

Stafford

Stafford is a rural community of approximately 12,000 residents. Situated in the Willimantic River Valley between almost parallel ranges of hills, Stafford is located in the northern portion of Tolland County approximately 20 miles from the City of Hartford. Located on the state line, Stafford is bordered by the Towns of Monson, Hampden, and Wales, Massachusetts to the north and the Town of Union, Connecticut to the east, the Towns of Willington and Ellington to south and the Town of Somers to the west. Stafford covers approximately 58 square miles, making it the third largest town (land area) in Connecticut. Throughout the town, there are numerous lakes, ponds, streams, forests and farmlands.

Stafford has a rich historical heritage. Long before its incorporation as a town in 1719, the famous mineral springs drew Indians and settlers to the Stafford area for the curative properties of the water. In addition to its reputation as a resort area, Stafford became known for its textile mills in the later 1800's. Some of the world's most famous cloth was (and still is) woven in this town. Today, Stafford displays a rich tapestry of quaint mills, Victorian houses, and rolling country from agrarian roots to its industrial foundations. There is a developed downtown business section bordered by several parks.

Town of Stafford is comprised of villages, hamlets and a borough all under one town government. They are the borough of Stafford Springs, the village of Staffordville, the hamlet of Orcuttville, the village and historic district of Stafford Hollow, the village of Hydeville and West Stafford. All of these communities are located on tributaries of the Willimantic River.

Stafford's main industry is manufacturing and local companies produce woolen products, printed circuits, filters, metal bushings and bearings, precision medical devices, fly rod components, and nameplates and labels. Other important industries are nursery and horticultural products, health care services, seasonal camping, motor sports, and recreation. TTM Industries' three locations (Industrial Park Road, Upper Road, and Old Monson Road), 3M Inc. (located on River Road) and Willington Name Plate (located on Middle River Drive) all utilize various hazardous materials which are reported to the Local Emergency Planning Committee (LEPC). TTM's facility on Upper Road is located within 500 yards of the Staffordville School and plans exist to address this specific hazard both at the facility, the school, and the Staffordville Fire Department.

There are approximately 5,000 housing units in Stafford. Most are single family homes and typically of wood frame construction. There are also three campgrounds that attract a seasonal population of approximately 2,000. Sun Valley on Old Springfield Road has a seasonal population of approximately 900; Mineral Springs on Leonard Road houses approximately 100 and Roaring Brook on South Road serves approximately 1000.

Johnson Memorial Hospital, located on Route 190 in Stafford, is a modern hospital built in 1975 and services the medical needs of populations in northern Hartford, Tolland and Windham counties. Adjoining the hospital is a professional building which houses the practices of area doctors. Evergreen Health Care Center is a long-term care facility that is also located at this site. Evergreen and JMH serve several area towns. Both the long-term care facility and the hospital have disaster plans in place that have been shared with the local Emergency Management Director and the Fire Department.

Challenges

The primary natural hazard for Stafford is flooding that might be caused by overflow from the numerous rivers and streams that flow through the town or from possible failure of one or more of the fifty-seven (57) dams located within the town boundaries or from those located in upstream communities. Historically most of flood damage in Stafford has been caused by the Middle River, Furnace Brook and their tributaries. Industrial and textile plants, stores, public buildings, businesses and private property located in the flood plains had been flooded 18 times between 1900 and 1980. Six of the floods caused damage of more than half a million dollars each. The most severe of the floods occurred in 1936, 1938, and 1955. The 1955 flood resulting from 12 inches of rainfall deposited by Hurricane Diane into the watershed caused an estimated 1.3 million dollars in damage. This was the last major flooding event to occur in Stafford. Heavy rainfall in October of 2005 caused numerous localized flooding of small streams and rivers and washed away several roads causing moderate to severe damage. In addition, severe damage occurred at the Stafford Water Pollution Control Facility due to flooding of the Willimantic River.

The most severe historical damage cause by dam failure occurred in the spring of 1877 when a dam that had been constructed the previous fall and winter on the Stafford Reservoir gave way. The torrent of water washed down the beds of Furnace Brook obliterating nine other dams on its five mile trip to Stafford Springs. This dam break cost the community approximately \$400,000 in damage, the loss of two lives and long term economic hardship for businesses in its path. Today there are fifty-seven (57) dams in the Town of Stafford. The Connecticut Department of Energy and Environmental Protection (DEEP) has classified eight of these as High Hazard (category C). Five of the High Hazard dams are owned and maintained by the State of Connecticut. The remaining three: the Staffordville Reservoir Dam, the Warren Pond Dam and the Riverside Pond Dam, are privately owned. There are six dams designated as having a Significant Hazard risk (category B). Of these six, the State of Connecticut owns and maintains the Bradway Reservoir Dam #4. All other category B dams are privately owned. There are eleven privately owned and one municipally owned category BB (Moderate Hazard) dams. All seventeen (17) category A and AA dams are privately owned and fourteen (14) dams have no hazard or owner designation.

