# Town of Wilton, New Hampshire

# Hazard Mitigation Plan Update 2021



Date Approved Pending Adoption: March 3, 2021

Date Adopted: March 15, 2021

Date Final Approval: March 25, 2021

Prepared with Assistance from the Nashua Regional Planning Commission



Funded in part by the NH Department of Safety, Homeland Security and Emergency Management



# **Table of Contents**

CHAPTER 1. PLANNING PROCESS	5
Section 1.1 ~ Overview of Planning Process	5
Section 1.2 ~ Involvement of Neighboring Communities and Local/Regional Agencies	5
Section 1.3 ~ Public Participation	6
Section 1.4 ~ Existing and Potential Authorities, Policies, Programs, and Resources	6
Planning and Regulatory Capabilities	7
Emergency Management Capabilities	7
Emergency Management Departments, Facilities, Personnel, and Volunteers	8
Emergency Management Communications	8
Floodplain Management Capabilities	8
Administrative and Technical Capabilities	8
Fiscal Capabilities	9
Summary and Analysis of Wilton's Existing Authorities, Policies, Programs, and Resources	10
Section 1.5 ~ Review and Incorporation of Existing Documents	12
Section 1.6 ~ Updating the Plan	13
CHAPTER 2. CHANGES FROM PREVIOUS PLAN	13
Section 2.1 ~ Changes in Development	13
Section 2.2 ~ Progress on Local Mitigation Efforts	14
Table 1—Status of Previous Actions	14
Section 2.3 ~ Changes in Priorities	16
Table 2—Changes in Mitigation Priorities	18
CHAPTER 3. HAZARD IDENTIFICATION AND RISK ASSESSMENT	21
Section 3.1 ~ Description of Natural Hazards	21
Table 3—Natural Hazards in Jurisdiction	21
Section 3.2 ~ Description of Previous Hazards	25
Table 4—Previous Occurrences of Hazards in Jurisdiction	25
Section 3.3 ~ Probability of Future Hazard Events	46
Table 5—Probability of Future Hazard Events	46
Section 3.4 ~ Critical Facilities and their Vulnerability	

Table 6.1—General Occupancy Critical Facilities	53
Table 6.2—Essential Facilities	57
Table 6.3—Transportation Critical Facilities	58
Table 6.4—Utility Systems	59
Table 6.5—High Potential Hazard Facilities	60
Table 6.6—Hazardous Materials Facilities	63
Section 3.5 ~ Vulnerability by Hazard	66
Climate Change	66
Drought	67
Earthquake	68
Extreme Temperatures	70
Flooding	71
Severe Wind	74
Lightning	76
Severe Winter Weather	77
Tornado/Downburst	79
Wildfire	80
Section 3.6 ~ Overall Summary of Vulnerability	82
Table 7.1—Overall Summary of Vulnerability by Hazard	82
Table 7.2—Overall Summary of Vulnerability by Facility Type	87
Section 3.7 ~ National Flood Insurance Program	87
Table 8—National Flood Insurance Program Mitigation Actions	88
CHAPTER 4 MITIGATION STRATEGY	88
Section 4.1 $\sim$ Goals and Objectives to Reduce Vulnerabilities to Hazards	88
Section 4.2 ~ Mitigation Actions	91
Table 9—Mitigation Actions	91
Section 4.3 ~ Prioritizing Mitigation Actions	94
Table 10—Benefit Cost Review	94
Table 11—STAPLEE Analysis	99
Section 4.4 ~ Implementing and Administering Mitigation Actions	
Table 12—Implementation and Administration	110
CHAPTER 5. PLAN ADOPTION	

Section 5.1 ~ Formal Adoption by Governing Body	
Section 5.2 ~ FEMA Approval Letter	

# **CHAPTER 1. PLANNING PROCESS**

## Section 1.1 ~ Overview of Planning Process

The Wilton Hazard Mitigation Plan Update 2021 was prepared by the Nashua Regional Planning Commission (NRPC) for the Town of Wilton, NH. NRPC staff worked closely with the Wilton Hazard Mitigation Team to write this plan. The Wilton Hazard Mitigation Team includes:

- Eric Olesen, Chief of Police, Wilton Police Department
- David B. Boissonnault, Emergency Management Director, Town of Wilton
- Sherry Miller, Director, Town of Wilton Ambulance
- Paul Branscombe, Town Administrator, Town of Wilton
- Don Nourse, Fire Chief, Wilton Fire Department
- Janice Pack, Administrative Assistant, Town of Wilton
- Sara Spittel, Community Member, Town of Wilton
- Norma Ditri, Building Inspector, Town of Wilton
- Michele Decoteau, Land Use Administrator/MS4 Manager, Town of Wilton

NRPC staff met with the Wilton Hazard Mitigation Team for a series of 4 meetings in order to prepare the Wilton Hazard Mitigation Plan Update 2021. Agendas from these meetings appear in the Appendix to this Plan. In between meetings, NRPC worked directly with the Wilton Hazard Mitigation Team members to obtain additional information needed to write the Plan.

The primary differences between the 2021 Plan and the 2015 Plan are 1) preparedness actions are not included in the 2021 Plan, 2) man-made hazards are not included in the 2021 Plan, and 3) climate change resiliency is addressed in the 2021 Plan.

# Section 1.2 ~ Involvement of Neighboring Communities and Local/Regional Agencies

At the first Hazard Mitigation Team meeting, held on August 25, 2020, the group discussed who should be invited to participate on the planning team. It was determined that the current Team provided adequate representation and no additional members were necessary. The Team also discussed who should be informed about the Plan, such as neighboring communities, local and regional agencies involved in hazard mitigation, agencies with authority to regulate development, and others. It was concluded that the following entities should be informed of the Plan update:

- Matthew S. Fish, Chair, Board of Selectmen, Town of Wilton, NH
- Brian Adams, Highway Department, Town of Wilton, NH
- Kermit R. Williams, Chairman, Wilton Water Commission, Wilton, NH
- Sewer Commission, Town of Wilton, NH
- Gary Daniels, Chairman, Milford Board of Selectmen, Milford, NH
- Mark Chamberlain, Chairman, Lyndeborough Board of Selectmen, Lyndeborough, NH
- Louise Lavoie, Chairman, Mason Board of Selectmen, Mason, NH
- Carla C. Mary, Greenville Board of Selectmen, Greenville, NH
- Greenfield Board of Selectmen, Greenfield, NH

- Ken Caisse, Chairman, Temple Board of Selectmen, Temple, NH
- Bryan K. Lane, Superintendent of Schools, SAU 63, Lyndeborough, NH
- Geraldine Kline, Head of School, Pine Hill at High Mowing School
- Michael Mabee, Souhegan Community Emergency Response Team (CERT), Amherst, NH
- Liz Gilboy, Field Representative, Homeland Security and Emergency Management, Concord, NH
- American Red Cross, Concord, NH

A copy of the letter that was sent to these entities appears in the Appendix to this Plan. There was no response from any of the entities listed above.

## Section 1.3 ~ Public Participation

During the first Hazard Mitigation Team meeting, held on August 25, 2020, the Team brainstormed methods currently employed to notify the public of Town meetings and news. These methods primarily include the Town's website (<u>https://www.wiltonnh.gov/</u>), Wilton Ambulance Service Facebook account (<u>https://www.facebook.com/TownofWiltonAmbulance</u>), and Police Department Facebook account (<u>https://www.facebook.com/pages/Wilton-New-Hampshire-Police-Department/328931717240407</u>) The Team determined that these methods should also be used to encourage public participation in the Hazard Mitigation Plan update process. There was no public response to provide input to the Wilton Hazard Mitigation Plan Update 2021 process.

NRPC staff also developed a webpage for the Wilton Hazard Mitigation Plan Update 2021 (<u>http://www.nashuarpc.org/energy-environmental-planning/hazard-mitigation-planning/</u>), which allows members of the public to participate in the update process even if they cannot attend meetings. The webpage was updated throughout the planning process and includes the 2015 Wilton Hazard Mitigation Plan, 2021 Hazard Mitigation Plan Outline, and Hazard Mitigation Plan Review Checklist. It also provides meeting times, locations, agendas, and homework assignments. The Town of Wilton's website links to this webpage. The Nashua Regional Planning Commission will keep the website active and will add information about ongoing updates over the next five years. A screen shot of the website appears in the Appendix to this Plan.

## Section 1.4 ~ Existing and Potential Authorities, Policies, Programs, and Resources

At the first Hazard Mitigation Team meeting, held on August 25, 2020, the Team discussed Wilton's existing authorities, policies, programs, and resources related to hazard mitigation and its ability to expand and improve on these. The purpose of this discussion was to determine the ability of the Town to implement its hazard mitigation strategies and to identify potential opportunities to enhance specific policies, programs, or projects. The evaluation of Wilton's existing authorities, policies, programs, and resources includes planning and regulatory capabilities, emergency management capabilities, floodplain management capabilities, administrative and technical capabilities, and fiscal capabilities. Each of these areas provides an opportunity to integrate hazard mitigation principles and practices into the local decision-making process.

## **Planning and Regulatory Capabilities**

Planning and regulatory capability is based on the implementation of plans, ordinances, and programs that demonstrate Wilton's commitment to guiding and managing growth in a responsible manner. The following is a summary of the relevant local plans, ordinances, and programs already in place in the Town of Wilton. Each one should be considered as an available mechanism for incorporating the recommendations of the Wilton Hazard Mitigation Plan Update 2021.

- <u>Wilton Land Use Laws & Regulations, Zoning Ordinance 10.0, Floodplain Conservation District</u> regulations in this district apply to all lands designated as special flood hazard areas by FEMA
- Wilton Land Use Laws & Regulations, Zoning Ordinance 11.0, Wetlands Conservation District the regulations in this District are intended to guide the use of land with extended periods of high water tables, in the interest of public health, convenience, safety, and welfare.
- <u>Wilton Land Use Laws & Regulations, Zoning Ordinance 12.0, Aquifer Protection District</u>—the purpose of this district is to protect, preserve, and maintain existing and future municipal water supply sources of the Town by regulating the uses of land over known aquifers and their recharge areas, so as to protect such supplies from contamination caused by adverse or incompatible land use practices or developments.
- <u>Wilton Land Use Laws & Regulations, Zoning Ordinance 14.0, Watershed District</u> the purpose of this district is to preserve water quality and to protect the health and welfare of the residents of the Town by minimizing sources of pollution through regulation and restriction of population density and activity, and by keeping organic and inorganic wastes to a minimum.
- <u>Wilton Land Use Laws & Regulations: Section D, Site Plan Review Regulations</u>—includes provisions for Special Flood Hazard Areas, environmental factors, storm drainage, and erosion and sediment control
- <u>Wilton Land Use Laws & Regulations: Section E, Code for Building and Sanitation</u>—the purpose
  of this code is to provide for the health, safety, and welfare of Wilton residents by ensuring a
  minimum standard of building construction. Building permits are required from the building
  inspector as specified by the International Code Council's complete suite of International Codes.
- <u>Wilton Master Plan</u>—Vision, Land Use, and Natural Resources chapters updated by Planning Board in 2014
- <u>Capital Improvements Plan 2019-2024</u>
- National Flood Insurance Program

## **Emergency Management Capabilities**

Hazard mitigation is a key component of emergency management, along with preparedness, response, and recovery. Opportunities to reduce potential losses through mitigation practices are typically implemented before a hazard event occurs, such as enforcement of policies to regulate development that is vulnerable to hazards due to its location or design. Existing emergency management capabilities for the Town of Wilton include:

#### Emergency Management Plans

- <u>Wilton Hazard Mitigation Plan Update 2015</u>—this document provides a guide for the community to reduce the impact of natural hazards on its residents and the built environment.
- Wilton Emergency Operations Plan adopted in 2013, amended in 2019.

#### **Emergency Management Departments, Facilities, Personnel, and Volunteers**

- Florence Rideout Elementary School provides emergency shelter, emergency power generator
- Gregg Free & Wilton Public Library provides emergency cooling shelter
- Wilton Fire Department
- Wilton Police Department
- Wilton Ambulance Service—serves the Towns of Wilton, Lyndeborough, and Greenfield; provides mutual aid to Milford and Greenville
- Emergency Management Director
- Emergency Operations Center at Fire Department
- Souhegan Valley Mutual Aid—provides fire, police, ambulance, and highway assistance to municipalities in southwest Hillsborough County
- County-wide Police mutual aid

#### **Emergency Management Communications**

- Dispatch—primary dispatch is through the Milford Area Communications Center in Milford
- Wilton Ambulance Service Facebook, Wilton Police Department Facebook and Wilton Fire Department Facebook—emergency management announcements
- <u>Wilton Municipal Website</u>—emergency management announcements and education
- Code Red emergency alert service
- WebX Emergency Alerts
- State Police Communications Center backup communications in case of emergency

## **Floodplain Management Capabilities**

The Town of Wilton participates in the National Flood Insurance Program (NFIP). This provides full insurance coverage based on risk as shown on detailed Flood Insurance Rate Maps (FIRMs). Wilton joined the NFIP on April 15,1980. As a participant in the NFIP, communities must agree to adopt a floodplain management ordinance and enforce the regulations found in the ordinance. Wilton has adopted the "Floodplain Conservation District," which establishes regulations for development activities in the Town's designated flood hazard areas. Additional information on the Floodplain Conservation District and Wilton's participation in the NFIP can be found in Section 3.7 of this Plan.

## **Administrative and Technical Capabilities**

Wilton's ability to develop and implement mitigation projects, policies, and programs is closely related to the staff time and resources it allocates to that purpose. Administrative capability can be improved by coordinating across departments and integrating mitigation planning into existing Town procedures. The following departments, boards, and personnel are critical to Wilton's hazard mitigation administrative and technical capabilities:

- Emergency Management Director
- Building Inspector

- Health Officer
- Road Agent
- Town Administrator
- Fire Department
- Police Department
- Ambulance Service
- Highway Department
- Board of Selectmen
- Zoning Board of Adjustments
- Planning Board
- Sewer Commission
- Water Commission

## **Fiscal Capabilities**

In addition to administrative and technical capabilities, the ability of the Town of Wilton to implement mitigation actions is closely associated with the amount of money available for these projects. Mitigation actions identified in this Plan, including those that will appear in Table 12—Implementation and Administration, may utilize the following funding sources:

- <u>Congestion Mitigation and Air Quality (CMAQ) Program</u>—this program is administered by the Federal Highway Administration and was implemented to support surface transportation projects and related efforts that contribute to air quality improvements and provide congestion relief.
- <u>FEMA Hazard Mitigation Grant Program</u>—the Hazard Mitigation Grant Program provides grants to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the Program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.
- <u>FEMA Pre-Disaster Mitigation Program</u>—the Pre-Disaster Mitigation Program provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster.
- Community Development Block Grant Program—the Community Development Block Grant (CDBG) program, administered through the US Department of Housing and Urban Development (HUD), provides communities with resources to address a wide range of unique community development needs, including Disaster Recovery Assistance. HUD provides flexible grants to help cities, counties, and States recover from Presidentially declared disasters, especially in lowincome areas, subject to availability of supplemental appropriations.
- <u>2019-2024 Wilton Capital Improvements Plan</u> the Wilton Capital Improvements Plan (CIP) links local infrastructure investments with long-term planning. As authorized by RSA 674:5-8 the CIP is the responsibility of the Planning Board or a formally appointed capital improvements program committee, to prepare and amend a recommended program of municipal capital improvements projected over a period of at least six years. The following funding methods maybe used:
  - 1-Year Appropriation—most commonly used financing option and refers to those projects that are to be funded by property tax revenues within a single fiscal year. Funds for projects that are financed using this method are most often included in

the Town's operating budget but can appear as warrant articles to be voted on individually.

- Capital Reserve—a capital reserve account is a non-lapsing savings account, separate from the General Fund. Voters can deposit funds into with approval of a warrant article, with the intent of withdrawing the funds to use for the specific purpose or purchase for which the account was established. This method requires appropriations over more than one year, with the actual project being accomplished only when the total appropriations meet the project cost.
- Lease Purchase—lease purchasing an item allows a municipality to spread the cost over a period of years, generally no more than 7. A municipal lease typically allows for Town ownership at the end of the lease term and usually enjoys lower taxexempt interest rates. Unlike a bond or loan, a municipal lease has a "nonappropriation clause" that allows the town to cancel the lease if the annual payment is not appropriated. The town then loses the equipment that was financed. Lease purchasing is typically used by departments to purchase vehicles.
- Bonding—bonding allows the municipality to negotiate the purchase of goods or services at a set price and then pay for that item or service over a period of time. Bonds, unlike capital reserve accounts, allow the town to utilize the item being purchased or constructed while payments are being made. The most important part of a bond transaction is the promise of the town to repay the debt with interest. There are two major types of bond: general obligation and special revenue. General Obligation Bonds typically have lower interest rates than other types of long-term debt. Revenue Bonds rely on a set revenue source or sources as security for the bond. Bonding in generally limited to the most expense capital projects, such as major renovations, additions, or construction of new school or municipal buildings and facilities.
- Impact fees—these fees are collected from new development to pay for new facility capacity. Money collected is placed in a fund until it is either expended within six years or returned to the party from whom it was collected.

# **Summary and Analysis of Wilton's Existing Authorities, Policies, Programs, and Resources** Measures of Effectiveness are defined as follows:

- Excellent—the existing program works as intended and is exceeding its goals
- Good—the existing program works as intended and meets its goals
- Average—the existing program works as intended but could be improved to meet higher standards
- Poor—the existing program does not work as intended, often falls short of its goals, and/or may
  present unintended consequences

Capability	Description	Area of Town	Responsible Entities	Effectiveness	Changes or Improvements
		Covered			Needed
Planning and	Floodplain	Entire	Planning	Good	Ordinances should
Regulatory	Conservation	jurisdiction	Board, Zoning		be reviewed on a
	District, Wetlands		Board of		regular basis to
	Conservation		Adjustment		ensure they are
	District, Aquifer				consistent with
	Protection District,				goals outlined in the
	Site Plan Review				Wilton Hazard
	Regulations, Code				Mitigation Plan.
	for Building and				Consider
	Sanitation, Capital				conducting a Town
	Improvements				specific
	Plan NFIP				vulnerability
					assessment to
					improve local
					resiliency to climate
					change impacts.
Emergency	Plans;	Entire	Wilton Fire	Good	Utilize a variety of
Management	Departments,	jurisdiction	Dept., Wilton		communications
	Facilities,		Ambulance		methods to ensure
	Personnel, and		Service,		all residents are
	Volunteers;		Wilton Police		educated about
	Communications		Dept., Wilton		emergency
			Police Mutual		preparedness and
			Aid,		hazard mitigation
			Souhegan Fire		measures they can
			Mutual Aid,		take.
			Statewide		
			Fire Mutual		
<u></u>			AID		
Floodplain	Floodplain	Designated	Wilton	Good	Revise/adopt
ivianagement	Conservation	FIOOD	Planning		regulations to
	District, NFIP	Hazard	Board		Improve floodplain
		Areas in			management if
		wiiton			needed. Ensure
					Nilton Master Dan
					include fleedalain
					Incorporato
					undated flood plains
					for Merrimack
					Watarshad into
					municipal planning
					activities when they
					become available.

Administrative	Planning Dept., Fire	Entire	Entities listed	Excellent	Promote
and Technical	Dept., Ambulance	jurisdiction	in Description		communication
	Service, Police				across all
	Dept., Emergency				departments and
	Management,				committees to
	Building Inspector,				ensure Hazard
	Health Officer,				Mitigation Plan
	Road Agent, Board				goals and actions
	of Selectmen,				are implemented.
	Zoning Board,				
	Planning Board,				
	Conservation				
	Commission				
Fiscal	Grant funding,	Entire	Board of	Good	Hazard mitigation
	Town Budget, CIP	jurisdiction	Selectmen,		actions should be
			Planning		considered for
			Board		inclusion in the
					departmental
					budgets. Wilton's
					Hazard Mitigation
					Plan should be
					updated at least
					every five years in
					order to maintain
					eligibility for FEMA
					grants.

