>
2000	18,554	824,008	3,405,565
2010	19,249	862,477	3,574,097
2013-2017	18,953	862,127	3,594,478
2020	19,839	898,514	3,604,591
'17 - '20 Growth / Yr	1.5%	1.3%	0.1%

	<b>Town</b>	<b>County</b>	<b>State</b>
Land Area (sq. miles)	6	605	4,842
Pop./Sq. Mile (2013-2017)	3,148	1,426	742
Median Age (2013-2017)	39	40	41
Households (2013-2017)	6,981	327,402	1,361,755
Med. HH Inc. (2013-2017)	\$45,563	\$64,872	\$73,781

	<b>Town</b>	<b>State</b>
Veterans (2013-2017)	904	180,111

#### Age Distribution (2013-2017)

	<b>0-4</b>	<b>5-14</b>	<b>15-24</b>	<b>25-44</b>	<b>45-64</b>	<b>65+</b>	<b>Total</b>
Town	837 4%	2,927 15%	2,319 12%	4,857 26%	5,210 27%	2,803 15%	18,953 100%
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%

#### Race/Ethnicity (2013-2017)

	<b>Town</b>	<b>County</b>	<b>State</b>
White Non-Hisp	11,943	553,000	2,446,049
Black Non-Hisp	2,166	105,661	350,820
Asian Non-Hisp	285	33,678	154,910
Native American Non-Hisp	0	783	5,201
Other/Multi-Race Non-Hisp	449	20,448	84,917
Hispanic or Latino	4,110	148,446	551,916

	<b>Town</b>	<b>County</b>	<b>State</b>
Poverty Rate (2013-2017)	18.6%	12.1%	10.1%

#### Educational Attainment (2013-2017)

Educational Attainment (2015-2017)				
	Town		State	
High School Graduate	5,218	41%	673,582	27%
Associates Degree	1,125	9%	188,481	8%
Bachelors or Higher	2,590	20%	953,199	38%

### Economics

#### Business Profile (2018)

<b>Sector</b>	<b>Units</b>	<b>Employment</b>
Total - All Industries	350	3,420
23 - Construction	35	113
31-33 - Manufacturing	20	334
44-45 - Retail Trade	45	801
62 - Health Care and Social Assistance	36	441
72 - Accommodation and Food Services	28	418
Total Government	18	663

#### Top Five Grand List (2015)

	<b>Amount</b>
United Illuminating Co.	\$12,416,090
Ansonia Shopping Center LLC	\$8,601,000
Target Corporation	\$8,249,960
Yankee Gas Services Co	\$8,144,430
Ansonia E & A LLC	\$6,511,000
Net Grand List (SFY 2016-2017)	\$897,566,947

#### Major Employers (2016)

Farrel Corporation	Big Y
Target Corporation	United Illuminating
Yankee Gas	

### Education

#### 2018-2019 School Year

	<b>Grades</b>	<b>Enrollment</b>
Ansonia School District	PK-12	2324

#### Smarter Balanced Test Percent Above Goal (2017-2018)

	Grade 3		Grade 4		Grade 8	
	Town	State	Town	State	Town	State
Math	52.3%	53.8%	30.6%	51.3%	30.7%	43.0%
ELA	46.6%	53.1%	33.5%	54.9%	40.4%	56.1%

#### Pre-K Enrollment (PSIS)

	<b>2018-2019</b>
Ansonia School District	110

#### 4-Year Cohort Graduation Rate (2017-2018)

	<b>All</b>	<b>Female</b>	<b>Male</b>
Connecticut	88.3%	91.8%	85.1%
Ansonia School District	85.8%	90.5%	81.2%

#### Rate of Chronic Absenteeism (2017-2018)

	<b>All</b>
Connecticut	10.7%
Ansonia School District	18.8%

#### Public vs Private Enrollment (2013-2017)

	<b>Town</b>	<b>County</b>	<b>State</b>
Public	91.6%	88.2%	86.8%
Private	8.4%	11.8%	13.2%