A FEMA Flood Insurance Study was conducted in 1981 for the Town of Stafford and the town has incorporated Floodplain Regulations into its Zoning Regulations. Past encroachment within the floodway and/or the floodway fringe has occurred in the following areas: Rt. 32 south of the town as well as numerous smaller town roads. These encroachments reduce the flood-carrying capacity of waterways, increase the flood height of streams, and increases flood hazards in areas beyond the encroachment itself. The National Flood Insurance Program has paid four property damage claims in Stafford Springs totaling \$22,257.15 and 28 claims in Stafford totaling \$381,154.22 to-date. However, there have been no Repetitive Loss Property claims in Stafford or Stafford Springs to-date. Since the adoption of the 2008 Plan, Stafford has not permitted any new construction in the 100 Year flood plain. In 2010, the Town revised its Inland Wetlands and Watercourses Regulations to be in accordance with the State model regulations.

A significant flood event could result in much damage. CROG used FEMA's Hazus-MH model to analyze the risks that the Town of Stafford might face from a major flood. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to a flood having a 1% chance of occurring any given year (the 100-year flood) would be over \$50 million. The impacts of such a flood are summarized below:

Estimated Damages from 100-Year Flood	Households Displaced	240
	People Needing Shelter	298
	Buildings at Least Moderately Damaged	27
	Expected Damage to Essential Facilities	Police station will sustain loss of use
	Total Estimated Economic Losses	\$50,620,000
	Total Residential Building & Content Losses	\$16,320,000
	Total Commercial, Industrial & Other Building & Content Losses	\$34,100,000
	Total Business Interruption Losses	\$200,000

CRCOG also used FEMA's Hazus-MH model to analyze the risks that the Town of Stafford might face from a hurricane as powerful as the 1938 hurricane. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to such a Category 3 hurricane would be over \$55 million. The impacts of such a storm are summarized below:

Estimated Damages from a 1938 Strength Hurricane	Households Displaced	19
	People Needing Shelter	3
	Buildings at Least Moderately Damaged	419
	Buildings Completely Damaged	17
	Total Estimated Economic Losses	\$55,122,000
	Expected Damage to Essential Facilities	Hospital has probability of greater than 50% of sustaining at least moderate damage
	Total Residential Building Losses	\$42,118,000
	Total Commercial, Industrial & Other Building Losses	\$8,101,000
	Total Business Interruption Losses	\$4,903,000
	Total Debris Generated	153,186 tons
	Truckloads (at 25 tons/truck) of building debris	190

According to information from the Connecticut Department of Emergency Management and Homeland Security, the three federally declared natural disasters of 2011 resulted in total expenses to the municipality of over \$1.3 million. These expenses include debris and snow removal, emergency protective measures and repairs to damaged infrastructure and buildings but do not include damages experienced by private citizens and businesses.

2011 Disasters Damage Amounts Eligible for 75% Reimbursement Under FEMA Public Assistance Program				
Applicant: Town & Others (i.e., Fire Districts, Schools, and Private Non-Profit Agencies)	100% of Amount Eligible for 75% Reimbursement			Total Damages Eligible for Public Assistance Due to 2011 Disasters
	DR-1958-CT	DR-4023-CT	DR-4046-CT	
	2011 now	Irene August 2011	Oct 2011 Alfred)	
Town of Stafford	\$58,390.40	\$24,715.39	\$115,652.35	\$198,758.14
Stafford Other	\$18,923.27	\$4,713.82		\$23,637.09
Stafford Total	\$77,313.67	\$29,429.21	\$115,652.35	\$222,395.23

Stafford is heavily wooded. Power outages and road blockages following storms are a concern as are blockages along fire roads which could hamper wildfire fighting efforts.

Goals, Objectives and Strategies

Because this plan is Stafford's first Natural Hazard Mitigation Plan, all mitigation actions are considered new initiatives although some may be current practices.

GOAL: REDUCE PROPERTY DAMAGE DUE TO UNSAFE CONDITIONS RESULTING FROM WINTER STORMS

Objective 1:

Improve snow removal equipment and techniques.