## Section 1.5 ~ Review and Incorporation of Existing Documents

A number of existing documents were reviewed and incorporated into the Wilton Hazard Mitigation Plan Update 2021. The Wilton Zoning Ordinance was used to provide information on where and how the Town builds. This was particularly helpful when mapping critical facilities corridors (Section 3.4). The Wilton Master Plan provided insight on future development patterns (Section 2.1) and helped to inform the analysis and prioritization of mitigation actions (Section 4.3). The State of New Hampshire Multi-Hazard Mitigation Plan Update 2018 provided insight when developing the description of natural hazards (Section 3.1), description of previous hazards (Section 3.2), probability of future hazards (Section 3.3), vulnerability by hazard (Section 3.5), and goals to reduce vulnerabilities (Section 4.1). The City of Nashua's Comprehensive Emergency Management Plan was referenced to write the hazard descriptions used to determine Wilton's vulnerability by hazard (Section 3.5). Finally, the Nashua Regional Planning Commission's "Nashua Regional Water Resiliency Action Plan" provided insight when developing the description of natural hazards (Section 3.1), probability of future hazards (Section 3.3), vulnerability by hazard (Section 3.5), and goals to reduce vulnerabilities (Section 3.3), vulnerability by hazard (Section 3.5), and goals to reduce vulnerability of future hazards (Section 3.3), vulnerability by hazard (Section 3.5), and goals to reduce vulnerability of future hazards (Section 3.3), vulnerability by hazard (Section 3.5), and goals to reduce vulnerabilities (Section 4.1). It was used to inform the analysis and prioritization of mitigation actions (Section 4.3).

#### Section 1.6 ~ Updating the Plan

The Town of Wilton is required to update its Hazard Mitigation Plan at least every five years. In order to monitor, evaluate, and update the Mitigation Strategies identified in Table 12—Implementation and Administration, the Wilton Hazard Mitigation Team will meet annually. The Wilton Emergency Management Director is responsible for initiating this review and will consult with members of the Wilton Hazard Mitigation Team and the community. During this meeting, the Team will identify mitigation actions that can be conducted in the current year as well as mitigation actions that will require budget requests for the following year. These mitigation actions will be monitored throughout the year by the Team.

Changes should be made to the Plan to accommodate projects that have failed or are not considered feasible after an evaluation and review for their consistency with the benefit cost analysis, STAPLEE analysis, timeframe, community's priorities, and funding resources. Mitigation strategies that were not ranked as priorities during the 2021 update should be reviewed as well during the monitoring, evaluation, and update of this Plan to determine feasibility of future implementation. New mitigation actions or plans proposed upon adoption of this Plan should follow the benefit cost and STAPLEE analysis methods utilized in this Plan to ensure consistency with the adopted Plan and to help the Hazard Mitigation Team evaluate overall potential for success.

In addition to this annual meeting, the Hazard Mitigation Team will meet after any hazard occurrence as part of the Town's debriefing exercise. The Hazard Mitigation Plan will be updated following this meeting to reflect changes in priorities and mitigation strategies that have resulted from the hazard event. It is especially important to incorporate updates within one year after a Presidential Disaster Declaration.

The Town of Wilton will utilize its website to notify members of the public about the annual Hazard Mitigation Plan Update meeting and to involve them in the update process. Any public input that is received will be incorporated into the Plan update. In addition, following its annual meeting, the Hazard Mitigation Team will report the results of its update process to the Wilton Board of Selectmen. The Board of Selectmen's meetings are open to the public.

# **CHAPTER 2. CHANGES FROM PREVIOUS PLAN**

## Section 2.1 ~ Changes in Development

There have been no significant changes in development patterns in Wilton since the 2015 Hazard Mitigation Plan. Likewise, there have been no significant changes in development that have occurred in hazard prone areas that have increased Wilton's vulnerability to hazards. This is largely the result of a slowing economy and less new development coming into Wilton. Wilton's overall vulnerability has remained the same. Road infrastructure vulnerability has slightly decreased due to structural improvements in culverts, bridges, etc.

# Section 2.2 ~ Progress on Local Mitigation Efforts

The mitigation actions and implementation framework identified in the Wilton Hazard Mitigation Plan Update 2021 have been revised to reflect progress in local mitigation efforts. Progress has been made on a number of local mitigation efforts identified in the 2015 Plan, including:

- Distribute educational materials from FEMA, NH HSEM, and Wilton regarding hazard mitigation through emergency management staff, at municipal and school facilities, and on municipal websites.
- Conduct needed repairs and upgrades along Hillside Road and the associated culvert to minimize future flooding impacts.
- Investigate cost effective options to mitigate future NFIP Repetitive Loss Property claims.

In order to assess progress on local mitigation efforts, the Hazard Mitigation Team reviewed the actions originally presented in the Wilton Hazard Mitigation Plan 2015 and determined if they had been completed, deleted, or deferred. Progress on each action and its current priority level were also evaluated to determine if it should continue to be included in the mitigation actions identified in this Plan update.

2015 Mitigation Action	Status	Explanation
Write an Animal Evacuation and Shelter Plan, with a particular focus	Deleted	This is a preparedness action. As such, it will not be tracked in future hazard
Distribute educational materials from FEMA, NH HSEM, and Wilton regarding hazard mitigation through emergency management staff, at municipal and school facilities, and on municipal websites.	Completed/Deleted	This action was completed over the course of the 2015 plan and will not be tracked in future hazard mitigation plans.
Provide local dispatch capability for Wilton Fire Department and Ambulance Service. Retrofit ambulance to use as mobile on- scene command center and local dispatch.	Deleted	This is a preparedness action. As such, it will not be tracked in future hazard mitigation plans.
Conduct needed repairs and upgrades along Hillside Road and the associated culvert to minimize future flooding impacts.	Completed/Deleted	This is a preparedness action. As such, it will not be tracked in future hazard mitigation plans.
Upgrade undersized stormwater drainage system on Park Street to mitigate flooding of adjacent structures.	Deleted	This is a mitigation action (Prevention, Public Education). This action has been deleted because there is no interest among residents for it. As such, it will not continue to be tracked in the Hazard Mitigation Plan Update 2021.

# Table 1—Status of Previous Actions

2015 Mitigation Action	Status	Explanation
Prepare, distribute, or make	Deferred	This is a mitigation action (Property
available NFIP, insurance, and		Protection). It has been deferred due to
building codes explanatory		budget and time constraints and will
pamphlets or booklets.		continue to be tracked in the Wilton
		Hazard Mitigation Plan Update 2021.
Investigate cost effective options to	Completed/Deleted	This action was completed over the
mitigate future NFIP Repetitive Loss		course of the 2015 plan and will not be
Property claims.		tracked in future hazard mitigation
		plans.
Incorporate GIS data for drainage,	Deferred	This is a mitigation action (Property
sewer, and water supply		Protection). It has been deferred due to
infrastructure into hazard		budget and time constraints but will
mitigation planning.		continue to be tracked in the Wilton
		Hazard Mitigation Plan Update 2021.
Map and assess vulnerability to	Deleted	Fluvial Erosion is no longer tracked in
erosion. Conduct stream		Hazard Mitigation Planning. This action
assessments and prepare fluvial		will not be tracked in future hazard
erosion hazard zone maps.		mitigation plans.
Consider using mapped fluvial	Deleted	Fluvial Erosion is no longer tracked in
erosion hazard zones as a tool to		Hazard Mitigation Planning. This action
limit development in hazard prone		will not be tracked in future hazard
areas.		mitigation plans.
Protect vulnerable populations from	Ongoing	This is a mitigation action (Structural,
the impacts of extreme		Property Protection). This action will be
temperatures and severe winter		completed on an ongoing basis
storms by establishing shelters and		throughout the life of this Plan. As such,
cooling stations at designated		this action will continue to be tracked in
municipal and school facilities.		the Hazard Mitigation Plan Update 2021.
Protect power lines by working with	Ongoing	This is a mitigation action (Structural,
utility companies to harden		Property Protection). This action will be
electrical infrastructure, including		completed on an ongoing basis
trimming trees near power lines.		throughout the life of this Plan. As such,
Consider the costs and benefits of		this action will continue to be tracked in
requiring that overhead power lines		the Hazard Mitigation Plan Update 2021.
be buried in all new developments.		
Protect critical facilities and		
equipment from lightning damage		
by installing lightning protection		
devices.		
Remove underbrush and standing	Deleted	This is a mitigation action (Prevention,
deadwood around residences and in		Public Education). This action has been
residential areas to reduce the		deleted because there is no interest
likelihood of wildfires jumping to		among residents for it. As such, it will
residential housing.		not continue to be tracked in the Hazard
		Mitigation Plan Update 2021.

2015 Mitigation Action	Status	Explanation
Install generators at all critical Town	Deferred	This is a mitigation action (Property
facilities and schools that do not		Protection). It has been deferred due to
currently have them, including		budget and time constraints but will
Wilton-Lyndeborough Cooperative		continue to be tracked in the Wilton
High School, Wilton Town Hall,		Hazard Mitigation Plan Update 2021.
Wilton Highway Garage, municipal		
sewer pumps, and municipal well		
pumps.		
Survey Wilton residents and	Deferred	This is a mitigation action (Property
develop database of special needs		Protection). It has been deferred due to
individuals and groups to improve		budget and time constraints but will
emergency services to vulnerable		continue to be tracked in the Wilton
populations.		Hazard Mitigation Plan Update 2021.

# Section 2.3 ~ Changes in Priorities

Some of the "mitigation" actions identified in Wilton's 2015 Hazard Mitigation Plan were actually preparedness actions. While preparedness actions are important, the Wilton Hazard Mitigation Plan Update 2021 will focus exclusively on mitigation actions.

Table 2 depicts the change in STAPLEE scores of the 2015 mitigation actions and what their status is in the 2021 Plan update.

The following mitigation action rose in priority level from the 2015 Plan to the 2021 Plan:

- Protect power lines by working with utility companies to harden electrical infrastructure, including trimming trees near power lines. Consider the costs and benefits of requiring that overhead power lines be buried in all new developments. Protect critical facilities and equipment from lightning damage by installing lightning protection devices.
- Survey Wilton residents and develop database of special needs individuals and groups to improve emergency services to vulnerable populations.

The following mitigation actions dropped in priority level from the 2015 Plan to the 2021 Plan:

- Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.
- Install generators at all critical Town facilities and schools that do not currently have them, including Wilton-Lyndeborough Cooperative High School, Wilton Town Hall, Wilton Highway Garage, municipal sewer pumps, and municipal well pumps.

The following mitigation actions stayed the same in priority level from the 2015 Plan to the 2021 Plan:

• Protect vulnerable populations from the impacts of extreme temperatures and severe winter storms by establishing shelters and cooling stations at designated municipal and school facilities.

The following preparedness actions were no longer included in the 2021 Plan:

- Write an Animal Evacuation and Shelter Plan, with a particular focus on large farm animals.
- Conduct needed repairs and upgrades along Hillside Road and the associated culvert to minimize future flooding impacts.
- Provide local dispatch capability for Wilton Fire Department and Ambulance Service. Retrofit ambulance to use as mobile on-scene command center and local dispatch.

The following mitigation actions were completed and/or deleted and will no longer be included in the 2021 Plan:

- Distribute educational materials from FEMA, NH HSEM, and Wilton regarding hazard mitigation through emergency management staff, at municipal and school facilities, and on municipal websites.
- Upgrade undersized stormwater drainage system on Park Street to mitigate flooding of adjacent structures.
- Investigate cost effective options to mitigate future NFIP Repetitive Loss Property claims.
- Map and assess vulnerability to erosion. Conduct stream assessments and prepare fluvial erosion hazard zone maps.
- Consider using mapped fluvial erosion hazard zones as a tool to limit development in hazard prone areas.
- Remove underbrush and standing deadwood around residences and in residential areas to reduce the likelihood of wildfires jumping to residential housing.

2015 Mitigation Action	Current Status	Priority Level in 2015 Plan	Priority Level in 2021 Plan
Write an Animal Evacuation and Shelter Plan, with a particular focus on large farm animals.	Deleted	STAPLEE Score = 7 Rank = 6 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Distribute educational materials from FEMA, NH HSEM, and Wilton regarding hazard mitigation through emergency management staff, at municipal and school facilities, and on municipal websites.	Completed/Deleted	STAPLEE Score = 12 Rank = 2 out of 15	This action has been completed and is no longer considered a priority. A similar action was not identified in the 2020 Plan update.
Provide local dispatch capability for Wilton Fire Department and Ambulance Service. Retrofit ambulance to use as mobile on-scene command center and local dispatch.	Deleted	STAPLEE Score = 15 Rank = 1 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Conduct needed repairs and upgrades along Hillside Road and the associated culvert to minimize future flooding impacts.	Completed/Deleted	STAPLEE Score = 11 Rank = 3 out of 15	This action has been completed and is no longer considered a priority. A similar action was not identified in the 2020 Plan update.
Upgrade undersized stormwater drainage system on Park Street to mitigate flooding of adjacent structures.	Deleted	STAPLEE Score = 11 Rank = 3 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Prepare, distribute, or make available NFIP,	Deferred	STAPLEE Score = 4	STAPLEE Score = 4

# Table 2—Changes in Mitigation Priorities

2015 Mitigation Action	Current Status	Priority Level in 2015 Plan	Priority Level in 2021 Plan
insurance, and building codes explanatory pamphlets or booklets.		Rank = 7 out of 15	Rank = 11 out of 14
Investigate cost effective options to mitigate future NFIP Repetitive Loss Property claims.	Completed/Deleted	STAPLEE Score = 3 Rank = 8 out of 15	This action has been completed and is no longer considered a priority. A similar action was not identified in the 2020 Plan update.
Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.	Deferred	STAPLEE Score = 12 Rank = 2 out of 15	STAPLEE Score = 11 Rank = 7 out of 14
Map and assess vulnerability to erosion. Conduct stream assessments and prepare fluvial erosion hazard zone maps.	Deleted	STAPLEE Score = 15 Rank = 1 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Consider using mapped fluvial erosion hazard zones as a tool to limit development in hazard prone areas.	Deleted	STAPLEE Score = 4 Rank = 7 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Protect vulnerable populations from the impacts of extreme temperatures and severe winter storms by establishing shelters and cooling stations at designated municipal and school facilities.	Ongoing	STAPLEE Score = 10 Rank = 4 out of 15	STAPLEE Score = 14 Rank = 4 out of 14
Protect power lines by working with utility companies to harden electrical infrastructure, including	Ongoing	STAPLEE Score = 10 Rank = 4 out of 15	STAPLEE Score = 18 Rank = 1 out of 14

2015 Mitigation Action	Current Status	Priority Level in 2015 Plan	Priority Level in 2021 Plan
trimming trees near power lines. Consider the costs and benefits of requiring that overhead power lines be buried in all new developments. Protect critical facilities and equipment from lightning damage by installing lightning protection devices.			
Remove underbrush and standing deadwood around residences and in residential areas to reduce the likelihood of wildfires jumping to residential housing.	Deleted	STAPLEE Score = 8 Rank = 5 out of 15	This action is no longer considered a priority. A similar action was not identified in the 2021 Plan update.
Install generators at all critical Town facilities and schools that do not currently have them, including Wilton- Lyndeborough Cooperative High School, Wilton Town Hall, Wilton Highway Garage, municipal sewer pumps, and municipal well pumps.	Deferred	STAPLEE Score = 8 Rank = 5 out of 15	STAPLEE Score = 8 Rank = 9 out of 14
Survey Wilton residents and develop database of special needs individuals and groups to improve emergency services to vulnerable populations.	Deferred	STAPLEE Score = 7 Rank = 6 out of 15	STAPLEE Score = 15 Rank = 3 out of 14

# **CHAPTER 3. HAZARD IDENTIFICATION AND RISK ASSESSMENT**

# Section 3.1 ~ Description of Natural Hazards

The Town of Wilton is susceptible to a variety of natural hazards, that are outlined in Table 3. For each hazard type, the hazard location within the Town, extent, and impact are also noted. Extent refers to how bad the hazard can be; it is not the same as location. Examples of extent include potential wind speed, depth of flooding, and existing scientific scales (ex. Enhanced Fujita Tornado Damage Scale). Impact refers to damages or consequences resulting from the hazard.

Landslides and snow avalanches have not been included in the Wilton Hazard Mitigation Plan Update 2021. "A landslide is the downward or outward movement of slope forming materials reacting under the force of debris slides and earth flows" (State of NH Multi-Hazard Mitigation Plan Update 2013, pg 56). "A snow avalanche is a slope failure consisting of a mass of rapidly moving, fluidized snow that slides down a mountainside" (State of NH Multi-Hazard Mitigation Plan Update 2013, pg 77). Wilton has relatively stable terrain and there have been no historic landslide or snow avalanche events in town. As such, the Hazard Mitigation Team did not feel it was necessary to include these hazards in this Plan.

The State of New Hampshire also identifies Solar Storms & Space Weather and Infectious Disease as hazards. Solar Storms & Space Weather and Infectious Disease were not included in this plan, as the Hazard Mitigation Team did not have enough knowledge to determine if these hazards deserved to be recognized in this plan update. The Town will re-evaluate the need to include additional hazards to this Plan during subsequent updates.

Hazard Type	Hazard Location	Hazard Extent	Impact
	within Jurisdiction		
Climate Change	Entire jurisdiction.	See Hazard Extent descriptions for Drought, Extreme Temperatures, Flooding	See Impact descriptions for Drought, Extreme Temperatures, Flooding
Drought	Entire jurisdiction.	<ul> <li><u>NH DES Drought Management Plan</u></li> <li>Level 1—Alert</li> <li>Level 2—Warning</li> <li>Level 3—Emergency</li> <li>Level 4—Disaster</li> <li><u>US Drought Monitor</u></li> <li>D0—Abnormally Dry</li> <li>D1—Moderate Drought</li> <li>D2—Severe Drought</li> <li>D3-Extreme Drought</li> <li>D4—Exceptional Drought</li> <li>S—Short term, typically less than 6 months</li> <li>L—Long term, typically more than 6 months</li> </ul>	<ul> <li><u>D0</u></li> <li>short term dryness slowing planting, growth of crops</li> <li>some lingering water deficits</li> <li>crops not fully recovered</li> <li><u>D1</u></li> <li>some damage to crops</li> <li>streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>voluntary water-use restrictions requested</li> <li><u>D2</u></li> <li>crop losses likely</li> <li>water shortages common</li> </ul>

# Table 3—Natural Hazards in Jurisdiction

Hazard Type	Hazard Location	Hazard Extent	Impact
			<ul> <li>water restrictions imposed <u>D3</u> <ul> <li>major crop losses</li> <li>widespread water shortages or restrictions</li> </ul> </li> <li>Exceptional &amp; widespread crop loss</li> <li>Shortages of water in reservoirs, streams, &amp; wells creating water emergencies</li> <li>impacts on agriculture</li> <li>impacts on hydrology &amp; analogy</li> </ul>
Earthquake	Entire jurisdiction.	<ul> <li><u>Richter Scale</u></li> <li>&lt;3.4—detected only by seismometers</li> <li>&gt;8—total damage, surface waves seen, objects thrown in air</li> <li>For full definitions of Richter Scale, see Section 3.5 Vulnerability by Hazard</li> </ul>	ecology Structural damage or collapse of buildings. Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, 911 communications, radio system. Loss of water for fire protection. Increased risk of fire (gas break). Risk to life, medical surge
Extreme Temperatures	Entire jurisdiction.	Extreme heat—period of 3 consecutive days when air temperature reaches 90°F or higher on each day. Extreme cold— period of 3 consecutive days of minimum temperatures at or below 0°F.	Nisk to life, medical surge.Overburdened power systems may experience failures due to extreme heat.Shortages of heating fuel in extreme cold due to high demand.Medical surge.Loss of water sources for drinking water and fire protection due to freezing temperatures.
Flooding	Floodplains cover approximately	<ul><li>FEMA flood probabilities:</li><li>1% possibility per year</li></ul>	Water damage to structures and their contents.