# Ansonia, Connecticut

CERC Town Profile 2019



Connecticut  
Economic  
Resource Center

## Government

Government Form: Mayor - Council

Total Revenue (2017)	\$67,052,389	Total Expenditures (2017)	\$68,725,888	Annual Debt Service (2017)	\$7,793,764
Tax Revenue	\$33,351,603	Education	\$42,748,391	As % of Expenditures	11.3%
Non-tax Revenue	\$33,700,786	Other	\$25,977,497	Eq. Net Grand List (2017)	\$1,376,772,795
Intergovernmental	\$29,855,052	Total Indebtedness (2017)	\$8,796,580	Per Capita	\$73,182
Per Capita Tax (2017)	\$1,790	As % of Expenditures	12.8%	As % of State Average	48.5%
As % of State Average	61.1%	Per Capita	\$468	Moody's Bond Rating (2017)	Aa3
		As % of State Average	18.6%	Actual Mill Rate (2017)	37.32
				Equalized Mill Rate (2017)	24.46
				% of Net Grand List Com/Ind (2017)	10.1%

## Housing/Real Estate

### Housing Stock (2013-2017)

	<b>Town</b>	<b>County</b>	<b>State</b>
Total Units	7,807	365,546	1,507,711
% Single Unit (2013-2017)	46.8%	53.6%	59.2%
New Permits Auth (2017)	6	750	4,547
As % Existing Units	0.1%	0.2%	0.3%
Demolitions (2017)	2	202	1,403
Home Sales (2017)	112	4,763	21,880
Median Price	\$208,700	\$244,400	\$270,100
Built Pre-1950 share	48.0%	33.2%	29.3%
Owner Occupied Dwellings	4,169	204,037	906,798
As % Total Dwellings	59.7%	62.3%	66.6%
Subsidized Housing (2018)	1,237	46,013	167,879

### Distribution of House Sales (2017)

	<b>Town</b>	<b>County</b>	<b>State</b>
Less than \$100,000	0	106	536
\$100,000-\$199,999	62	1,232	5,237
\$200,000-\$299,999	47	1,785	6,681
\$300,000-\$399,999	3	888	3,863
\$400,000 or More	0	752	5,563

### Rental (2013-2017)

	<b>Town</b>	<b>County</b>	<b>State</b>
Median Rent	\$1,026	\$1,100	\$1,123
Cost-burdened Renters	63.6%	54.5%	52.3%

## Labor Force

	<b>Town</b>	<b>County</b>	<b>State</b>
Residents Employed	8,767	438,576	1,827,070
Residents Unemployed	526	20,171	78,242
Unemployment Rate	5.7%	4.4%	4.1%
Self-Employed Rate	4.9%	8.5%	10.0%
Total Employers	350	24,958	122,067
Total Employed	3,420	366,848	1,673,867

### Connecticut Commuters (2015)

<b>Commuters Into Town From:</b>		<b>Town Residents Commuting To:</b>	
Ansonia, CT	541	Shelton, CT	809
Seymour, CT	185	New Haven, CT	706
Shelton, CT	167	Stratford, CT	616
Derby, CT	141	Milford, CT	554
New Haven, CT	124	Ansonia, CT	541
Bridgeport, CT	115	Derby, CT	477
Naugatuck, CT	113	Bridgeport, CT	393

## Quality of Life

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

	<b>Town</b>	<b>State</b>
Property	1,823	1,777
Violent	113	228

### Disengaged Youth (2013-2017)

	<b>Town</b>	<b>State</b>
Female	32.0%	4.2%
Male	3.3%	5.6%

	<b>Town</b>
Library circulation per capita	2.22

### Distance to Major Cities

	<b>Miles</b>
Hartford	35
New York City	65
Providence	92
Boston	126
Montreal	291

### Residential Utilities

<b>Electric Provider</b>
The United Illuminating Co. (800) 257-0141
<b>Gas Provider</b>
Eversource Energy (800) 989-0900
<b>Water Provider</b>
Birmingham Utilities (203) 735-1888
<b>Cable Provider</b>
Comcast Seymour (800) 266-2278