Strategic Actions:

- 1.4 Pursue increased funding for equipment and labor.
Lead: Public Works, Administration
Priority: Medium
Status: This is a current practice, but a new initiative for this plan.
Potential Funding Sources: Town General fund
Timeframe: Spring/Summer 2014

- 1.5 Continue to pursue opportunities for service and equipment sharing with neighboring communities through CRCOG's service sharing initiative and otherwise.
Lead: Public Works, Administration
Priority: Low
Status: This is a current practice, but a new initiative for this plan.
Potential Funding Sources: Town General fund
Timeframe: 2014- 2019

- 1.6 Improve Public Works personnel contracts to ensure adequate staffing for storm situations.
Lead: Administration
Priority: Low
Status: This is a current practice, but a new initiative for this plan.
Potential Funding Sources: Town General fund
Timeframe: Summer 2015

Objective 2:

Remove and prevent impediments to snow removal operations.

Strategic Actions:

- 2.1 Educate private snow-removal contractors and residents on not obstructing roads and the right-of-way.
Lead: Police and Fire
Priority: Medium
Status: This is a current practice, but a new initiative for this plan.
Potential Funding Sources: Town General fund
Timeframe: 2014-2019: Annual outreach is anticipated.

- 2.2 Enforce existing ordinance prohibiting roadway obstructions.
 Lead: Police
 Priority: Medium
 Status: This is a current practice, but a new initiative for this plan. Efforts are undertaken on an as needed basis in response to storm events.
 Potential Funding Sources: Town General fund
 Timeframe: 2014 – 2019

Objective 3:

Educate public on hazardous conditions during storm events - promote safe driving techniques.

Strategic Action:

- 3.1 Continue to issue press releases and advisories.
 Lead: Emergency Management, Police
 Priority: High
 Status: This is a current practice, but a new initiative for this plan. Efforts are undertaken on an as needed basis anticipation of storm events
 Potential Funding Sources: Town General fund
 Timeframe: 2014 – 2019.

GOAL: IMPLEMENT GUIDELINES AND REGULATIONS TO REDUCE EXPOSURE TO PROPERTY DAMAGE AND LOSS OF LIFE AS A RESULT OF FLOODING

Objective 1:

Restrict development of buffer areas in flood prone zones and promote best development practices for minimizing environmental impacts.

Strategic Actions:

- 1.1 Continue to work to maintain zoning, subdivision and wetlands regulations current with best practices.
 Lead: Building/Zoning/Land Use
 Priority: High
 Status: This is a current practice, but a new initiative for this plan. Efforts are undertaken as development proposals are reviewed and inspections are conducted.
 Potential Funding Sources: Town General fund
 Timeframe: 2014-2019
- 1.3 Complete and implement stormwater management plan.
 Lead: Engineering, Building/Zoning/Land Use
 Priority: Medium
 Status: New Initiative
 Potential Funding Sources: Town General fund, State grants
 Timeframe: Expected completion date-Spring/Summer2014

Objective 2:

Maintain waterways, drainage and other structures in critical flood areas.

Strategic Actions:

2.1 Address priority bridge, culvert and other drainage projects identified in Capital Improvement Plan.

Lead: Public Works, Engineering, Administration

Priority: High

Status: New Initiative. To be initiated in the fall of 2013 and undertaken in 2014-2019

Potential Funding Sources: Town General fund, bonding, State and FEMA grants

Timeframe: 2014-2019

2.2 Work with DEEP to continue to monitor critical dams.

Lead: Engineering, Emergency Management

Priority: Medium

Status: New Initiative. To be initiated in the fall of 2013 and undertaken in 2014- 2019

Potential Funding Sources: Town General fund

Timeframe: 2014-2019

2.3 Develop action plan, time table and budget to repair dams

Lead: Engineering, Emergency Management

Priority: High

Status: New Initiative. To be initiated in the fall of 2013 and undertaken in 2014-2019

Potential Funding Sources: Town General fund, bonding, DEEP

Timeframe: 2014-2019

Objective 3:

Ensure traffic safety during flood events.

Strategic Action:

3.1 Improve communications with neighboring communities on road closures and detour routing.

Lead: Police, Fire

Priority: High

Status: New Initiative. To be initiated in the fall of 2013 and undertaken in 2014-2019

Potential Funding Sources: Town General fund

Timeframe: 2014-2019

3.2 Educate police personnel on detour routing protocols to ensure alternative routes can accommodate trucks.

Lead: Police

Priority: Medium

Status: New Initiative. To be initiated in the fall of 2013 and undertaken in 2014-2019

Potential Funding Sources: Town General fund

Timeframe: 2014-2019

GOAL: REDUCE PERSONAL PROPERTY DAMAGE AND POWER FAILURES CAUSED BY HIGH WINDS

Objective 1:

Aggressively work with utility companies to identify high risk areas and promote tree trimming.

Objective 2:

Relocate high density utility facilities underground.