Hazard Type	Hazard Location	Hazard Extent	Impact
	within Jurisdiction		
	4.23% of Wilton— 3.48% of Wilton is located in 0.75% annual floodplain and 0.01% of Wilton is located in the 0.2% annual floodplain. Floodplains primarily located around Souhegan River, Blood Brook, Stony Brook, Mill Brook, and dam impoundments.	<ul> <li>0.2% possibility per year</li> <li>State of NH Dam Hazard Potential Classification system (for flooding resulting from dam/levee failure):</li> <li>Class S—significant hazard</li> <li>Class H—high hazard</li> <li>Class L—low hazard</li> <li>Class NM—non-menace</li> <li>For full definitions of Dam Hazard Classes, see Section 3.5 Vulnerability by Hazard</li> </ul>	Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, 911 communications, radio system. Environmental hazards resulting from damage. Isolation of neighborhoods resulting from flooding.
	See Section 3.5 for additional information on flood-prone areas.		
Lightning	Entire jurisdiction. Areas with large populations present outdoors and large open spaces are particularly vulnerable.	Lightning Activity Level: • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 For full definitions of Lightning Activity Level, see Section 3.5 Vulnerability by Hazard	Smoke and fire damage to structures and property. Disruption to power lines, municipal communications, and 911 communications. Damage to critical electronic equipment. Injury or death to people involved in outdoor activity.
Severe Wind	Entire jurisdiction.	<ul> <li>Saffir-Simpson Hurricane Wind Scale:</li> <li>Category 1—sustained winds 74- 95 mph</li> <li>Category 2—sustained winds 96- 110 mph</li> <li>Category 3—sustained winds 111-129 mph</li> <li>Category 4—sustained winds 130-156 mph</li> <li>Category 5—sustained winds 157 mph or higher</li> </ul>	<ul> <li>Wind damage to structures and trees.</li> <li>Water damage to structures and their contents.</li> <li>Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, 911 communications, radio system.</li> <li>Environmental hazards resulting from damage.</li> <li>Isolation of neighborhoods</li> </ul>

Hazard Type	Hazard Location	Hazard Extent	Impact
	within Jurisdiction		
			resulting from flooding.
			Water pressure, quality, and capacity issues impacting fire protection.
			Loss of natural resources.
Severe Winter Weather	Entire jurisdiction.	<ul> <li>Depth of snow in a given time frame (ex. 2 or more inches per hour over a 12-hour period).</li> <li>Blizzard—violent snowstorm with minimum winds of 35 mph and visibility less than ¼ mile for 3 hours.</li> <li>Ground snow load factor.</li> <li>Ice Storm—Sperry-Piltz Ice Accumulation Index: <ul> <li>0—little impact</li> <li>5—catastrophic damage to exposed utility systems</li> </ul> </li> <li>For full definitions of Sperry-Piltz Ice</li> </ul>	Disruption to road network. Damage to trees municipal communications, and 911 communications. Structural damage to roofs/collapse. Increase in CO, other hazards.
		Accumulation Index, see Section 3.5 Vulnerability by Hazard	
Tornado/ Downburst	Entire jurisdiction.	Enhanced Fujita Tornado Damage Scale: EF0—winds 65-85 mph EF1—winds 86-110 mph EF2—winds 111-135 mph EF3—winds 136-165 mph EF4—winds 166-200 mph EF5—winds >200 mph	Wind damage to structures and trees. Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, 911 communications, radio system. Environmental hazards resulting from damage. Medical surge.
			Loss of natural resources
Wildfire	Areas particularly prone to wildfire include forested areas near residential development.	<ul> <li>NWCG Fire Size Classification:</li> <li>A—greater than 0 but less than or equal to 0.25 acres</li> <li>B—0.26 to 9.9 acres</li> <li>C—10.0 to 99.9 acres</li> <li>D—100-299 acres</li> <li>E—300 to 999 acres</li> <li>F—1,000 to 4,999 acres</li> </ul>	Smoke and fire damage to structures in wild land/urban interface. Damage to habitat. Impacts to air quality.

Hazard Type	Hazard Location within Jurisdiction	Hazard Extent	Impact
		<ul> <li>G—5,000 to 9,999 acres</li> </ul>	Impact to roadways.
		<ul> <li>H—10,000 to 49,999 acres</li> </ul>	
		<ul> <li>I—50,000 to 99,999 acres</li> </ul>	Loss of natural resources.
		<ul> <li>J—100,000 to 499,999 acres</li> </ul>	
		<ul> <li>K—500,000 to 999,999 acres</li> </ul>	
		<ul> <li>L—1,000,000+ acres</li> </ul>	

# **Section 3.2 ~ Description of Previous Hazards**

The first step in determining the probability of future hazard events in the Town of Wilton is to examine the location, extent, and impact of previous hazards. If a hazard event has not occurred within Wilton but has occurred in the region it is also noted.

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Climate Change	It is beyond the			
	scope of this Plan to			
	determine if a			
	specific hazard			
	event was the result			
	of Climate Change.			
Drought	1960-1969	Entire jurisdiction	Long term	Farms had minimal
			drought—9 years of	grass for grazing
			less than normal	animals and poor
			precipitation	crops. Wells went
				dry for 2
				consecutive years in
				mid-1960s.
Drought	1999	Entire jurisdiction	Level 2—Warning.	Damage to crops.
			Drought warning	Low water levels in
			issued on June 29,	dug wells.
			1999.	
Drought	March 2002	Entire jurisdiction	Level 3—Emergency.	Damage to crops.
			First time Level 3	Low water levels in
			Drought Impact	dug wells.
			Level had been	
			declared.	
Drought	May 2015	Entire jurisdiction	USDA DO	Damage to crops.
			(Abnormally Dry)	
Drought	June 2015	Entire jurisdiction	USDA D1 (Moderate	Damage to crops.
			Drought)	
Drought	August-September	Entire jurisdiction	USDA DO	Damage to crops.
	2015		(Abnormally Dry)	
Drought	October 2015-	Entire jurisdiction	USDA D1 (Moderate	Damage to crops.
	February 2016		Drought)	

## Table 4—Previous Occurrences of Hazards in Jurisdiction

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Drought	March 2016-June 2016	Entire jurisdiction	USDA D0 (Abnormally Dry)	Damage to crops. Low water levels in wells.
Drought	July 2016- September 2016	Entire jurisdiction	USDA D2 (Severe Drought)	Low water levels in wells.
Drought	October 2016- December 2016	Entire jurisdiction	USDA D3 (Extreme Drought)	Low water levels in wells.
Drought	January 2017-March 2017	Entire jurisdiction	USDA D2 (Severe Drought)	Low water levels in wells.
Drought	April 2017	Entire jurisdiction	USDA D1 (Moderate Drought)	Low water levels in wells.
Drought	June-July 2018	Entire Jurisdiction	USDA D0 (Abnormally Dry)	Damage to crops.
Drought	September-October 2019	Entire Jurisdiction	USDA D0 (Abnormally Dry)	Damage to crops.
Drought	May 26-June 22 2020	Entire Jurisdiction	USDA D0 (Abnormally Dry)	Damage to crops.
Drought	June 23 - August, 2020	Entire Jurisdiction	USDA D1 (Moderate Drought)	Low water levels in wells.
Drought	September 2020	Entire Jurisdiction	USDA D2 (Severe Drought)	Low water levels in wells, wells went dry.
		1		1
Earthquake		There have been no earthquakes centered in Wilton to date. Earthquakes noted below were centered in NH.	Earthquakes noted below had a magnitude of 2.5 or greater.	
Earthquake	March 18, 1926	Manchester, NH	No historic data on extent	Intensity V effects observed in Amherst, Lyndeborough, Manchester, Mason, and Wilton.
Earthquake	December 20, 1940	Lake Ossipee, NH	Magnitude 5.5 on Richter Scale	No damage in Wilton
Earthquake	December 24, 1940	Lake Ossipee, NH	Magnitude 5.5 on Richter Scale	No damage in Wilton
Earthquake	December 4, 1963	Laconia, NH (43.6 latitude, -71.5 longitude)	Magnitude 3.7 on Richter Scale	No damage in Wilton
Earthquake	June 28, 1981	Sanbornton, NH (43.56 latitude, - 71.56 longitude)	Magnitude 3.0 on Richter Scale	No damage in Wilton
Earthquake	January 19, 1982	Sanbornton, NH (43.5 latitude, -71.6 longitude)	Magnitude 4.7 on Richter Scale	No damage in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Earthquake	October 25, 1986	Northfield, NH (43.399 latitude, - 71.59 longitude)	Magnitude 3.9 on Richter Scale	No damage in Wilton
Earthquake	October 20, 1988	Milan, NH (44.539 latitude, - 71.158 longitude)	Magnitude 3.9 on Richter Scale	No damage in Wilton
Earthquake	November 22, 1988	Milan, NH (44.557 latitude, - 71.183 longitude)	Magnitude 3.2 on Richter Scale	No damage in Wilton
Earthquake	April 6, 1989	Berlin, NH (44.511 latitude, - 71.144 longitude)	Magnitude 3.5 on Richter Scale	No damage in Wilton
Earthquake	October 6, 1992	Canterbury, NH (43.324 latitude, - 71.578 longitude)	Magnitude 3.4 on Richter Scale	No damage in Wilton
Earthquake	June 16, 1995	Lyman, NH (44.286 latitude, - 71.915 longitude)	Magnitude 3.8 on Richter Scale	No damage in Wilton
Earthquake	August 21, 1996	Bartlett, NH (44.184 latitude, - 71.352 longitude)	Magnitude 3.8 on Richter Scale	No damage in Wilton
Earthquake	January 27, 2000	Raymond, NH (43.00 latitude, - 71.18 longitude)	Magnitude 3.0 on Richter Scale	No damage in Wilton
Earthquake	September 26, 2010	Boscawen, NH (43.2915 latitude, - 71.6568 longitude)	Magnitude 3.4 on Richter Scale	No damage in Wilton
Earthquake	October 11, 2013	Contoocook, NH (43.255 latitude, - 71.747 longitude)	Magnitude 2.6 on Richter Scale	No damage in Wilton
Earthquake	March 21, 2016	Contoocook, NH (43.264 latitude, - 71.767 longitude)	Magnitude 2.8 on Richter Scale	No damage in Wilton
Earthquake	February 15, 2018	East Kingston, NH (42.921° latitude - 71.011° longitude)	Magnitude 2.7 on Richter Scale	No damage in Wilton
Earthquake		Earthquakes noted below were centered outside of NH but were felt by NH municipalities.		No damage in Wilton
Earthquake	November 18, 1929	Grand Banks, Newfoundland	Magnitude 7.2 on Richter Scale	No damage in Wilton
Earthquake	November 1, 1935	Timiskaming, Canada	Magnitude 6.25 on Richter Scale	No damage in Wilton
Earthquake	June 15, 1973	Near Canadian/NH border	Magnitude 4.8 on Richter Scale	No damage in Wilton
Earthquake	June 23, 2010	Buckingham, Quebec, Canada	Magnitude 5.0 on Richter Scale	No damage in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Earthquake	August 23, 2011	Washington, DC	Magnitude 5.8 on Richter Scale	No damage in Wilton
Earthquake	October 16, 2012	Hollis Center, ME	Magnitude 4.0 on Richter Scale	No damage in Wilton
	•	•		
Extreme Temperature (Cold)	January 16-20, 2000	Entire jurisdiction	5 consecutive days of minimum temperatures at or below 0°F: 1/16/00: -3°F 1/17/00: -2°F 1/18/00: -5°F 1/19/00: -6°F 1/20/00: -4°F	No known impact in Wilton
Extreme Temperature (Cold)	January 28-30, 2000	Entire jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: 1/28/00: -6°F 1/29/00: -2°F 1/30/00: -4°F	No known impact in Wilton
Extreme Temperature (Cold)	January 18-20, 2003	Entire jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: 1/18/00: -9°F 1/19/00: -11°F 1/20/00: -11°F	No known impact in Wilton
Extreme Temperature (Cold)	January 28-31, 2003	Entire jurisdiction	4 consecutive days of minimum temperatures at or below 0°F: 1/28/03: -9°F 1/29/03: -5°F 1/30/03: -0°F 1/31/03: -0°F	No known impact in Wilton
Extreme Temperature (Cold)	February 13-17, 2003	Entire jurisdiction	5 consecutive days of minimum temperatures at or below 0°F: 2/13/03: -3°F 2/14/03: -11°F 2/15/03: -10°F 2/16/03: -7°F 2/17/03: -2°F	No known impact in Wilton
Extreme Temperature (Cold)	February 26-28, 2003	Entire jurisdiction	3 consecutive days of minimum temperatures at or below 0°F:	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			• 2/26/03: -4 <sup>°</sup> F	
			• 2/2//03:-6°F	
Extreme	January 9-12 2004	Entire jurisdiction	2/20/051 F     4 consecutive days	No known imnact in
Temperature (Cold)	January 5 12, 2004		of minimum	Wilton
			temperatures at or	
			below 0°F:	
			• 1/9/04: -7 <sup>°</sup> F	
			• 1/10/04: -8 <sup>°</sup> F	
			• 1/11/04: -8 <sup>°</sup> F	
			• 1/12/04: -7 <sup>o</sup> F	
Extreme	January 14-17, 2004	Entire jurisdiction	4 consecutive days	Wind chills of -30°F,
Temperature (Cold)			of minimum	6 fatalities in NH
			temperatures at or	
			Delow $U^{\circ}F$ :	
			• 1/14/04: -10°F	
			• 1/15/04: -10 F • 1/16/04: -12°E	
			• 1/17/04: -12 1 • 1/17/04: -9°E	
Extreme	January 24-27, 2004	Entire jurisdiction	4 consecutive days	No known impact in
Temperature (Cold)	January 24 27, 2004		of minimum	Wilton
			temperatures at or	
			below 0°F:	
			• 1/24/04: -4 <sup>o</sup> F	
			• 1/25/04: -6 <sup>°</sup> F	
			• 1/26/04: -6 <sup>o</sup> F	
			• 1/27/04: -0 <sup>°</sup> F	
Extreme	January 18-25, 2005	Entire jurisdiction	8 consecutive days	No known impact in
Temperature (Cold)			of minimum	Wilton
			temperatures at or	
			• 1/18/05: 0°F	
			• 1/19/05: -8°F	
			• 1/20/05:-5 F • 1/21/05:-5°E	
			• 1/22/05: -12°F	
			<ul> <li>1/22/05: 12 ↓</li> <li>1/23/05: -9°F</li> </ul>	
			<ul> <li>1/24/05: 0°F</li> </ul>	
			<ul> <li>1/25/05: -1°F</li> </ul>	
Extreme	January 28-30, 2005	Entire jurisdiction	3 consecutive days	No known impact in
Temperature (Cold)	, , -	-	, of minimum	Wilton
			temperatures at or	
			below 0°F:	
			• 2/28/05: -1 <sup>o</sup> F	
			• 2/29/05: -7 <sup>o</sup> F	
			• 2/30/05: -5 <sup>o</sup> F	
Extreme	January 16-18, 2009	Entire jurisdiction	3 consecutive days	No known impact in
Temperature (Cold)			ot minimum	Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			temperatures at or below 0°F: 1/16/09: -16°F 1/17/09: -16°F 1/18/09: -9°F	
Extreme Temperature (Cold)	January 25-27, 2009	Entire jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: 1/25/09: -7°F 1/26/09: -7°F 1/27/09: -5°F	No known impact in Wilton
Extreme Temperature (Cold)	January 15-18, 2011	Entire jurisdiction	4 consecutive days of minimum temperatures at or below 0°F: 1/15/11: -6°F 1/16/11: -5°F 1/17/11: 0°F 1/18/11: -2°F	No known impact in Wilton
Extreme Temperature (Cold)	January 23-27, 2011	Entire jurisdiction	5 consecutive days of minimum temperatures at or below 0°F: 1/23/05: -5°F 1/24/05: -10°F 1/25/05: -9°F 1/26/05: -3°F 1/27/05: -2°F	No known impact in Wilton
Extreme Temperature (Cold)	January 15-17, 2012	Entire jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: 1/15/12: -2°F 1/16/12: -2°F 1/17/12: 0°F	No known impact in Wilton
Extreme Temperature (Cold)	February 11-13, 2014	Entire Jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: • 2/11/14: -7°F • 2/12/14: -7°F • 2/13/14: -7°F	No known impact in Wilton
Extreme Temperature (Cold)	February 1-4, 2015	Entire Jurisdiction	<ul> <li>4 consecutive days of minimum temperatures at or below 0°F:</li> <li>2/1/15: 0°F</li> <li>2/2/15: 0°F</li> </ul>	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			<ul> <li>2/3/15: -3°F</li> <li>2/4/15: -2</li> </ul>	
Extreme Temperature (Cold)	February 14-19, 2015	Entire Jurisdiction	6 consecutive days of minimum temperatures at or below 0°F: 2/14/15: -7°F 2/15/15: -4°F 2/16/15: -5°F 2/17/15: -2°F 2/18/15: -3°F 2/19/15: -4°F	No known impact in Wilton
Extreme Temperature (Cold)	February 14-16, 2016	Entire Jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: 2/14/16: -11°F 2/15/16: -9°F 2/16/16: -9°F	No known impact in Wilton
Extreme Temperature (Cold)	December 28-31, 2017	Entire Jurisdiction	4 consecutive days of minimum temperatures at or below 0°F: 12/28/17: -7°F 12/29/17: -9°F 12/30/17: -6°F 12/31/17: -11°F	No known impact in Wilton
Extreme Temperature (Cold)	January 1-3, 2018	Entire Jurisdiction	3 consecutive days of minimum temperatures at or below 0°F: • 1/1/18: -5°F • 1/2/18: -14°F • 1/3/18: -13°F	No known impact in Wilton
Extreme Temperature (Cold)	January 31-February 3, 2019	Entire Jurisdiction	4 consecutive days of minimum temperatures at or below 0°F: 1/31/19: -3°F 2/1/19: -3°F 2/2/19: -5°F 2/3/19: -4°F	No known impact in Wilton
Extreme Temperature (Heat)	May 3-5, 2001	Entire jurisdiction*	3 consecutive days of temperatures above 90°F: • 5/3/01-93°F	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			<ul> <li>5/4/01-92°F</li> <li>5/5/01-92°F</li> </ul>	
Extreme Temperature (Heat)	June 15-17, 2001	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 6/15/01—92°F • 6/16/01—95°F • 6/17/01—91°F	No known impact in Wilton
Extreme Temperature (Heat)	July 22-26, 2001	Entire jurisdiction	5 consecutive days of temperatures above 90°F: • 7/22/01—90°F • 7/23/01—90°F • 7/24/01—92°F • 7/25/01—95°F • 7/26/01—93°F	No known impact in Wilton
Extreme Temperature (Heat)	August 7-10, 2001	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 8/7/01—94°F • 8/8/01—97°F • 8/9/01—96°F • 8/10/01— 100°F	No known impact in Wilton
Extreme Temperature (Heat)	July 2-5, 2002	Entire jurisdiction	4 consecutive days of temperatures above 90°F: 7/2/02—90°F 7/3/02—95°F 7/4/02—98°F 7/5/02—97°F	No known impact in Wilton
Extreme Temperature (Heat)	July 30-August 2, 2002	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 7/30/02—90°F • 7/31/02—91°F • 8/1/02—91°F • 8/2/02—93°F	No known impact in Wilton
Extreme Temperature (Heat)	August 13-20, 2002	Entire jurisdiction	8 consecutive days of temperatures above 90°F: 8/13/02-94°F 8/14/02-96°F 8/15/02-98°F 8/16/02-95°F 8/16/02-94°F 8/18/02-92°F 8/19/02-94°F 8/20/02-92°F	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Extreme Temperature (Heat)	June 25-28, 2003	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 6/25/03—90°F • 6/26/03—93°F • 6/27/03—92°F • 6/28/03—92°F	No known impact in Wilton
Extreme Temperature (Heat)	July 5-7, 2003	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 7/5/03-91°F • 7/6/03-90°F • 7/7/03-91°F	No known impact in Wilton
Extreme Temperature (Heat)	July 17-19, 2006	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 7/17/06—90°F • 7/18/06—93°F • 7/19/06—94°F	No known impact in Wilton
Extreme Temperature (Heat)	August 2-4, 2006	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 8/2/06—96°F • 8/3/06—97°F • 8/4/06—92°F	No known impact in Wilton
Extreme Temperature (Heat)	August 16-20, 2006	Entire jurisdiction	5 consecutive days of temperatures above 90°F: • 8/16/09—90°F • 8/17/09—90°F • 8/19/09—91°F • 8/19/09—93°F • 8/20/09—90°F	No known impact in Wilton
Extreme Temperature (Heat)	July 4-10, 2010	Entire jurisdiction	7 consecutive days of temperatures above 90°F: 7/4/10-90°F 7/5/10-90°F 7/6/10-97°F 7/7/10-98°F 7/8/10-97°F 7/8/10-92°F 7/9/10-92°F	No known impact in Wilton
Extreme Temperature (Heat)	July 17-20, 2010	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 7/17/10-93°F • 7/18/10-93°F • 7/19/10-93°F	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			• 7/20/10-90°F	
Extreme Temperature (Heat)	August 30-Sept. 3, 2010	Entire jurisdiction	5 consecutive days of temperatures above 90°F: 8/30/10—92°F 8/31/10—91°F 9/1/10—94°F 9/2/10—95°F 9/3/10—96°F	No known impact in Wilton
Extreme Temperature (Heat)	July 21-24, 2011	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 7/21/11—92°F • 7/22/11—96°F • 7/23/11— 101°F • 7/24/11—96°F	No known impact in Wilton
Extreme Temperature (Heat)	June 21-23, 2012	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 6/21/12-96°F • 6/22/12-94°F • 6/23/12-93°F	No known impact in Wilton
Extreme Temperature (Heat)	July 13-16, 2012	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 7/13/12—92°F • 7/14/12—92°F • 7/15/12—93°F • 7/16/12—91°F	No known impact in Wilton
Extreme Temperature (Heat)	August 3-6, 2012	Entire jurisdiction	4 consecutive days of temperatures above 90°F: • 8/3/12-91°F • 8/4/12-94°F • 8/5/12-95°F • 8/6/12-93°F	No known impact in Wilton
Extreme Temperature (Heat)	June 1-3, 2013	Entire jurisdiction	3 consecutive days of temperatures above 90°F: • 6/1/13-93°F • 6/2/13-92°F • 6/3/13-91°F	No known impact in Wilton
Extreme Temperature (Heat)	July 16-21, 2013	Entire jurisdiction	6 consecutive days of temperatures above 90°F: • 7/16/13-90°F • 7/17/13-91°F • 7/18/13-93°F	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			<ul> <li>7/19/13-93°F</li> <li>7/20/13-96°F</li> <li>7/21/13-91°F</li> </ul>	
Extreme Temperature (Heat)	July 29-31, 2015	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 7/29/15-93°F • 7/30/15-94°F • 7/31/15-90°F	No known impact in Wilton
Extreme Temperature (Heat)	August 16-20, 2015	Entire Jurisdiction	5 consecutive days of temperatures above 90°F: • 8/16/15—90°F • 8/17/15—90°F • 8/18/15—91°F • 8/19/15 – 93°F • 8/20/15 – 90°F	No known impact in Wilton
Extreme Temperature (Heat)	September 2-4, 2015	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 9/2/15-91°F • 9/3/15-92°F • 9/4/15-92°F	No known impact in Wilton
Extreme Temperature (Heat)	September 7-11, 2015	Entire Jurisdiction	5 consecutive days of temperatures above 90°F: • 9/7/15—90°F • 9/8/15—94°F • 9/9/15—94°F • 9/10/15 – 94°F • 9/10/15 – 94°F	No known impact in Wilton
Extreme Temperature (Heat)	July 22-29, 2016	Entire Jurisdiction	8 consecutive days of temperatures above 90°F: 7/22/16—95°F 7/23/16—93°F 7/24/16—93°F 7/25/16—92°F 7/26/16—96°F 7/27/16—96°F 7/28/16—93°F 7/29/16—93°F	No known impact in Wilton
Extreme Temperature (Heat)	June 12-14, 2017	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 6/12/17—94°F • 6/13/17—98°F • 6/14/17—96°F	No known impact in Wilton