Strategic Action:

2.1 Create a long range plan for undergrounding existing facilities.

Lead: Building/Zoning/Land Use, Emergency Management

Priority: Low

Status: New Initiative

Potential Funding Sources: Federal, state, local, bonding, and private sources (utilities, developers, property owners).

Timeframe: 2014-2019

2.2 Pursue opportunities to relocate wires where they are vulnerable: areas of repetitive power failure.

Lead: Emergency Management, Building/Zoning/Land Use

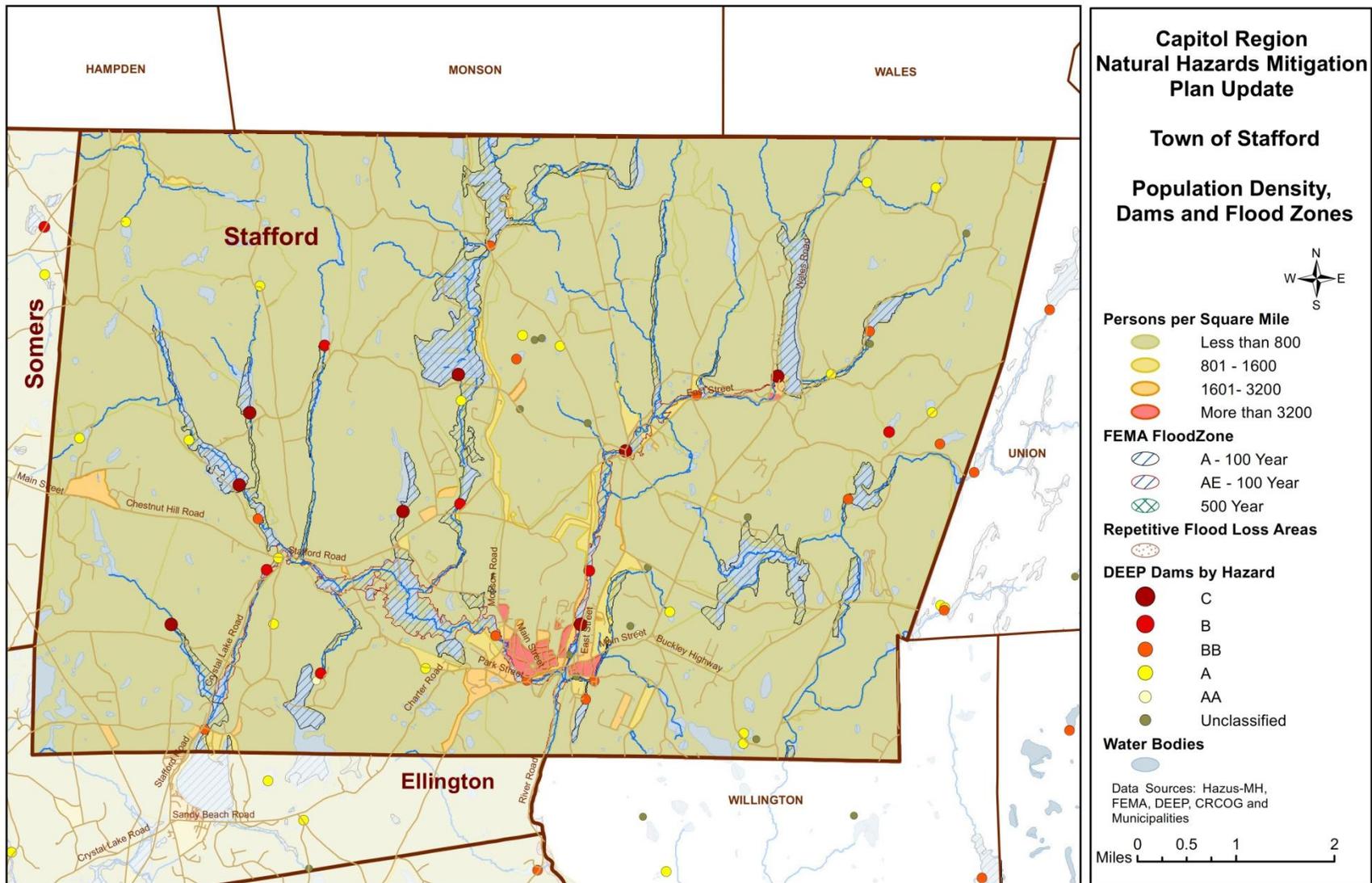
Priority: Medium

Status: This is a current practice, but a new initiative for this plan.

Potential Funding Sources: Federal, state, local, bonding, and private sources (utilities, developers, property owners).

Timeframe: 2014 – 2019

Map 54: Stafford Population Density, Dams and Flood Zones



Map 55: Stafford Flood Plains, Repetitive Loss Areas, Dams and Important Facilities