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Extreme Temperature (Heat)	July 20-22, 2017	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 7/20/17—93°F • 7/21/17—94°F • 7/22/17—92°F	No known impact in Wilton
Extreme Temperature (Heat)	August 1-4, 2017	Entire Jurisdiction	4 consecutive days of temperatures above 90°F: • 8/1/17-90°F • 8/2/17-92°F • 8/3/17-91°F • 8/4/17-90°F	No known impact in Wilton
Extreme Temperature (Heat)	September 25-28, 2017	Entire Jurisdiction	4 consecutive days of temperatures above 90°F: • 9/25/17—93°F • 9/26/17—91°F • 9/27/17—90°F • 9/28/17—91°F	No known impact in Wilton
Extreme Temperature (Heat)	July 1-7, 2018	Entire Jurisdiction	7 consecutive days of temperatures above 90°F: 7/1/18—91°F 7/2/18—95°F 7/3/18—92°F 7/4/18—95°F 7/5/18—92°F 7/6/18—92°F 7/7/18—92°F	No known impact in Wilton
Extreme Temperature (Heat)	August 29-31, 2018	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 8/29/18-92°F • 8/30/18-93°F • 8/31/18-93°F	No known impact in Wilton
Extreme Temperature (Heat)	July 20-22, 2019	Entire Jurisdiction	3 consecutive days of temperatures above 90°F: • 7/20/19—91°F • 7/21/19—95°F • 7/22/19—93°F	No known impact in Wilton
Extreme Temperature (Heat)	August 10-13, 2020	Entire Jurisdiction	4 consecutive days of temperatures above 90°F: 8/10/20-91°F 8/11/20-95°F 8/12/20-93°F 8/13/20-93°F	No known impact in Wilton
Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
-------------	--------------------	--	---------------------	------------------------
Flooding	1927	Hillsborough County	No data on extent	Damage to road
			available	network.
Flooding	March 11-21, 1936	Hillsborough County	25-50 year	\$133,000,000 in
			recurrence interval	property damage
				and 77,000
				homeless
				throughout New
				England. Primary
				impact to structures,
				infrastructure, and
				road network.
				Flooding caused by
				heavy snowfall
				totals, neavy rains,
				and warm weather.
				impact listed here
				Hillsborough
				County Specific
				impacts to Wilton
				are unknown
Flooding	July 11 1973	Hillshorough County	No data on extent	FFMA Disaster
Tiooding	July 11, 1975	missorougn county	available	Declaration #399.
				Specific impacts to
				Wilton are
				unknown.
Flooding	July 29-August 10,	Hillsborough County	No data on extent	FEMA Disaster
	1986		available	Declaration #771.
				Many roads
				impassable in
				Hillsborough
				County. Specific
				impacts to Wilton
				are unknown.
Flooding	March 30-April 11,	Hillsborough County	25-50+ year	\$4,888,889 in
	1987		recurrence interval	damage in NH.
				FEMA Disaster
				Declaration #789.
				Primary impact to
				agricultural fields in
				county. Specific
				are unknown
Flooding	August 7-11 1000	Hillshorough County	No data on extent	\$2 207 777 in
	August 7-11, 1990		available	
				FFMA Disaster
				Declaration #876.

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
				Primary impact to infrastructure in Hillsborough County. Specific impacts to Wilton
Flooding	October 20-23, 1996	Hillsborough County	No data on extent available	\$2,341,273 in damage in NH. FEMA Disaster Declaration #1144. Primary impact to structures and infrastructure in Hillsborough County. Specific impacts to Wilton are unknown.
Flooding	July 2, 1998	Hillsborough County	No data on extent available	\$3,400,000 in damage in NH, 6 counties impacted including Hillsborough. FEMA Disaster Declaration #1231. Primary impact to structures and infrastructure in Hillsborough County. Specific impacts to Wilton are unknown.
Flooding	October 26, 2005	Hillsborough County	50-100-year recurrence interval	5 counties impacted in NH, including Hillsborough. FEMA Disaster Declaration #1610. Primary impact to structures and infrastructure in Hillsborough County. Specific impacts to Wilton are unknown.
Flooding	May 12-23, 2006	Hillsborough County	As much as 14 inches of rainfall in region. 100-500- year recurrence interval.	7 counties impacted in NH, including Hillsborough. FEMA Disaster Declaration #1643. Specific impacts to Wilton are unknown.

Hazard Type	Date	Hazard Location	Hazard Extent	Impact
Flooding	April 15, 2007	Hillshorough County	100-500-vear	\$27,000,000 in
Tiooding	, ipin 13, 2007	Thissorough county	recurrence interval	damages in NH <sup>.</sup>
				2 005 homeowners
				and renters applied
				for assistance in NH
				FFMA Disaster
				Declaration #1695
				Primary impact to
				structures and
				infrastructure in
				Hillshorough
				County Landslide
				onto NH
				101 caused a 2.5
				week detour
				through downtown
				Wilton to bynass NH
				101 during clean up
				and harrier
				construction
Flooding	Sentember 6-7	Hillshorough County	50-100-vear	\$6.90 per capita in
riooding	2008	Thisborough county	recurrence interval	damages in
	2000			Hillshorough
				County FFMA
				Disaster Declaration
				#1799
				Primary impact to
				structures and
				infrastructure in
				Hillsborough
				County. Specific
				impacts to Wilton
				are unknown.
Flooding	March 14, 2010	Hillsborough County	50-100-year	\$1,880,685 in FEMA
0	,		recurrence interval	public assistance in
				NH; \$1.80 per capita
				in Hillsborough
				County. Flooding
				near Johnson Corner
				due to undersized
				culvert. FEMA
				Disaster Declaration
				#1913
				Primary impact to
				roads and bridges in
				Hillsborough
				County. Specific
				impacts to Wilton
				are unknown.

Hazard Type	Date	Hazard Location	Hazard Extent	Impact
Flooding	May 26, 2011	Hazard was not	N/A	Disaster Declaration
rioounig	Widy 20, 2011	experienced in	N/A	#4006 No impact to
		iurisdiction		Wilton
Flooding	May 29, 2012	Hazard was not	Ν/Δ	Disaster Declaration
rioounig	Widy 25, 2012	experienced in		#4065 No impact to
		iurisdiction		Wilton
Flooding	lune 26, 2013	Hazard was not	Ν/Δ	Disaster Declaration
Tioounig	June 20, 2015	experienced in		#/139 No impact to
		iurisdiction		Wilton
Flooding	luly 1 2017	Hazard was not	N/A	Disaster Declaration
Tioounig	July 1, 2017	experienced in		#4329 No impacts
		iurisdiction		to Wilton
Flooding	October 29 –	Hazard was not	Ν/Δ	Disaster Declaration
rioounig	November 1 2017	experienced in		#4355 No impacts
		iurisdiction		to Wilton
Flooding	March 2-8, 2018	Hazard was not	N/A	Disaster Declaration
Tioounig		experienced in		#4370 No impacts
		iurisdiction		to Wilton
Flooding	July 11-12, 2019	Hazard was not	N/A	Disaster Declaration
	,,,	experienced in	,	#4357. No impacts
		iurisdiction		to Wilton.
Flooding – Dam	There have been no	Jan 100 100 100 100 100 100 100 100 100 10		
Failure	dam failures to date			
	in Wilton.			
Severe Wind	Great Hurricane of	Hillsborough County	No data on extent	\$12,337,643 total
	1938		available	damages (not
				adjusted for
				inflation), 13 deaths
				and 494 injuries in
				NH. Damage to
				road network and
				structures caused by
				flooding.
Severe Wind	August 31, 1954	Hillsborough County	Saffir-Simpson Scale	Extensive tree and
	(Carol)		Category 3.	crop damage.
Severe Wind	September 12, 1960	Hillsborough County	Saffir-Simpson Scale	Water damage to
	(Donna)		Category 3	structures due to
				flooding.
Severe Wind	September 27, 1985	Hillsborough County	Saffir-Simpson Scale	Damage to trees and
	(Gloria)		Category 2	power lines from
				high winds.
Severe Wind	August 19, 1991	Hillsborough County	Saffir-Simpson Scale	FEMA Disaster
	(Bob)		Category 1	Declaration #917.
				Damage to
				structures, trees,
				and power lines
				trom high winds.
Severe Wind	September 16-18,	Hillsborough County	Tropical Storm	FEMA Disaster
	1999 (Floyd)		(winds 39-73 mph)	Declaration #1305.

Hazard Type	Date	Hazard Location	Hazard Extent	Impact
		within Jurisdiction		
				Primary impact to trees, infrastructure, and road network.
Severe Wind	August 28, 2011 (Irene)	Hillsborough County	Tropical Storm (winds 39-73 mph).	FEMA Disaster Declaration #4026. Damage to trees and power lines from high winds. Flash floods
Severe Wind	October 26, 2012 (Sandy)	Hillsborough County	Tropical Storm (winds 39-73 mph).	FEMA Disaster Declaration #4095. Minimal damage.
Severe Wind	October 29-30, 2017	Hillsborough County	Tropical Storm (winds 39-73 mph).	A powerful storm fed by tropical moisture knocked out power to more than 270,000 homes and business across the state. Falling trees severely damaged many homes and electrical infrastructure in Wilton. Wilton experienced widespread and prolonged power outages, as well as 2.8 inches of rain.
Severe Wind	There has been no significant damage from tropical-post tropical cyclones (severe wind) in Wilton since 2018.			
Lightning	2005	Entire jurisdiction, lightning strike occurred in Holt Brothers Industrial Complex	Severe thunderstorm with heavy rainfall, high winds, and lightning	Lightning strike destroyed five businesses in the Holt Brothers Industrial Complex. Took 20 hours to put out fires from oil and petroleum- based chemicals.
Ligntning	significant damage from lightning in Wilton since 2005.			

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
Severe Winter	March 11-14, 1888	Entire jurisdiction	30-50 inches of	No historic data on
Weather			snow	impact
Severe Winter	1922	Entire jurisdiction	No historic data on	Extreme snow drifts
Weather			extent	paralyzed road
				network.
Severe Winter	February 14-15,	Entire jurisdiction	Over 30 inches of	Snow and high
Weather	1940		snow	winds paralyzed
				road network.
Severe Winter	February 14-17,	Entire jurisdiction	20-33 inches of	Primary impact to
Weather	1958		snow	road network.
Severe Winter	March 18-21, 1958	Entire jurisdiction	22-24 inches of	Primary impact to
Weather			snow	road network.
Severe Winter	March 2-5, 1960	Entire jurisdiction	Up to 25 inches of	Primary impact to
Weather			snow	road network.
Severe Winter	January 18-20, 1961	Entire jurisdiction	Up to 25 inches of	Blizzard conditions
Weather			snow	paralyze road
				network.
Severe Winter	February 22-28,	Entire jurisdiction	24-98 inches of	Primary impact to
Weather	1969		snow in Central NH	road network. Slow
				moving storm.
Severe Winter	December 25-28,	Entire jurisdiction	12-18 inches of	Primary impact to
Weather	1969		snow	road network.
Severe Winter	January 19-21, 1978	Entire jurisdiction	Up to 16 inches of	Primary impact to
Weather			snow	road network.
Severe Winter	February 5-7, 1978	Entire jurisdiction	25-33 inches of	Snow paralyzed road
Weather	(Blizzard of '78)		snow	network, trapped
				commuters in cars,
				and forced closure
				of businesses.
Severe Winter	April 5-7, 1982	Entire jurisdiction	18-22 inches of	Primary impact to
Weather			snow	road network.
Severe Winter	March, 1983	Entire jurisdiction	Over 18 inches of	Snow paralyzed road
Weather			snow, 30-40 mph	network and forced
			winds	closure of
Covere Winter	December 1000	Futino invitalistica	14 inches of anous	businesses.
Severe winter	December 1996	Entire jurisdiction	14 inches of show	Damage to power
weather				of husinesses
				of businesses.
				neavy wet show
				to come down
Severe Winter	January 7, 1008	Entire jurisdiction	Ice storm no data	\$12,446,202 in total
Weather	January 7, 1990		on extent available	damages 1 death
weather				and 6 injuries in NH
				\$17 000 000 in
				damages to PSNH
				equipment, FFMA
				Disaster Declaration
				#1199. 20 major

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
				road closures; 67,586 without power; 2,310 without phone service; 1 communication tower failure.
Severe Winter Weather	December 11, 2008	Entire jurisdiction	lce storm, no data on extent available	\$10,383,602 in FEMA public assistance in NH; \$6.35 per capita in Hillsborough County. FEMA Disaster Declaration #1812. Damage to power and phone lines, and trees. Damage to power and phone lines and trees.
Severe Winter Weather	February 23, 2010	Entire jurisdiction	Snow followed by rainfall between 2-6 inches. Winds over 70 mph.	\$6,268,179 in FEMA public assistance in NH; \$3.68 per capita in Hillsborough County. FEMA Disaster Declaration #1892 Damage to power and phone lines, trees, and road network. Over 330,000 customers without power state-wide.
Severe Winter Weather	October 29-30, 2011	Entire jurisdiction	15-20 inches of snow.	\$3,052,769 in FEMA public assistance in NH; \$5.11 per capita in Hillsborough County. FEMA Disaster Declaration #4049 Damage to power and phone lines, trees, and road network.
Severe Winter Weather	February 8-10, 2013	Entire jurisdiction	Snowfall totals of 12-18 inches across region, up to 30 inches in parts of NH. Winds 10-20	FEMA Disaster Declaration #4105

Hazard Type	Date	Hazard Location within Jurisdiction	Hazard Extent	Impact
			mph with gusts up to 40 mph. Visibility less than ¼ mile.	
Severe Winter Weather	January 26-28, 2015	Entire jurisdiction.	Snowfall totals of 18-24 inches across region. Winds 35 mph. Visibility 0.	\$3,293,059 in FEMA public assistance in NH; \$3.88 per capita in Hillsborough County. FEMA Disaster Declaration DR-4209.
Severe Winter Weather	March 14-15, 2017	Hazard was not experienced in jurisdiction	N/A	Disaster Declaration #4316. No impacts to Wilton.
Severe Winter Weather	March 13-14, 2018	Hazard was not experienced in jurisdiction	N/A	Disaster Declaration #4371. No impacts to Wilton.
Tornado		No Tornados have originated in Wilton to-date. Tornados noted below originated in Hillsborough Co, NH.		http://www.tornado historyproject.com/t ornado/New_Hamps hire
Tornado	July 2, 1961	Northern Hillsborough Co, originated near Weare, NH	Fujita Scale F2	0 fatalities, 0 injuries
Tornado	July 21, 1961	Central Hillsborough Co, originated near New Boston, NH	Fujita Scale F1	0 fatalities, 0 injuries
Tornado	May 9, 1963	Northeastern, Hillsborough Co, originated near Goffstown, NH	Fujita Scale F1	0 fatalities, 0 injuries
Tornado	May 20, 1963	Western Hillsborough Co, originated near Peterborough, NH	Fujita Scale F1	0 fatalities, 0 injuries
Tornado	June 9, 1963	Northeastern Hillsborough Co, originated near Manchester, NH	Fujita Scale F2	0 fatalities, 0 injuries
Tornado	August 28, 1965	Eastern Hillsborough Co, originated near Litchfield, NH	Fujita Scale F1	0 fatalities, 0 injuries
Tornado	July 19, 1966	Southern Hillsborough Co, originated near Amherst, NH	Fujita Scale F1	0 fatalities, 0 injuries

Hazard Type	Date	Hazard Location	Hazard Extent	Impact
Torpado	ub/17_1069	Control Hillsborough	Fujita Scalo F2	O fatalitios O injurios
Tornado	July 17, 1968		Fujila Scale FZ	o fatalities, o injuries
		Wilton NH		
Tornado	Δugust 20, 1968	Northeastern	Fujita Scale F1	O fatalities O injuries
Tornado	August 20, 1900	Hillshorough Co		o latancies, o injulies
		originated near		
		Manchester NH		
Tornado	luly 19 1972	Southeastern	Fujita Scale F1	O fatalities O injuries
Tornado	501y 15, 1572	Hillshorough Co		o latancies, o injunes
		originated near		
		Hudson, NH		
Tornado	July 5 1984	Western	Euiita Scale E1	0 fatalities 0 injuries
Tornado	suly 5, 150 l	Hillsborough Co		o ratancies, o injuries
		originated near		
		Harrisville, NH		
Tornado	July 5, 1984	Southeastern	Fujita Scale F1	0 fatalities, 0 injuries
	····; ··; =···	Hillsborough Co.		
		originated near		
		Pelham, NH		
Tornado	June 16, 1986	Western	Fuiita Scale F1	0 fatalities. 0 iniuries
	,	Hillsborough Co,	,	, ,
		originated near		
		Swanzey, NH		
Tornado	July 3, 1997	Central Hillsborough	Fujita Scale F2	0 fatalities, 0 injuries
		Co, originated near		
		Greenfield, NH		
Tornado	May 31, 1998	Western	Fujita Scale F2	0 fatalities, 0 injuries
		Hillsborough Co,		
		originated near		
		Antrim, NH		
Downburst	July 6, 1999	Merrimack, Grafton,	Macroburst	2 fatalities, 2 lost
		and Hillsborough Co.		roofs, damage to
				trees and utility
				infrastructure
Tornado	July 24, 2008	Rockingham,	Fujita Scale F2	1 fatality, 2 injuries,
		Merrimack, Belknap,		significant structural
		Strafford and Carrol		damage
		Co.		
Wildfing	July 6, 2011	Drown Dood	No dote quelle le le	Druchfing ag
wiidtire	July 6, 2011	BLOMU KO90	ivo data available on	Brushiire, no
			extent available	udilidge LO
\\/ildfire	Thoro has been re-			structures
wiidilite	significant damage			
	from Wildfiros in			
	Wilton since 2011			

\*NOAA does not have a full history of temperature data for the Town of Wilton, NH. Extreme Temperature data is based on readings from NOAA weather station in Milford, NH.

# Section 3.3 ~ Probability of Future Hazard Events

After documenting the occurrence of previous hazard events in the Town of Wilton and the surrounding region, the Hazard Mitigation Team used this information to calculate the annual probability of these events occurring in the future. The first step was to determine how many times a particular hazard had occurred in a given number of years. The number of occurrences was then divided by the number of years to determine annual probability. For example, if history shows that a particular hazard typically occurs 1 time every 4 years, the annual probability is 25%. Annual probability was calculated twice for each hazard. First, annual probability was calculated since the first recorded historic occurrence of the event. Second, annual probability was calculated based on occurrences since 2000 to reflect potential recent changes in hazard event occurrence rates. The probability of future hazard events for each hazard type in the Town of Wilton is outlined in Table 5.

Hazard Type	Probability of Future Event	Source
Climate Change—	The frequency of short-term	"Climate Change in Southern New
Drought	drought (1-3 months) in New	Hampshire," Sustainability Institute,
	Hampshire is predicted to increase	University of New Hampshire, 2014
	2-3 times in the long term (2070-	
	2099) under the higher emissions	
	scenario. The state will experience a	
	more significant increase in	
	medium-term drought (3-6 months)	
	during this period. Short and	
	medium-term droughts are	
	primarily caused by	
	evapotranspiration as a result of	
	hotter summers. The frequency of	
	long-term drought (6 plus months)	
	does not change significantly in the	
	future under the low or high	
	emissions scenario compared to	
	past long-term drought events in	
	New Hampshire (Wake et al.,	
	"Climate Change in Southern New	
	Hampshire," pg. 30-31).	
Climate Change—	Annual average precipitation is	"Climate Change in Southern New
Increased Precipitation	predicted to increase 17-20% in	Hampshire," Sustainability Institute,
	southern New Hampshire by the	University of New Hampshire, 2014
	end of the century under both the	
	low and high emissions scenarios.	
	Larger increases in precipitation are	
	expected in the winter and spring,	
	while summer and fall will only	
	experience slight increases (Wake et	
	al., "Climate Change in Southern	
	New Hampshire," pg. 29). Southern	

### Table 5—Probability of Future Hazard Events

Hazard Type	Probability of Future Event	Source
	New Hampshire can also expect	
	more extreme precipitation events,	
	defined as those where more than 1	
	inch of rain falls within 24 hours or	
	more than 2-4 inches falls in 48	
	hours. Under both low and high	
	emissions scenarios, the frequency	
	of extreme precipitation events in	
	predicted to more than double by	
	the end of the century (Wake et al.,	
	"Climate Change in Southern New	
	Hampshire," pg. 29).	
Climate Change—	Temperatures in southern New	"Climate Change in Southern New
Warmer Temperatures	Hampshire will continue to rise	Hampshire," Sustainability Institute,
	under a lower or higher future	University of New Hampshire, 2014
	emissions scenario. In the short-	
	term (2010-2039), average annual	
	temperatures are predicted to	
	increase by approximately 2°F.	
	Under a higher emissions scenario,	
	long-term (2070-2099) average	
	annual temperatures are predicted	
	to increase by 8 to $9^{\circ}$ F. If a lower	
	emissions scenario is achieved, long-	
	term average annual temperatures	
	are predicted to increase by 4 <sup>o</sup> F	
	(Wake et al., "Climate Change in	
	Southern New Hampshire," pg. 23).	
	The region is also predicted to	
	experience more extreme heat	
	events. From 1970-1999, southern	
	New Hampshire had an average of	
	seven days above 90°F each year.	
	In the long-term under a higher	
	emissions scenario, southern New	
	Hampshire is predicted to have over	
	54 days per year above 90°F. Under	
	a lower emissions scenario, the	
	region is predicted to have 23 days	
	per year above 90°F in the long-	
	term (wake et al., "Climate Change	
	in southern New Hampshire," pg.	
	25].	
Drought	17 years of drought from 1060	NH DES Current Drought Conditions
	through 2020	http://des.ph.gov/organization/divisions/
		water/dam/drought/drought_
	17 events in 60 years $= 0.28$ events	conditions htm
	ner vear	

Hazard Type	Probability of Future Event	Source
	Annual Probability = 28%	US Drought Monitor http://droughtmonitor.unl.edu/Home.as px
	7 years of drought from 2000 through 2020.	
	4 events in 20 years = 0.35	
	Annual Probability = 35%	
Earthquake	History shows no known earthquakes centered in Wilton. However, this hazard is still possible.	US Geological Survey http://earthquake.usgs.gov/earthquakes/ search/
	2 magnitude 5.0 or greater earthquakes felt in NH from 1926 through 2020.	
	2 events in 94 years = 0.02 events per year	
	Annual Probability = 2%	
	0 magnitude 5.0 or greater earthquakes felt in NH from 2000 through 2020.	
	0 events in 20 years = 0 events per year	
	Annual Probability = 0-25%	
Extreme Temperatures	34 extreme heat events from 2000 through 2020.	NOAA National Climatic Data Center <u>https://www.ncdc.noaa.gov/cdo-</u> <u>web/search</u>
	34 events in 20 years = 1.7 events per year	
	Annual Probability = 100%	
	23 extreme cold events from 2000 through 2020.	
	23 events in 20 years = 1.2 events per year	
	Annual Probability = 100%	
Flooding/Dam Failure	21 flooding events in Hillsborough County from 1927 through 2020.	Local knowledge

Hazard Type	Probability of Future Event	Source
	21 events in 93 years = .23 events	FEMA Presidential Disaster Declaration
	per year	https://www.fema.gov/disasters/grid/ye
		<u>ar</u>
	Annual Probability = 23%	
	E flooding suggests in Uillebergungh	
	S flooding events in Hillsborough	
	5 events in 20 years = 25 events per	
	vear	
	,	
	Annual Probability = 25%	
	<u>Dam Failure</u>	
	Because of limited data on previous	
	dam failure events, probability	
	cannot be calculated statistically.	
	History shows no occurrences of	
	dam failure causing damage in	
	Merrimack However this bazard is	
	still possible and therefore the	
	probability is low.	
	Low probability is defined as a 0-	
	25% chance of occurrence annually.	
	Dam Failure	
	Annual Probability – 0-25%	
Severe Wind	9 hurricanes/tropical storms from	Local knowledge
	1958 through 2020.	FEMA Presidential Disaster Declaration
	9 events in 82 years = 11 events per	https://www.fema.gov/disasters/grid/ye
	vear	ar
	,	_
	Annual Probability = 11%	National Hurricane Center
		http://www.nhc.noaa.gov/data/tcr/index
	4 hurricanes/tropical storms from	.php?season=2014&basin=atl
	2000 through 2021.	
	4 events in 20 years = .20 events per	
	yeai	
	Annual Probability = 20%	
Lightning	Because of limited data on previous	Local knowledge and public input
	lightning events, probability cannot	
	be calculated statistically.	

Hazard Type	Probability of Future Event	Source
	History shows no occurrences of	
	lightning strikes causing damage in	
	Wilton. However, this hazard is still	
	possible and therefore the	
	probability is low.	
	Low probability is defined as a 0-	
	25% chance of occurrence annually.	
Severe Winter Weather	22 severe winter weather events in	Local knowledge
	Hillsborough County from 1888	
	through 2020.	FEMA Presidential Disaster Declaration
		https://www.fema.gov/disasters/grid/ye
	22 events in 132 years = 0.17 events	ar
	per year	
	Annual Probability = 17%	
	7 course winter weather quants in	
	Villsborough County from 2000	
	through 2020	
	7 events in 20 years - 0.35 events	
	ner vear	
	Annual Probability = 35%	
Tornado/Downburst	16 tornados and 1 downburst in	Tornado History Project (Joshua Lietz,
	Hillsborough Co. from 1961 through	Storm Prediction Center, National
	2020.	Climatic Data Center) and public input
	17 events in 59 years = 0.29 events	http://www.tornadohistoryproject.com
	per year	
	Annual Probability = 29%	
	U tornados and U downbursts in	
	Hillsborougn Co. from 2000 through	
	2020.	
	0  events in 20 years = 0 events per	
	vear	
	year	
	Annual Probability = 0-25%	
Wildfire	Because of limited data on previous	Local knowledge and public input
	wildfire events, probability cannot	
	be calculated statistically.	
	History shows no occurrences of	
	wildfires causing damage in Wilton.	

Hazard Type	Probability of Future Event	Source
	However, this hazard is still possible	
	and therefore the probability is low.	
	Low probability is defined as a 0-	
	25% chance of occurrence annually.	

# Section 3.4 ~ Critical Facilities and their Vulnerability

The next step in determining Wilton's overall vulnerability was to inventory the Town's community assets and determine what assets would be affected by each type of hazard event. The Hazard Mitigation Team began by reviewing the Wilton Zoning Ordinance and Master Plan to provide information on where and how the Town builds and to identify the corridors where critical facilities would likely be located. The Team then identified the broad categories of important assets within Wilton, including critical facilities essential to health and welfare; vulnerable populations, such as children and the elderly; economic assets and major employers; areas of high-density residential and commercial development; and historic, cultural, and natural resources. The Team then further divided the Town's critical facilities into the following categories:

### 1. General Occupancy

- a. Residential
- b. Commercial
- c. Industrial
- d. Agriculture
- e. Religion
- f. Government
- g. Education

### 2. Essential Facilities

- a. Fire Station
- b. Police Station
- c. Department of Public Works
- d. Schools
- e. Emergency Operations Centers
- f. Medical Care Facilities

### 3. Transportation Systems

- a. Highway Systems—Roads
- b. Highway Systems—Bridges
- c. Railway Systems
- d. Bus Facilities
- e. Airport Systems

### 4. Utility Systems

- a. Potable Water
- b. Drinking Water
- c. Oil/Propane Facilities
- d. Natural Gas Facilities
- e. Electric Power
- f. Communications

### 5. High Potential Hazard Facilities

- a. Dams/Levees
- b. Nuclear Power Plants

c.

## 6. Hazardous Materials Facilities

a. EPA Toxics Release Inventory facilities (<u>http://www2.epa.gov/toxics-release-inventory-tri-program</u>)

The critical facilities within each category appear in the Tables 6.1-6.6 below. Each table includes the critical facility's name, content vulnerability, and locational vulnerability to hazards. Note that Climate Change is not included as a hazard in this analysis because its effects on critical facilities are included under the hazards of Drought, Extreme Temperatures, and Flooding.

Facility Type and Name	Content Vulnerability	ught	hquake	eme Temperatures	oding	ere Wind	tening	ere Winter Weather	oper	dfire
		Dro	Ear	Exti	Floe	Sev	Ligh	Sev	Tor	Wil
Commercial – Tumbleweeds Daycare – 31 Prince Street	Potentially large population present		~			~	~	✓	✓	~
Commercial – Wilton Animal Hospital – 474 Isaac Frye Highway	Potentially large population present		~			~	~	~	~	~
Commercial – Greeley Preschool – 126 Temple Road	Potentially large population present		~			~	~	~	~	~
Commercial – Wilton Falls Building – 6 Burns Hill Road	Potentially large population present		~			~	~	~	~	~
Commercial – Commercial Packaging Group – 1 Riverside Way	Contents valuable to local economy		~			~	~	~	~	~
Commercial – Monadnock Mountain Spring Water – 8 Mansur Road	Contents valuable to local economy. Potential emergency water supply. Located in 1% Annual Floodplain.		~		~	~	~	$\checkmark$	$\checkmark$	~
Commercial – Atlantic Prefab – 19 Stoney Brook Drive	Contents valuable to local economy		~			~	~	✓	✓	~
Commercial – Mud Pies & Bright Eyes Home Child Care – 241 Gibbons Highway	Potentially large population present		~			~	~	~	~	~

### Table 6.1—General Occupancy Critical Facilities

Facility Type and Name	Content Vulnerability									
		Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Commercial – A Child's Nature – 77 Pine Hill Drive	Potentially large population present		~		~	~	~	~	~	~
Commercial – Riverview Mills Complex	Potentially large population present. Contents valuable to local economy		~			~	~	~	~	~
Commercial —Summit Executive Offices – 1 Chalet Drive	Contents valuable to local economy		~			~	~	~	~	~
Commercial —Kimball Physics – 311 Kimball Hill Road	Contents valuable to local economy		~			~	~	~	~	~
Commercial —American Legion – 24 Maple Street	Potentially large population present		~			~	~	~	~	~
Commercial —Andy's Summer Playhouse – 582 Isaac Frye Highway	Potentially large population present		~			~	~	~	~	~
Commercial —Clinton Lodge No. 52 – 4 Forest Road	Potentially large population present. Located in 1% Annual Floodplain.		~		~	~	~	~	~	~
Commercial —Cady Auto Repair Restore	Contents valuable to local economy. Located in 1% Annual Floodplain, located in 0.2% Annual Floodplain		~		~	~	~	~	~	~
Commercial —Wilton House of Pizza – 28 Forest Road	Contents valuable to local economy. Located in 1% Annual Floodplain		~		~	~	~	~	~	~
Commercial —Stony Brook Self Storage	Contents valuable to local economy. Located in 1% Annual Floodplain		~		~	~	~	~	~	~
Commercial—Brookside Mobile – 626 Gibbons Highway	Contents valuable to local economy. Located in 1% Annual Floodplain		~		~	~	~	~	~	~
Commercial—Frye's Measure Mill – 12 Frye Mill Road	Historic Mill/Retail National Register of Historic Places #82001681		~			~	~	~	~	~

Facility Type and Name	Content Vulnerability									
		Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Industrial—Souhegan Wood Products – 10 Souhegan Street	Contents valuable to local economy.		~			~	~	~	~	~
Government—Wilton Town Hall – 42 Main Street	Official records and documents, potentially large population present		~			~	~	~	~	~
Government—Wilton Recycling Center – 291 Gibbons Highway	Potentially large population present		~			~	~	~	~	~
Government—Wilton Public and Gregg Free Library – 7 Forest Road	Official records and documents, potentially large population present		~			~	~	~	~	~
Government—US Post Office – 79 Main Street	Contents important to communication		~			~	~	~	~	~
Historic—Hamblet Putnam Frye House – 293 Burton Highway	Historic Structure National Register of Historic Places #00000651		~			~	~	~	~	~
Historic—County Farm Bridge	Historic Bridge National Register of Historic Places #81000070		~			~	~	~	~	~
Historic—Old County Farm Whiting	Historic Structure	~	~	~	~	~	~	~	~	~
Historic—Stonyfield Farm	Historic Farm	~	~	~	~	~	~	~	~	~
Historic - Temple-Wilton Community Farm – 195 Isaac Frye Highway	Historic Farm	~	~	~	~	~	~	~	~	~
Historic—Wilton Station	Historic Structure		~			~	~	~	~	~
Natural Resources— Russell-Abbott State Forest	Contents valuable to Wilton's ecology		~			~	~	~	~	~

Facility Type and Name	Content Vulnerability									
		Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Natural Resources— Sheldrick Forest	Contents valuable to Wilton's ecology		~			~	~	~	~	~
Natural Resources— Society for Protection of NH Forest lands	Contents valuable to Wilton's ecology		~			~	~	~	~	~
Natural Resources— Town Forest	Contents valuable to Wilton's ecology		~			~	~	~	~	~
Natural Resources— Heald Conservation Tract	Contents valuable to Wilton's ecology		~			~	~	~	~	~
Recreation—Carnival Hill	Potentially large population present		~			~	~	~	~	~
Recreation—Whiting Park	Potentially large population present		~			~	~	~	~	~
Recreation—Goss Park	Potentially large population present		~			~	~	~	~	~
Religion—Good News Bible Church	Potentially large population present		~			~	~	~	~	~
Religion—Jehovah Witnesses	Potentially large population present		~			~	~	~	~	~
Religion—Sacred Heart Church	Potentially large population present		~			~	~	~	~	~
Religion—Second Congregational Parish House	Potentially large population present		~			~	~	~	~	~
Religion—Unitarian Congregational Church	Potentially large population present		~			~	~	~	~	~
Residential—Edgewater Estates	Potentially large population present		~			~	~	~	~	~
Residential—12 unit multifamily – 30 Forest Road	Potentially large population present. Located in 1% Annual Floodplain.		~		~	~	~	~	~	~

Facility Name	Content Vulnerability	Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Wilton Police Station	Contents and staff valuable to emergency management, located in the 1% Annual Floodplain.	~	>		~	>	~	*	~	~
Wilton Fire Station	Contents and staff valuable to emergency management, serves as emergency operations center.	~	>			>	~	>	>	~
Wilton Ambulance Station	Contents and staff valuable to emergency management, located in the 1% Annual Floodplain.	~	>		~	>	~	>	>	~
Wilton Highway Garage	Contents valuable to transportation network and public infrastructure.	~	~			$\checkmark$	~	~	$\checkmark$	~
Florence Rideout School	Potentially large population present, shelter.	~	~			~	~	~	~	~
Wilton-Lyndeborough Cooperative High School – 57 School Road	Potentially large population present, shelter.	~	~			~	~	~	~	~
Pine Hill at High Mowing School – 77 Pine Hill Drive	Potentially large population present.	~	√			√	~	√	✓	~

## Table 6.2—Essential Facilities

### **Table 6.3—Transportation Critical Facilities**

Transportation infrastructure is particularly vulnerable to flooding hazards. Flooding events frequently cause culvert failures and undermine bridges and roads. Wilton has a total of 88.2 road miles, of which 2.38 miles or 2.7% are located in the floodplain. The following table lists all the roadways and transportation infrastructure in Wilton that are located in the floodplain, and critical to the transportation network.

Facility Type and Name	Content Vulnerability	Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Highway – Route 101	Infrastructure valuable to public mobility and vehicle travel; portions located in 1% annual floodplain		~		~	~		>	>	
Highway – Route 31	Infrastructure valuable to public mobility and vehicle travel; portions located in 1% annual floodplain; portions located in 0.2% annual floodplain		~		~	~		*	*	
Highway – Abbott Hill Road	Infrastructure valuable to public mobility and vehicle travel		~		~	~		~	~	
Highway – Burns Hill Road	Infrastructure valuable to public mobility and vehicle travel		~		~	~		✓	✓	

Facility Type and Name	Content Vulnerability			ures				ather		
		Drought	Earthquake	Extreme Temperat	Flooding	Severe Wind	Lightening	Severe Winter Wea	Tornado	Wildfire
Sewer Pump Station #1— Mill Street	Structure valuable to public health and sanitation	~						~		
Sewer Pump Station #2— Main Street	Structure valuable to public health and sanitation, located in 1% Annual Floodplain	~			~			~		
Sewer Pump Station #3— Route 101 and Intervale Road	Structure valuable to public health and sanitation, located in 1% Annual Floodplain	~			~			*		
Public Well #1 Abbott— Greenville Road	Structure valuable to water supply, located in 1% Annual Floodplain	~			~			~		
Public Well #2 Everett— Greenville Road	Structure valuable to water supply	~						~		
Water Tank/Tower— Abbott Hill Road	Structure valuable to water supply	~	~			~		~	~	
Communications Tower – Curtis Farm Road	Structure valuable to communications		~			~	~	~	~	
Communications Tower – 35 Industrial Drive	Structure valuable to communications		~			~	~	~	~	
Communications Tower – King Brook Road	Structure valuable to communications		~			✓	~	✓	✓	

## Table 6.4—Utility Systems

Facility Type and Name	Content Vulnerability			s				r		
		Drought	Earthquake	Extreme Temperature:	Flooding	Severe Wind	Lightening	Severe Winter Weathe	Tornado	Wildfire
Name – Pine Valley Mill Dam #D254001 Hazard Class—L Water body—Souhegan River	Structure valuable to flood control, located in 1% floodplain		✓		~	~		✓	✓	
Name – Wilton Hydro Dam #D254002 Hazard Class—L Water body—Souhegan River Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		✓		~	~		✓	~	
Name – Souhegan River III Dam #D25403 Hazard Class—NM Water body—Souhegan River Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	$\checkmark$	
Name – WS Packaging Canal Dam #D254004 Hazard Class—H Water body—Souhegan River Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	$\checkmark$	
Name – Stony Brook Dam #D254005 Hazard Class—NM Water body—Stony Brook Owner – Town of Wilton	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Stony Brook Dam #D254006 Hazard Class—NM Water body—Stony Brook Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Old Wilton Reservoir Dam #D254008 Hazard Class—H Water body—Mill Brook Owner – Town of Wilton	Structure valuable to flood control, located in 1% floodplain		✓		~	~		~	✓	

# Table 6.5—High Potential Hazard Facilities

Facility Type and Name	Content Vulnerability									
	,			S				er		
				inre				ath		
				erat				Ne		
				ədu				er V		
			e	ē		pui	<b>b0</b>	inte		
		Ħ	uał	e T	ള	Š	ling	Ň	0	e
		lgu	hq	em	dir	ere	ter	ere	nad	lfir
		Dro	art	xtr	00	ev	igh	eve	ori	Vilc
			ш	ш	-	S		S		-
Name – New Wilton	Structure valuable to flood									
Reservoir Dam #D254009	control, located in 1%									
Hazard Class—S	floodplain		$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	
Water body—Stockwell										
Brook										
Owner – Town of Wilton										
Name – Fryes Measure	Structure valuable to flood									
Mill Dam #D254010	control, located in 1%									
Hazard Class—L	floodplain		~		~	~		~	~	
Water body—Mill Brook										
Owner – Privately Held										
Name – Mill Brook Dam	Structure valuable to flood									
#D254011	control, located in 1%		/							
Hazard Class—NM	floodplain		v		v	v		v	v	
Water body—Mill Brook										
Owner – Privately Held	Churchurch voluge la ta flagad									
	structure valuable to noou									
#D254012	floodplain		1		1	1		1	1	
Mater body Mill Prook	noodplain		v		v	•		v	v	
Owner - Privately Hold										
Name – Mill Brook Dam	Structure valuable to flood									
#D254014	control located in 1%									
Hazard Class—NM	floodplain		$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	
Water body—Mill Brook	needplan					-				
Owner – Privately Held										
Name – Blood Brook Dam	Structure valuable to flood									
#D254015	control, located in 1%									
Hazard Class—NM	floodplain									
Water body—TR Blood			V		V	~		V	•	
Brook										
Owner – Privately Held										
Name – Blood Brook Dam	Structure valuable to flood									
#D254018	control, located in 1%									
Hazard Class—L	floodplain		$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	
Water body—Blood Brook										
Owner – Privately Held										
Name – Peters Farm Pond	Structure valuable to flood									
Dam #D254019	control, located in 1%									
Hazard Class—L	floodplain		$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	
Water body—TR Blood										
Brook										
Owner – Privately Held										

Facility Type and Name	Content Vulnerability			peratures				r Weather		
		Drought	Earthquake	Extreme Tem	Flooding	Severe Wind	Lightening	Severe Winte	Tornado	Wildfire
Name – Batchelder Pond Dam #D254020 Hazard Class—L Water Body – King Brook Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Frog Pond Dam #D254021 Hazard Class—L Water body—Tannery Brook Owner – Wilton Conservation Commission	Structure valuable to flood control, located in 1% floodplain		~		~	~		>	~	
Name – Souhegan River Site 15 Dam #D254030 Hazard Class—S Water body—King Brook Owner – NH DES Water Division	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	$\checkmark$	
Name – Hiller Wildlife Pond Dam #D254031 Hazard Class—NM Water body—Unnamed Stream Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Legere Wildlife Pond Dam #D254032 Hazard Class—L Water body—Unnamed Stream Owner –Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Souhegan River Site 10A Dam #D254033 Hazard Class—H Water body—Mill Brook Owner – NH DES Water Division	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name –Souhegan Site 33 Dam #D254034 Hazard Class—H Water body—King Brook Owner – NH DES Water Division	Structure valuable to flood control, located in 1% floodplain		~		~	~		✓	✓	

Facility Type and Name	Content Vulnerability	ught	thquake	reme Temperatures	oding	ere Wind	ntening	ere Winter Weather	nado	dfire
		Dro	Ear	Ext	Floe	Sev	Ligh	Sev	Tor	Wil
Name – Wildlife Pond Dam #D254035 Hazard Class—NM Water body— Unnamed Stream Owner –Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Fire Pond Dam #D254036 Hazard Class—NM Water body— Unnamed Stream Owner – Privately Held	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	
Name – Camp Pond Dam #D254043 Hazard Class—NM Water body—TR Souhegan River Owner – Society for Protection of NH Forests	Structure valuable to flood control, located in 1% floodplain		~		~	~		~	~	

# Table 6.6—Hazardous Materials Facilities

Facility Type and Name	Content Vulnerability	Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Michaud Crematorium – 343 Forest Road	Chemical and hazardous materials release could have impacts on public health and environmental quality. To date, no chemicals have been released by this facility. Located in 1% floodplain.		✓		✓	✓	✓	✓	✓	~

Facility Type and Name	Content Vulnerability	Drought	Earthquake	Extreme Temperatures	Flooding	Severe Wind	Lightening	Severe Winter Weather	Tornado	Wildfire
Blanchard's Auto Salvage, Inc. – 47 Greenville Road	Chemical and hazardous materials release could have impacts on public health and environmental quality. To date, no chemicals have been released by this facility. Portions of this site are located in the 1% floodplain.		~		~	~	~	~	~	✓



# Section 3.5 ~ Vulnerability by Hazard

#### **Climate Change**

Climate change in southern New Hampshire will impact the environment, ecosystem services, economy, public health, and quality of life. According to a 2014 study by the Sustainability Institute at the University of NH, southern NH is expected to become warmer and wetter over the next century with more extreme precipitation events. This weather pattern puts significant stress on the region's already aging water infrastructure. Furthermore, climate change is likely to cause a number of public health impacts on NH's most vulnerable residents, including heat stress; flood related deaths and injuries; respiratory and cardiovascular illness, including asthma; allergies; vector, food, and water-borne disease; chronic disease; and mental health and stress-related disorders. Despite efforts taking place to slow the rate of climate change, some level of change is inevitable. Therefore, municipalities must make sound decisions to help their communities adapt to a new climate normal.

Temperatures in southern New Hampshire will continue to rise under a lower or higher future emissions scenario. In the short-term (2010-2039), average annual temperatures are predicted to increase by approximately 2°F. Under a higher emissions scenario, long-term (2070-2099) average annual temperatures are predicted to increase by 8 to 9°F. If a lower emissions scenario is achieved, long-term average annual temperatures are predicted to increase by 4°F (Wake et al., "Climate Change in Southern New Hampshire," pg. 23). The region is also predicted to experience more extreme heat events. From 1970-1999, southern New Hampshire had an average of seven days above 90°F each year. In the long-term under a higher emissions scenario, southern New Hampshire is predicted to have over 54 days per year above 90°F. Under a lower emissions scenario, the region is predicted to have 23 days per year above 90°F in the long-term (Wake et al., "Climate Change in Southern New Hampshire," pg. 25).

Annual average precipitation is predicted to increase 17-20% in southern New Hampshire by the end of the century under both the low and high emissions scenarios. Larger increases in precipitation are expected in the winter and spring, while summer and fall will only experience slight increases (Wake et al., "Climate Change in Southern New Hampshire," pg. 29). Southern New Hampshire can also expect more extreme precipitation events, defined as those where more than 1 inch of rain falls within 24 hours or more than 2-4 inches falls in 48 hours. Under both low and high emissions scenarios, the frequency of extreme precipitation events in predicted to more than double by the end of the century (Wake et al., "Climate Change in Southern New Hampshire," pg. 29).

The frequency of short-term drought (1-3 months) in New Hampshire is predicted to increase 2-3 times in the long term (2070-2099) under the higher emissions scenario. The state will experience a more significant increase in medium-term drought (3-6 months) during this period. Short and medium-term droughts are primarily caused by evapotranspiration as a result of hotter summers. The frequency of long-term drought (6 plus months) does not change significantly in the future under the low or high emissions scenario compared to past long-term drought events in New Hampshire (Wake et al., "Climate Change in Southern New Hampshire," pg. 30-31).

### Climate Change Hazard Loss Estimate

Because the impacts of climate are wide ranging and have little historic data to draw from, it is beyond the scope of this Plan to estimate the dollar value of losses to the municipality resulting from climate change.

Some insights on the municipality's vulnerability to climate change may be gained by examining the results of the Nashua Region Water Vulnerability Assessment, conducted by the Nashua Regional Planning Commission in 2016. Based on the results of the vulnerability assessment, the Nashua Region is most vulnerable to threats related to warmer temperatures and threats that affect water supply.

Threats related to warmer temperatures are highly likely to occur, are broad ranging, have critical severity, and moderately effective mitigation options. In addition, while the region has experience with flooding (and drought to a smaller extent), the region has no experience with warming temperatures to provide historical guidance.

Threats that affect water supply are likely to occur, have moderate to critical severity, will likely affect between 10 and 50% of the region's population, and have moderately effective mitigation options. There are numerous threats in this category, and they have broad implications from public health and safety to agriculture and the economy.

It may also be helpful to review the Drought, Extreme Temperatures, and Flooding sections in this Plan for more insight on the municipality's vulnerability to climate change.

#### Drought

Hydrological drought is evidenced by extended periods of negative departures from normal rainfall. New Hampshire has been under several drought warnings, including a drought emergency, since 1999. The most severe drought conditions occurred between 1960 and 1969; the event had a greater than 25year recurrence interval. The southern New Hampshire region experienced a 100-year drought event from 1964 to 1965.

Southern New Hampshire also experienced a 50-year drought event beginning in May 2015 and lasting through April 2017. During that time, Wilton experienced drought levels from USDA D0 (Abnormally Dry) to USDA D3 (Extreme Drought).

Although drought is not likely to damage structures, low water levels can have a negative impact on existing and future home sites, especially those that depend on groundwater for water needs. Additionally, the dry conditions of a drought may lead to an increase wildfire risk. Drought can cause the most significant impact to agricultural land and assets.

### Drought Hazard Loss Estimate

Because the impacts of drought are long lasting and wide ranging, it is beyond the scope of this Plan to estimate the dollar value of losses to Wilton resulting from drought. Instead, the Hazard Mitigation Team estimated the percentage of land in Wilton vulnerable to drought and the percentage of the population vulnerable to drought as a quantitative measure of this hazard's impact.

Total Acres of Land in Wilton	Total Acres of Agricultural Land in Wilton	% of Land in Wilton Vulnerable to Drought		
16,384	1,172	7.1%		

% of population with Public Drinking Water in Wilton	% of population with Private Well Water in Wilton	Water Utility	Primary Water Source	Secondary Water Source
41%	59%	N/A	Private Wells	Public drinking Water

Critical Facility Type	Total Number of this type of Critical Facilities	Number of this type of Critical Facilities in	Percentage of this type of Critical Facilities in
	in Wilton	Drought Hazard Area	Drought Hazard Area
General Occupancy	46	3	7%
Essential Facilities	7	7	100%
Transportation	4	0	0%
Utility System	9	6	67%
High Potential Hazard	25	0	0%
Hazardous Materials	2	0	0%

### Earthquake

An earthquake is a sudden and violent shaking of the ground, sometimes causing great destruction, as a result of movements within the earth's crust or volcanic action. The Richter magnitude scale was developed by Charles F. Richter in 1935 as a way to compare the size of earthquakes. The magnitude of an earthquake is calculated from the logarithm of the amplitude of waves recorded by seismographs.

- Magnitude <2.0—micro-earthquakes. Recorded by seismographs, but not felt or rarely felt by people. Several million occur annually worldwide on average.
- Magnitude 2.0-2.9—felt slightly by some people. No damage to buildings. Over 1 million occur annually worldwide on average.
- Magnitude 3.0-3.9—often felt by people but very rarely cause damage. Shaking of indoor objects can be noticeable. Over 100,000 occur annually worldwide on average.
- Magnitude 4.0-4.9—noticeable shaking of indoor objects and rattling noises. Felt by most people in affected area. Generally causes minimal to no damage. Moderate to significant damage is very unlikely. 10,000-15,000 occur annually worldwide on average.
- Magnitude 5.0-5.9—felt by everyone. Can cause damage of varying severity to poorly constructed buildings; slight to no damage to all other buildings. Few, if any, casualties. 1,000-1,500 occur annually worldwide on average.
- Magnitude 6.0-6.9—felt up to hundreds of miles from epicenter. Strong to violent shaking in epicenter. Damage to many buildings in populated areas. Poorly designed structures have moderate to severe damage. Earthquake-resistant structures have slight to moderate damage. Damage can be caused far from epicenter. Death toll up to 25,000. 100-150 occur annually worldwide on average.

- Magnitude 7.0-7.9—felt in very large area. Damage to most buildings, including partial or complete collapse. Death toll up to 250,000. 10-20 occur annually worldwide on average.
- Magnitude 8.0-8.9—felt in extremely large region. Major damage to buildings over large areas. Structures likely destroyed. Moderate to heavy damage to sturdy or earthquake-resistant buildings. Death toll up to 1 million. 1 occurs annually worldwide on average.
- Magnitude 9.0< —damage and shaking extends to distant locations. Near or total destruction. Severe damage and collapse to all buildings. Permanent changes in ground topography. 1 occurs every 10-50 years worldwide on average.

Since 1940, there have been 14 earthquakes centered in NH with a magnitude of 3.0 or greater and only two earthquakes with a magnitude of 5.0 or greater. There have been no recorded earthquakes to-date centered in Wilton, however, one could occur.

## Earthquake Hazard Loss Estimate

Step 1. Determine potential earthquake strength in Wilton

- US Seismic Hazard, 2% in 50 years PGA is 0.2 to 0.3(g) in Wilton
- Source: USGS NH Seismic Map 2014

Step 2. Determine percent building damage ratio to single family residence from PGA (g) 0.25 earthquake

- Wood Frame Construction with Low general seismic design level = 4.6% building damage
- Source: <u>FEMA Identifying Hazards and Estimating Losses</u>, pg 4-17

Step 3. Determine percent of structures in Wilton that would be damaged by PGA (g) 0.25 earthquake

- 1-5% of structures estimated to be damaged by earthquake
- Source: Wilton Hazard Mitigation Team (no historical data on earthquake damage in Wilton)

Step 4. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 5. Determine total loss from PGA (g) 0.25 Earthquake

- Total Loss from Earthquake = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Earthquake = \$235,565,400 \* 0.01 \* 0.046 = \$108,360.08
- Total Loss from Earthquake = \$235,565,400 \* 0.05 \* 0.046 = \$541,800.42
- \$108,360.08 to \$541,800.42

Critical Facility Type	Total Number of this	Number of this type of	Percentage of this type of
	type of Critical Facilities	Critical Facilities in	Critical Facilities in
	in Wilton	Earthquake Hazard Area	Earthquake Hazard Area
General Occupancy	46	46	100%
Essential Facilities	7	7	100%
Transportation	4	4	100%
Utility System	9	4	44%
High Potential Hazard	25	25	100%
Hazardous Materials	2	2	100%

#### **Extreme Temperatures**

Extreme temperatures can be broken into both extreme heat and extreme cold. Though the hazards are different, the effects would be similar to vulnerable populations in Wilton.

A heat wave can be defined as a prolonged period of excessive heat, often combined with excessive humidity. Heat kills by pushing the human body beyond its limits. The risk of heat-related illness increases as temperature and humidity levels rise. Extreme heat events can be defined as periods with temperatures of 90 degrees Fahrenheit or higher. Extreme heat should not be confused with a drought (extended periods of



negative departures from normal rainfall). Overburdened power networks may experience failures due to the impacts of extreme heat. The National Weather Service (above) illustrates the probability of ehat disorders with prolonged exposure or strenuous activity.

Extreme cold is defined as an extended period where temperatures are at or below 0 degrees Fahrenheit. With the rising costs of heating fuel and electric heat, many low-income or homeless citizens are not able to adequately heat their homes, exposing themselves to cold related emergencies or death. Extremely cold winters can lead to shortages in heating fuels due to high demand. The National Weather Service Windchill Chart (right) depicts the dangers of freezing temperatures and winds.



### Extreme Temperatures Hazard Loss Estimate

Because the impacts of extreme temperatures can result in the loss of life, it is beyond the scope of this Plan to estimate the dollar value of losses to Wilton resulting from extreme temperatures. Though the entire Wilton population may experience a thermal emergency, populations without adequate climate control are most at risk. Extreme temperatures are not likely to cause damage to structures, although pipes can burst in extreme cold conditions.

### Flooding

Special flood areas are defined as the 100-year or 1% annual floodplain. These are areas with a 1% annual chance of flood or the probability of one flood every 100 years. Special flood areas also include the 500-year or 0.2% annual floodplain. In these areas there is a 0.2% annual chance of flood, or the probability of one flood every 500 years. Special flood areas are the most likely places to experience flooding in a municipality.

#### Localized Flooding

Localized flooding can result from even minor storms. Runoff overloads the drainage ways and flows into the streets and low-lying areas. Homes and businesses can be inundated, especially basements and the lower part of first floors. Localized flooding poses most of the same problems caused by larger floods, but because it typically has an impact on fewer people and affects small areas, it tends to bring less State or Federal involvement such as funding, technical help, or disaster assistance. As a result, the community and the affected residents or business owners are left to cope with the problems on their own. Finally, flooding of this type tends to recur; small impacts accumulated over time can become major problems.

#### **Riverine Flooding**

Riverine flooding involves the overflowing of normal flood channels, rivers or streams, generally as a result of prolonged rainfall or rapid thawing of snow cover. The lateral spread of floodwater is largely a function of the terrain, becoming greater in wide, flat areas, and affecting narrower areas in steep terrain. In the latter cases, riparian hillsides in combination with steep declines in riverbed elevation often force waters downstream rapidly, sometimes resulting in flash floods.

Wilton has a diverse topography, which gives rise to several recognized watersheds, including:

- Stony Brook Watershed—5,043 acres in Wilton, 30.7% of Town
- Purgatory Brook Watershed—990 acres in Wilton, 6.0% of Town
- Beaver Brook Watershed—720 acres in Wilton, 4.4% of Town
- Temple Brook Watershed—8,733 acres in Wilton, 53.0% of Town
- Nissitissit River Watershed—964 acres in Wilton, 5.9% of Town

Floodplains cover approximately 4.23% of Wilton; 3.48% of Wilton is located in 1% annual floodplain and 0.75% of Wilton is located in the 0.2% annual floodplain. Floodplains in Wilton are primarily located around the Souhegan River, Blood Brook, Stony Brook, Mill Brook, and dam impoundments.

### Dam Failure

The NH Department of Environmental Services indicates several failure modes for dams. Most typical include hydraulic failure or the uncontrolled overflowing of water, seepage, or leaking at the dam's foundation or gate; structural failure or rupture; general deterioration; and gate inoperability. These modes vary between dams depending on their construction type.

The State of New Hampshire uses a hazard potential classification to define the extent of a dam breach or failure. All class S (Significant) and H (High hazard) dams have the potential to cause damage if they breach or fail.

Class H—high hazard: dam that has a high hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in probably loss of human life as a result of: water levels and velocities causing the structural failure of a foundation of a habitable residential structure or commercial or industrial structure that is occupied under normal conditions; water levels rising above 1<sup>st</sup> floor elevation of a habitable residential structure or a commercial or industrial structure that is occupied under normal conditions when the rise due to dam failure is greater than 1 foot; structural damage to an interstate highway, which could render the roadway impassible or otherwise interrupt public safety services; release of a quantity and concentration of material that qualify as "hazardous waste" under RSA 147-A:2 VII; any other circumstance that would more likely than not cause one or more deaths.

Class S—significant hazard: dam has a significant hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in any of the following: no probably loss of lives; major economic loss to structures or property; structural damage to a Class I or Class II road that would render the road impassable or otherwise interrupt public safety services; major environmental or public health losses.

Class L—low hazard: dam has a low hazard potential because it is in a location and of a size that failure or misoperation of the dam would result in any of the following: no possible loss of life; low economic loss to structures or property; structural damage to a town or city road or private road accessing property other than the dam owner's that could render the road impassible or otherwise interrupt public safety service; the release of liquid industrial, agricultural, or commercial wastes, septage, or contaminated sediment if the storage capacity is less than 2 acre-feet and is located more than 250 feet from a water body or water course; reversible environmental losses to environmentally-sensitive sites.

Class NM—non-menace: dam that is not a menace because it is in a location and of a size that failure or misoperation of the dam would not result in probable loss of life or loss to property, provided the dam is less than 6 feet in height it if has a storage capacity greater than 50 acre-feet; or less than 25 feet in height if it has a storage capacity of 15-50 acre-feet.

Wilton has 12 Class NM dams (Non-Menace), 8 Class L dams (Low hazard potential), 2 Class S dams (Significant hazard potential), and 3 Class H dams (High hazard potential).
Most of Wilton's Dams have either a non-menacing or low hazard classification, which means that they have a relatively low hazard potential because of their size and location. Failure or misoperation of any number of these dams would not result in an economic loss to structures and property and no probable loss of lives.

Three of Wiltons's Dams have a high hazard classification, which could potentially result in loss of life in the case of structural failure or misoperation. However, to date there is no history of dam failure in Wilton making it a rare occurrence and minimal risk.

### Flood Hazard Loss Estimate

Step 1. Determine percent building damage to a 1 or 2 story building with basement

- 1-foot flood depth = 15% building damage
- 2-foot flood depth = 20% building damage
- 3-foot flood depth = 23% building damage
- 4-foot flood depth = 28% building damage
- Source: FEMA Identifying Hazards and Estimating Losses, pg 4-13

Step 2. Determine number of structures in Wilton located in the floodplain

- 28 structures located in 1% floodplain
- 3 structures located in 0.2% floodplain
- Source: Nashua Regional Planning Commission <u>http://data-</u> <u>nashuarpc.opendata.arcgis.com/datasets/98afc8bbe9a14c5494c87cc92480b4b1\_0</u>

Step 3. Determine total value of structures in Wilton located in 1% floodplain

- Average assessed value of all structures in Wilton = \$158,203.00
- Total number of structures in Wilton located in 1% floodplain = 28
- Total assessed value of all structures in Wilton in 1% floodplain = \$158,203.00 \* 28 = \$4,429,684
- Total assessed value of all structures in Wilton in 1% floodplain = \$4,429,684.00
- Source: Wilton Hazard Mitigation Team calculations based on Wilton Assessing data & NRPC GIS data

Step 4. Determine total loss from flooding in 1% floodplain

- Total Loss from Flooding = Total Assessed Value of all structures in 1% Floodplain \* Percent Building Damage Ratio
- Total Loss from 1-foot flood depth = \$4,429,684.00 \* 0.15 = **\$664,452.60**
- Total Loss from 2-foot flood depth = \$4,429,684.00 \* 0.20 = **\$885,936.80**
- Total Loss from 3-foot flood depth = \$4,429,684.00 \* 0.23 = **\$1,018,827.32**
- Total Loss from 4-foot flood depth = \$4,429,684.00 \* 0.28 = **\$1,240,311.52**

Step 5. Determine total value of structures in Wilton located in 0.2% floodplain

- Average assessed value of all structures in Wilton = \$158,203.00
- Total number of structures in Wilton located in 0.2% floodplain = 3

- Total assessed value of all structures in Wilton in 0.2% floodplain = \$158,203.00 \* 3
- Total assessed value of all structures in Wilton in 0.2% floodplain = \$474,609.00
- Source: Wilton Hazard Mitigation Team calculations based on Wilton Assessing data & NRPC GIS data

Step 6. Determine total loss from flooding in 0.2% floodplain

- Total Loss from Flooding = Total Assessed Value of all structures in 0.2% Floodplain \* Percent Building Damage Ratio
- Total Loss from 1-foot flood depth = \$474,609.00 \* 0.15 = **\$71,191.35**
- Total Loss from 2-foot flood depth = \$474,609.00 \* 0.20 = \$94,921.80
- Total Loss from 3-foot flood depth = \$474,609.00 \* 0.23 = \$109,160.07
- Total Loss from 4-foot flood depth = \$474,609.00 \* 0.28 = \$132,890.52

Critical Facility Type	Total Number of this type of Critical Facility in Wilton	Number of this type of Critical Facility vulnerable to flooding	Percentage of this type of Critical Facility vulnerable to flooding
General Occupancy	46	11	24%
Essential Facilities	7	2	29%
Transportation	4	4	100%
Utility System	9	3	33%
High Potential Hazard	25	25	100%
Hazardous Materials	2	2	100%

#### **Severe Wind**

The Atlantic hurricane season lasts from June 1 through November 30 and peaks in late August and September. The Saffir-Simpson Hurricane Wind Scale categorizes hurricanes from 1 to 5 based on sustained wind speed. The National Weather Service National Hurricane Center provides the following estimates of potential property damage based on hurricane wind speed

(http://www.nhc.noaa.gov/aboutsshws.php).

Category 1—sustained winds 74-95 mph. Very dangerous winds will produce some damage. Wellconstructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.

Category 2—sustained winds 96-110 mph. Extremely dangerous winds will cause extensive damage. Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.

Category 3—sustained winds 111-129 mph. Devastating damage will occur. Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or

uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.

Category 4—sustained winds 130-156 mph. Catastrophic damage will occur. Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Category 5—sustained winds 157 mph or higher. Catastrophic damage will occur. A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possible months. Most of the area will be uninhabitable for weeks or months.

FEMA declared disasters in Hillsborough County during Hurricane Bob (1991) and Hurricane Floyd (1999). Though these were the only formally declared incidents, Wilton has experienced strong remnants of numerous tropical cyclones including Hurricane Carol (1954), Donna (1960), Gloria (1985), Irene (2011), and Sandy (2012).

#### Severe Wind Hazard Loss Estimate

There are no standard loss estimation models or tables for wind damage (*Understanding Your Risks*, FEMA, pg 4-30). As such, the Hazard Mitigation Team used data from previous hurricane events to determine damage estimates. Historically, the strongest hurricane seen in NH was a Category 3, so loss estimates were calculated based on a hurricane of that strength. Hurricanes have primarily damaged road networks and infrastructure in NH. It is beyond the scope of this project to estimate the costs of repairing or replacing transportation and utility infrastructure damaged by a hurricane. The Hazard Mitigation Team used the following calculations to estimate loss to single family residential structures from a hurricane.

Step 1. Determine percent building damage ratio to single family residence from Category 3 hurricane

- Wood Frame Construction, Low general hurricane design level = 20% building damage
- Source: Wilton Hazard Mitigation Team

Step 2. Determine percent of structures in Wilton that would be damaged by Category 3 hurricane

- 5% of structures estimated to be damaged by Category 3 hurricane
- Source: Wilton Hazard Mitigation Team (no historical data on hurricane damage in Wilton)

Step 3. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 4. Determine total loss from Category 3 hurricane

- Total Loss from Hurricane = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Hurricane = \$235,565,400.00 \* 0.05 \* 0.2 = **\$2,355,654.00**

Critical Facility Type	Total Number of this type of Critical Facilities in Wilton	Number of this type of Critical Facilities in Severe Wind Hazard Area	Percentage of this type of Critical Facilities in Severe Wind Hazard Area
General Occupancy	46	46	100%
Essential Facilities	7	7	100%
Transportation	4	4	100%
Utility System	9	4	44%
High Potential Hazard	25	25	100%
Hazardous Materials	2	2	100%

#### Lightning

By definition, all thunderstorms contain lightning. Lightning is a giant spark of electricity that occurs within the atmosphere or between the atmosphere and the ground. As lightning passes through the air, it heats the air to a temperature of about 50,000 degrees Fahrenheit, considerably hotter than the surface of the Sun. During a lightning discharge, the sudden heating of the air causes it to expand rapidly. After the discharge, the air contracts quickly as it cools back to ambient temperatures. This rapid expansion and contraction causes a shock wave that we hear as thunder.

Lightning is a major hazard to citizens involved in outdoor activities. A lightning strike at a densely attended special event has the potential to create a major mass casualty incident. Lightning also can create wildfires and structure fires and may cause power and/or communications outages.

The Lightning Activity Level (LAL) grid can be used to measure the extent of a lightning event.

LAL	Cloud & Storm Development	Lightning Strikes/15
		min
1	No thunderstorms	-
2	Cumulus clouds are common but only a few reach the towering cumulus stage.	1-8
	A single thunderstorm must be confirmed in the observation area. The clouds	
	produce mainly virga, but light rain will occasionally reach the ground.	
	Lightning is very infrequent.	
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are	9-15
	few, but two or three must occur within the observation area. Light to	
	moderate rain will reach the ground, and lightning is infrequent.	
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are	16-25
	scattered and more than three must occur within the observation area.	
	Moderate rain is common and lightning is frequent.	

5	Towering cumulus and thunderstorms are numerous. They cover more than	>25
	three-tenths and occasionally obscure the sky. Rian is moderate to heavy and	
	lightning is frequent and intense.	
6	Similar to LAL 3 except thunderstorms are dry.	9-15

### Lightning Hazard Loss Estimate

Losses from lightning would be on a small, localized scale. The Hazard Mitigation Team used the following calculations to estimate loss to single family residential structures from lightning.

Step 1. Determine percent building damage ratio to single family residence from lightning

- Wood Frame Construction = 5% building damage
- Source: Wilton Hazard Mitigation Team

Step 2. Determine percent of structures in Wilton that would be damaged by lightning

- 0.25% of structures estimated to be damaged by lightning
- Source: Wilton Hazard Mitigation Team (no historical data on lightning damage in Wilton)

Step 3. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 4. Determine total loss from lightning

- Total Loss from Lightning = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Severe Thunderstorm = \$235,565,400 \* 0.0025 \* 0.05 = **\$29,445.68**

Critical Facility Type	Total Number of this	Number of this type of	Percentage of this type of	
	type of Critical Facilities	Critical Facilities in	Critical Facilities in	
	in Wilton	Lightning Hazard Area	Lightning Hazard Area	
General Occupancy	46	46	100%	
Essential Facilities	7	7	100%	
Transportation	4	0	0%	
Utility System	9	3	33%	
High Potential Hazard	25	0	0%	
Hazardous Materials	2	2	100%	

#### **Severe Winter Weather**

A heavy snowstorm is generally considered to be one that deposits two or more inches of snow per hour in a twelve-hour period. Heavy snow can immobilize a region, stranding commuters, closing businesses, and disrupting emergency services. Accumulating snow can collapse buildings and knock down trees and power lines. Snow removal from roadways, utility damage, and disruption to businesses can have a significant economic impact on municipalities and residents.

A blizzard is a violent snowstorm with winds blowing at a minimum speed of 35 miles per hour and visibility of less than one-quarter mile for three hours. A Nor'easter is a large weather system traveling from south to north, passing along the coast. As the storm's intensity increases, the resulting counterclockwise winds impact the coast and inland areas in a Northeasterly direction. Winds from a Nor'easter can meet or exceed hurricane force, knocking down trees, utility poles, and power lines.

Ice storms occur when a mass of warm, moist air collides with a mass of cold, arctic air. The less dense warm air rises and the moisture precipitates out in the form of rain. When this rain falls through the colder, more-dense air and comes in contact with cold surfaces, ice forms and can become several inches thick. Heavy accumulations of ice can knock down trees, power lines, and communications for extended periods of time. Ice Storm extent can be defined by the Sperry-Piltz Ice Accumulation Index:

- 0—minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages
- 1—some isolated or localized utility interruptions are possible, typically lasing on a few hours. Roads and bridges may become slick and hazardous.
- 2—scattered utility interruptions expected, typically lasing 12-24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
- 3—numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasing 1-5 days.
- 4—prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structures. Outages lasing 5-10 days.
- 5—catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed

In recent years, FEMA issued disaster declarations in Hillsborough County for severe winter weather in 1998, 2008, 2010, 2011, 2013, 2015, 2017 and 2018. Among these storms was a rare Nor'easter in late October of 2011 that caused major destruction in Hillsborough and Rockingham Counties. Heavy wet snow fell on trees that had much of their foliage remaining. Many trees could not withstand the extra weight of the snow and collapsed under the stress. Damage was very focused in the southern part of New Hampshire and caused nearly three times the amount of debris that the 2008 ice storm produced.

#### Severe Winter Weather Hazard Loss Estimate

Severe Winter Weather events have primarily damaged road networks and infrastructure in NH. It is beyond the scope of this project to estimate the costs of repairing or replacing transportation and utility infrastructure damaged by severe winter weather. The Hazard Mitigation Team used the following calculations to estimate loss to single family residential structures from severe winter weather.

Step 1. Determine percent building damage ratio to single family residence from severe winter weather

- Wood Frame Construction, no additional provisions for roof snow loads = 5% building damage
- Source: Wilton Hazard Mitigation Team

Step 2. Determine percent of structures in Wilton that would be damaged by severe winter weather

- 1% of structures estimated to be damaged by severe winter weather
- Source: Wilton Hazard Mitigation Team

Step 3. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 4. Determine total loss from Severe Winter Weather

- Total Loss from Severe Winter Weather = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Severe Winter Weather = \$235,565,400 \* 0.01 \* 0.05 = **\$117,782.70**

Critical Facility Type	Total Number of this type of Critical Facilities in Wilton	Number of this type of Critical Facilities in Severe Winter Weather Hazard Area	Percentage of this type of Critical Facilities in Severe Winter Weather Hazard Area	
General Occupancy	46	46	100%	
Essential Facilities	7	7	100%	
Transportation	4	4	100%	
Utility System	9	9	100%	
High Potential Hazard	25	25	100%	
Hazardous Materials	2	2	100%	

#### **Tornado/Downburst**

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of 1 mile wide and 50 miles long. Tornadoes are created when cold air overrides warm air, causing the warm air to rise rapidly.

A downburst is a severe localized wind blasting down from a thunderstorm. These 'straight line' winds are distinguishable from tornadic activity by their pattern of destruction and debris. Depending on the size and location of these events, the destruction to property may be devastating. Downbursts fall into two categories. Microbursts cover an area less than 2.5 miles in diameter and macrobursts cover an area at least 2.5 miles in diameter.

Hillsborough County has a higher risk of tornado activity compared to the rest of the State. Between 1961 and 1998 there were 15 known tornadoes in Hillsborough County. The most recent downburst activity occurred on July 6, 1999 in the form of a macroburst in Merrimack, Grafton and Hillsborough

Counties. There were two fatalities as well as roof damage, widespread power outages, and downed trees, utility poles and wires.

#### Tornado Hazard Loss Estimate

There are no standard loss estimation models or tables for tornados (*Understanding Your Risks*, FEMA, pg 4-27). As such, the Hazard Mitigation Team used data from previous tornado events to determine damage estimates. Historically, the strongest tornado seen in Hillsborough County was a F2, so loss estimates were calculated based on a tornado of that strength.

Step 1. Determine percent building damage ratio to single family residence from F2 tornado

- Wood Frame Construction, Low general tornado design level = 50% building damage
- Source: Wilton Hazard Mitigation Team

Step 2. Determine percent of structures in Wilton that would be damaged by F2 tornado

- 1% of structures estimated to be damaged by F2 tornado
- Source: Wilton Hazard Mitigation Team (no historical data on tornado damage in Wilton)

Step 3. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 4. Determine total loss from F2 Tornado

- Total Loss from Tornado = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Tornado = \$235,565,400 \* 0.01 \* 0.5 = **\$1,177,827.00**

Critical Facility Type	Total Number of this	Number of this type of	Percentage of this type of	
	type of Critical Facilities	Critical Facilities in	Critical Facilities in	
	in Wilton	Tornado Hazard Area	Tornado Hazard Area	
General Occupancy	46	46	100%	
Essential Facilities	7	7	100%	
Transportation	4	4	100%	
Utility System	9	4	44%	
High Potential Hazard	25	25	100%	
Hazardous Materials	2	2	100%	

#### Wildfire

Wildfires are fires ignited in grassy or wooded areas. They may be ignited intentionally by humans, naturally through lightning, or accidentally due to spark ignition from sources such as power lines or fireworks. The interface between forested lands and developed lands poses an ongoing threat to property from wildfires. Potential wildfire areas outside of the recommended response time radius

from the fire station may pose a higher risk to structures and residents than those located closer to the fire station.

#### Wildfire Hazard Loss Estimate

Step 1. Determine percent building damage ratio to single family residence from wildfire

- Wood Frame Construction, combustible siding and decking = 20% building damage
- Source: Wilton Hazard Mitigation Team

Step 2. Determine percent of structures in Wilton that would be damaged by wildfire

- 0.5% of structures estimated to be damaged by wildfire
- Source: Wilton Hazard Mitigation Team

Step 3. Determine total assessed value of structures in Wilton

- Total Assessed Value of all Structures in Wilton = \$235,565,400
- Source: Wilton Assessing Department (2019)

Step 4. Determine total loss from Wildfire

- Total Loss from Wildfire = Total Assessed Value of all Structures \*Percentage of Structures Estimated to be Damaged \* Percent Building Damage Ratio
- Total Loss from Wildfire = \$235,565,400 \* 0.005 \* 0.2 = \$235,565.40

Critical Facility Type	Total Number of this	Number of this type of	Percentage of this type of	
	type of Critical Facilities	Critical Facilities in	Critical Facilities in	
	in Wilton	Wildfire Hazard Area	Wildfire Hazard Area	
General Occupancy	46	46	100%	
Essential Facilities	7	7	100%	
Transportation	4	0	0%	
Utility System	9	0	0%	
High Potential Hazard	25	0	0%	
Hazardous Materials	2	2	100%	

# Section 3.6 ~ Overall Summary of Vulnerability

This section summarizes the Town of Wilton's vulnerability by hazard and by facility type. The Town of Wilton acknowledges that they are equally at risk to and should address all hazards discussed throughout this chapter and listed below.

Hazard	Types of Critical	Impact of	% of Critical	% of	\$ Value of
	Facilities Impacted	Hazard	Facilities in	Structures	Loss
	by Hazard		Hazard Area	Estimated to	
				be Damaged	
Climate Change	General	See Impacts	See Critical	See damage	Calculating S
	Occupancy	related to	Facilities	estimates for	value of
	<ul> <li>Essential</li> </ul>	Drought,	for Drought	Drought,	losses is
	Facilities	Tomporaturos	Extreme	Tomporaturo	beyond the
	Iransportation	and Flooding	Temperatures	and Elooding	Plan (see
	Utility Systems	helow	and Flooding	helow	Section 3.5
	High Potential	below.	helow	below.	Climate
	Hazard		Sciow.		Change for
	Hazardous				explanation)
					enplanaelen)
	Agricultural				
Drought	Lallu Agricultural land	Loss of crops	Conoral	1 172 acros	Calculating \$
Diougin	Agriculturarianu.	L033 01 C10p3.		1,172 acres	value of
	Not likely to have a	Inadequate	7%	agricultural	
	significant impact	quantity of	770	land (7.1% of	beyond the
	on structures	drinking water—	Essential	total land	scope of this
	themselves, but	41% of Wilton	Facilities =	area)	Plan (see
	can have	population on	100%	,	Section 3.5
	significant impact	public drinking			Drought for
	on people's ability	water, 59% of	Transportation		explanation)
	to utilize them.	Wilton	= 0%		
		population on			
		private well	Utility Systems		
		water.	= 67%		
		Loss of water for	High Potential		
		fire protection.	Hazard = 0%		
		Increased risk of	Hazardous		
Conthe sure lies		fire.	Materials = 0%	4 50/	6100 200 00
Еагтпquake	General	Structural	General	1-5%	\$108,360.08
	Occupancy				to
	<ul> <li>Essential</li> <li>Essential</li> </ul>	buildings	100%		\$541,800.42
	Transportation	bullulligs.	Essential		
		Damage or loss	Facilities =		
	High Potential	of infrastructure.	100%		
	- nigh Polential Hazard	including roads			
	Hazardous	bridges,	Transportation		
	Materials	railroads, power	= 100%		

#### Table 7.1—Overall Summary of Vulnerability by Hazard

by Hazard Not likely to have a significant impact on structures.	and phone lines, municipal communications, radio system. Loss of water for fire protection. Risk to life, medical surge. Overburdened	Hazard Area Utility Systems = 44% High Potential Hazard = 100% Hazardous Materials = 0%	Estimated to be Damaged	
Not likely to have a significant impact on structures.	and phone lines, municipal communications, radio system. Loss of water for fire protection. Risk to life, medical surge. Overburdened	Utility Systems = 44% High Potential Hazard = 100% Hazardous Materials = 0%		
Not likely to have a significant impact on structures.	medical surge. Overburdened			
	power networks.	General Occupancy = 0%	0%	\$0
	Risk to life from prolonged	Essential Facilities = 0% Transportation = 0%		
		Utility Systems = 0%		
		High Potential Hazard = 0% Hazardous Materials = 0%		
<ul> <li>General Occupancy</li> <li>Transportation</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> </ul>	Water damage to structures and their contents. Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines	General Occupancy = 24% in floodplain Essential Facilities = 29% in floodplain	28 structures in 1% annual floodplain 3 structures in 0.2% annual floodplain	Loss in 1% floodplain: 1-foot flood = \$664,453 2-foot flood = \$885,937 3-foot flood = \$1.018.827
	Environmental hazards resulting from damage.	Transportation = 100% susceptible to flooding Utility Systems = 33% susceptible to flooding		4-foot flood = <b>\$1,240,312</b> Loss in 0.2% floodplain: 1-foot flood = <b>\$71,191</b>
•	<ul> <li>General Occupancy</li> <li>Transportation</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> </ul>	<ul> <li>Shortages.</li> <li>Risk to life from prolonged exposure.</li> <li>General Occupancy</li> <li>Transportation</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> <li>Materials</li> <li>Water damage to structures and their contents.</li> <li>Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, radio system.</li> <li>Environmental hazards resulting from damage.</li> <li>Isolation of paighbachoode</li> </ul>	shortages. Shortages. Facilities = 0% Risk to life from prolonged exposure. Utility Systems = 0% Utility Systems = 0% High Potential Hazard = 0% Hazardous Materials = 0% Materials = 0% Materials = 0% Materials = 0% Materials = 0% Materials = 0% Materials = 0% Solution Materials = 0% Solution Materials = 0% Solution Materials = 0% Solution	shortages. Facilities = 0% Risk to life from prolonged exposure. = 0% Utility Systems = 0% High Potential Hazard = 0% Hazardous Materials = 0% Materials = 0% Materials = 0% Materials = 0% Second Second Se

Hazard	Types of Critical Facilities Impacted by Hazard	Impact of Hazard	% of Critical Facilities in Hazard Area	% of Structures Estimated to	\$ Value of Loss
			nazara / neu	be Damaged	
		resulting from flooding.	High Potential Hazard = 100% in floodplain		2-foot flood = <b>\$94,922</b>
			Hazardous Materials = 0%		3-foot flood = <b>\$109,160</b>
			in 1 floodplain		4-foot flood = <b>\$132,891</b>
Severe Wind	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> <li>Transportation</li> <li>Utility Systems</li> <li>High Potential</li> </ul>	Wind damage to structures and trees. Water damage to structures and their contents.	General Occupancy = 100% Essential Facilities = 100%	5%	\$2,355,654
	<ul> <li>Hazard</li> <li>Hazardous Materials</li> </ul>	Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal	Transportation = 100% Utility Systems = 44% High Potential		
		Environmental hazards resulting from damage.	Hazardous Materials = 100%		
		Isolation of neighborhoods resulting from flooding.			
Lightning	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> </ul>	Smoke and fire damage to structures.	General Occupancy = 100%	0.5%	\$29,446
	<ul> <li>Transportation</li> <li>Utility System</li> <li>High Potential Hazard</li> </ul>	Disruption to power lines and municipal communications.	Essential Facilities = 100%		
	<ul> <li>Hazardous Materials</li> </ul>	Damage to critical electronic equipment.	Transportation = 0% Utility Systems		

Hazard	Types of Critical Facilities Impacted	Impact of Hazard	% of Critical Facilities in	% of Structures	\$ Value of Loss
	by Hazard		Hazard Area	Estimated to be Damaged	
		Injury or death to people involved in outdoor activity.	High Potential Hazard = 0% Hazardous Materials = 100%		
Severe Winter Weather	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> <li>Transportation</li> <li>Utility</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> </ul>	Disruption to road network. Damage to trees and power lines, communications. Structural damage to roofs/collapse. Increase in CO, other hazards.	General Occupancy = 100% Essential Facilities = 100% Transportation = 100% Utility Systems = 100% High Potential Hazard = 100% Hazardous Materials = 100%	1%	\$117,783
Tornado/Downburst	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> <li>Transportation</li> <li>Utility System</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> </ul>	Wind damage to structures and trees. Damage or loss of infrastructure, including roads, bridges, railroads, power and phone lines, municipal communications, radio system. Environmental hazards resulting from damage. Medical surge.	General Occupancy = 100% Essential Facilities = 100% Transportation = 100% Utility Systems = 44% High Potential Hazard = 100% Hazardous Materials = 100%	1%	\$1,177,827

Hazard	Types of Critical	Impact of	% of Critical	% of	\$ Value of
	Facilities Impacted	Hazard	Facilities in	Structures	Loss
	by Hazard		Hazard Area	Estimated to	
				be Damaged	
Wildfire	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> <li>Utility System</li> <li>High Potential Hazard</li> <li>Hazardous Materials</li> </ul>	Smoke and fire damage to structures in wild land/urban interface. Damage to habitat. Impacts to air quality. Loss of natural resources.	General Occupancy = 100% Essential Facilities = 100% Transportation = 0% Utility Systems = 0%	0.5%	\$235,565
			High Potential Hazard = 0%		
			Hazardous Materials = 100%		

#### Table 7.2—Overall Summary of Vulnerability by Facility Type

Note that Climate Change is not included as a hazard in this analysis because its effects on critical facilities are included under the hazards of Drought, Extreme Temperatures, and Flooding.

Facility Type	Total # of facilities	# susceptible to Drought	# susceptible to Earthquake	# susceptible to Extreme Temperatures	# susceptible to Flooding	# susceptible to Severe Wind	# susceptible to Lightning	# susceptible to Severe Winter Weather	# susceptible to Tornado/Downburst	<pre># susceptible to Wildfire</pre>
General Occupancy	46	3	46	0	11	46	46	46	46	46
Essential Facilities	7	7	7	0	2	7	7	7	7	7
Transportation	4	0	4	0	4	4	0	4	4	0
Utility	9	6	4	0	3	4	3	9	4	0
High Hazard	25	0	25	0	25	25	0	25	25	0
Hazardous Materials	2	0	2	0	2	2	2	2	2	2

### Section 3.7 ~ National Flood Insurance Program

The Town of Wilton participates in the National Flood Insurance Program (NFIP). This provides full insurance coverage based on risk as shown on detailed Flood Insurance Rate Maps (FIRMs). Wilton joined the NFIP on April 15, 1980. The Town's initial Flood Hazard Boundary Map was identified on April 5, 1974 and its initial Flood Insurance Rate Map was identified on April 15, 1980. The current effective map date is September 25, 2009.

Wilton has 23 NFIP policies in force and \$6,619,100 of insurance in force. There have been 4 paid losses totaling \$317,644. Wilton has 1 repetitive loss property, with repetitive loss payments of \$137,409. This is a commercial structure.

As a participant in the NFIP, communities must agree to adopt a floodplain management ordinance and enforce the regulations found in the ordinance. Wilton has adopted the "Floodplain Conservation District." The regulations of this District are considered part of the Zoning Ordinance for purposes of administration and appeals under state law. If any provision of this ordinance differs or appears to conflict with any provision of the Zoning Ordinance or other ordinance or regulation, the provision imposing the greater restriction or more stringent standard shall be controlling.

The regulations in this ordinance apply only to lands designated as special flood hazard areas by the Federal Emergency Management Agency (FEMA) in its "Flood Insurance Study for the County of Hillsborough, N.H." dated September 25, 2009 or as amended, together with the associated Flood Insurance Rate Maps dated September 25, 2009 or as amended. 78 The ordinance includes the following sections: Definitions (§10.1), Permit Required (§10.2), Location of the 100-Year Flood Elevation (§10.3), Construction Standards (§10.4), Alteration of Water Courses (§10.5), and Variances and Appeals (§10.6).

To demonstrate the Wilton's continued compliance with NFIP requirements, the Hazard Mitigation Team identified the follow mitigation actions as part of its comprehensive mitigation strategy. These actions also appear in Section 4.2, Table 9—Mitigation Actions.

National Flood Insurance Program Mitigation Actions					
Mitigation Action	Mitigation Type	Hazard Addressed	Critical Facilities Addressed		
Prepare, distribute, and make available NFIP, insurance, and building codes explanatory pamphlets or booklets.	<ul> <li>Public Information</li> </ul>	• Flooding	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> </ul>		
Identify and become knowledgeable of non- compliant structures in the community.	<ul> <li>Public Information</li> </ul>	<ul> <li>Flooding</li> </ul>	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> </ul>		

#### Table 8—National Flood Insurance Program Mitigation Actions

## **CHAPTER 4 MITIGATION STRATEGY**

## Section 4.1 ~ Goals and Objectives to Reduce Vulnerabilities to Hazards

The first step in developing a mitigation strategy is to establish goals that reflect what the municipality wishes to achieve through the implementation of its Hazard Mitigation Plan. The Wilton Hazard Mitigation Team established the following goals and objectives, based on its desire to protect the Town's population, critical facilities, infrastructure, emergency services, natural resources, and private property. These goals provided the basis for identifying and prioritizing mitigation actions.

Goal 1—Prevent the impacts of natural hazards on the Town's population, critical facilities, infrastructure, emergency services, natural resources, and private property whenever possible.

- Objective 1.1—Manage development in known hazard areas to avoid the risks associated with natural hazards.
- Objective 1.2—Plan to incorporate hazard mitigation into capital improvements and other future initiatives.
- Objective 1.3—Ensure building codes and other standards include requirements that make new construction more disaster resistant.
- Objective 1.4—Support the maintenance of this hazard mitigation plan.

Goal 2—Protect the Town's existing critical facilities, infrastructure, and private property from the impacts of natural hazards through cost effective mitigation activities.

- Objective2.1—Modify existing structures to reduce damage from future natural hazard events.
- Objective 2.2—Perform cost effective flood hazard mitigation measures to protect private property.

Goal 3—Educate and inform the Town's residents to help them become more resilient to natural hazards impacting the community.

- Objective 3.1—Utilize educational methods to change the perception from "disaster losses are acceptable" to "many disaster losses are preventable if mitigation practices are followed."
- Objective 3.2—provide educational opportunities across all age ranges.
- Objective 3.3—Develop and distribute public awareness materials regarding the relative risk of natural hazards and practical mitigation measures to reduce damages and injuries.

Goal 4—become more resilient to the impacts that climate change has on the Town's population, critical facilities, infrastructure, emergency services, natural resources, and private property.

- Objective 4.1—Utilize existing documents, including the Nashua Regional Water Resiliency Action Plan (NRPC, 2016) and "Climate Change in Southern New Hampshire" (Sustainability Institute, University of New Hampshire, 2014) to better understand predicted changes in the region's climate.
- Objective 4.2—Conduct a town-specific vulnerability assessment to better understand the municipality's strengths and weaknesses with respect to climate change readiness.
- Objective 4.3—Prioritize which climate change impacts to address and when. Prioritization could be based on vulnerability assessment results, current needs, upcoming plans, feasibility, or budget considerations.
- Objective 4.4—Develop an adaptation strategy, including potential mitigation measures, timelines, responsible parties, and available funding sources.
- Objective 4.5—Implement the adaptation strategy and incorporate finding into hazard mitigation plan updates.
- Objective 4.6—Track progress and monitor results to determine where improvements can be made. Adjust the implementation strategy as necessary.

Goal 5—Address the challenges of natural resource degradation and the associated increased risk from hazards.

- Objective 5.1—Ensure development in hazard areas does not destroy natural barriers to damage, such as floodplains and vegetation.
- Objective 5.2—Protect or recreate environmental assets to help safeguard the built environment.

Goal 6—Protect emergency services, critical facilities, and other critical capabilities from hazard damage in order for them to remain operational.

- Objective 6.1—Identify critical facilities, infrastructure, and emergency services and their vulnerabilities to natural hazards.
- Objective 6.2— Develop and implement programs to promote hazard mitigation actions that protect the provision of emergency services in Town.
- Objective 6.3—Identify, maintain, and protect evacuation routes from hazard damage so they are usable when needed.

# Section 4.2 ~ Mitigation Actions

After establishing goals and objectives to reduce vulnerabilities to each hazard type, the Hazard Mitigation Team identified mitigation actions to achieve these goals. The resulting mitigation actions appear in Table 9 below.

Mitigation Action	Mitigation Type	Hazard Addressed	Critical Facilities Addressed
MITIGAT	ION ACTIONS FROM	/ 2015 PLAN	
Review and update Building Codes, Floodplain Ordinance, and Zoning Regulations. Proactively enforce the International Building Code (IBC) and International Residential Code (IRC) to protect buildings and infrastructure from the impacts of earthquake, flooding, severe wind, severe winter weather, and tornado.	<ul> <li>Prevention</li> <li>Property Protection</li> </ul>	<ul> <li>Earthquake</li> <li>Flooding</li> <li>Severe Wind</li> <li>Severe Winter Weather</li> <li>Tornado</li> </ul>	<ul> <li>General Occupancy</li> <li>Essential Facilities</li> </ul>
Protect power lines by working with Eversource to harden electrical infrastructure, including trimming trees near power lines. Consider the costs and benefits of requiring that overhead power lines be buried in all new developments.	Prevention	<ul> <li>Severe Winter Weather</li> <li>Severe Wind</li> </ul>	<ul> <li>Transportation Systems</li> <li>Utility Systems</li> </ul>
Protect vulnerable populations from the impacts of extreme temperatures and severe winter storms by establishing shelters and cooling stations at designated municipal and school facilities.	<ul> <li>Prevention</li> <li>Public Information</li> </ul>	<ul> <li>Extreme Temperatures</li> <li>Severe Winter Weather</li> </ul>	Human lives
Protect critical facilities and equipment from lightning damage. Install and maintain lightning protection devices, such as surge protection, grounding, and lightning rods, on critical electronic equipment.	<ul> <li>Property Protection</li> <li>Emergency Services Protection</li> </ul>	• Lightning	<ul> <li>Essential Facilities</li> <li>Utility System</li> </ul>
Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.	<ul> <li>Prevention</li> <li>Property Protection</li> <li>Public Information</li> </ul>	<ul><li>Flooding</li><li>Drought</li></ul>	<ul> <li>Transportation Systems</li> <li>Utility Systems</li> <li>General Occupancy</li> <li>Essential Facilities</li> </ul>
Install Generators at all critical Town facilities and schools that do not currently have them, including the	Prevention	Extreme     Temperatures	<ul> <li>Human Lives</li> <li>Essential Facilities</li> </ul>

#### Table 9—Mitigation Actions

Mitigation Action	Mitigation Type	Hazard Addressed	Critical Facilities Addressed
Wilton-Lyndeborough Cooperative High	Emergency	Severe Winter	
School, Wilton Town Hall, and Wilton	Services	Weather	
Highway Garage.	Protection		
NATIONAL FLOOD INS	URANCE PROGRAM	MITIGATION ACTION	NS
Prepare, distribute, and make available	Public	Flooding	General
NFIP, insurance, and building codes	Information		Occupancy
explanatory pamphlets or booklets by			<ul> <li>Essential</li> </ul>
updating with current best practices			Facilities
and floodplain information.			
Identify and become knowledgeable of	Public	<ul> <li>Flooding</li> </ul>	General
non-compliant structures in the	Information		Occupancy
community. Notify landowners of non-			<ul> <li>Essential</li> </ul>
compliant structures.			Facilities
ADDITIC	DNAL MITIGATION A	ACTIONS	1
Encourage drought-tolerant landscape	Prevention	<ul> <li>Drought</li> </ul>	General
design by developing an ordinance that	Public		Occupancy
promotes the use of permeable	Information		
driveways and surfaces to reduce			
runoff and support groundwater			
recharge.			
Encourage utility companies to offer	Prevention	• Extreme	Human lives
special arrangements for paying		Temperatures	
heating bills, if not already required by		Severe Winter	
state law.		Weather	
Inventory of town-wide special needs	Prevention	• Extreme	Human lives
and at-risk populations for mitigation	Public	Temperatures	
planning as well as town-wide	Information	Severe Winter	
questionnaire to identify privately		Weather	
maintained social and physical			
resources available to town officials			
during an emergency response.	Dec. and the s	C	11
mprove public awareness of severe	Prevention	Severe winter	Human lives
homeowners of the importance of	Public	weather	
installing carbon monovido monitors	Information		
and alarms			
Tightly control burn permits and revoke	Natural	• Wildfire	• Conoral
when not properly and safely heing		• wiidiire	General     Occupancy
utilized Provide education on wildfire	Protection		Occupancy
danger to residents when they apply for	Property		
burn permits. Conduct education on	Protection		
campfire safety at schools. Post fire			
danger categories. Continue roadside			
mowing to reduce the likelihood of			

Mitigation Action	Mitigation Type	Hazard Addressed	Critical Facilities Addressed
wildfires spreading and clear brush from around fire ponds. Implement a fuels management program to reduce hazardous vegetative fuels on public lands, near essential infrastructure, and on private lands by working with landowners. The program will explore strategies such as prescribed burning, cutting firebreaks	<ul> <li>Prevention</li> <li>Property Protection</li> <li>Natural Resource Protection</li> </ul>	Wildfire	General     Occupancy
developing a vegetation management plan.			

## Section 4.3 ~ Prioritizing Mitigation Actions

After identifying mitigation actions to address each hazard, the Team then began a two-step process to prioritize them. The first step was to conduct a benefit cost review. Benefit cost reviews provide a comprehensive overview of the monetary and non-monetary costs and benefits associated with each action. During this process, the Hazard Mitigation Team asked a variety of questions such as, "How beneficial is this action to the entire Town?" "How many people will benefit from this action?" "How large of an area is impacted by this project?"

Mitigation Action	Likely Benefits	Likely Costs
Review and update Building Codes, Floodplain Ordinance, and Zoning Regulations. Proactively enforce the International Building Code (IBC) and International Residential Code (IRC) to protect buildings and infrastructure from the impacts of earthquake, flooding, severe wind, severe winter weather, and tornado.	<ul> <li>This action would be effective at avoiding and reducing future losses.</li> <li>This action is beneficial to all applicable buildings across the entire Town.</li> </ul>	<ul> <li>This action may not benefit older structures not subject to newer building codes.</li> <li>\$0 additional costs, percentage of existing Code Enforcement budget (source: 2021 Wilton Town budget item)</li> </ul>
Protect power lines by working with Eversource to harden electrical infrastructure, including trimming trees near power lines. Consider the costs and benefits of requiring that overhead power lines be buried in all new developments.	<ul> <li>Trimming trees near power lines would reduce the risk of outages.</li> <li>Fewer trees directly along road would also reduce root systems in roadways, allow more sunlight for better snowmelt, and improve overall improve road conditions.</li> </ul>	<ul> <li>Removal of trees along designated scenic roads requires Planning Board approval</li> <li>Tree removal may be incompatible with local aesthetics</li> <li>Burying power lines may be cost prohibitive</li> <li>\$1,200-\$1,500 per large tree for removal (source: 2021 Wilton Town Road Maintenance budget item)</li> </ul>
Protect vulnerable populations from the impacts of extreme temperatures and severe winter storms by establishing shelters and cooling stations at designated municipal and school facilities.	<ul> <li>This action would benefit the entire Town and particularly the most at risk and needy populations.</li> <li>This action has broad social benefits for the community.</li> </ul>	<ul> <li>\$0 additional costs, percentage of existing Emergency Management budget (source: 2021 Wilton Town budget item)</li> </ul>
Protect critical facilities and equipment from lightning damage. Install and maintain lightning protection devices,	<ul> <li>Reduced inconvenience and loss associated with a shutdown of critical</li> </ul>	<ul> <li>\$1,000-\$5,000 per critical facility for lightning protection devices (source: Wilton Town</li> </ul>

#### Table 10—Benefit Cost Review

Mitigation Action	Likely Benefits	Likely Costs
such as surge protection, grounding, and lightning rods, on critical electronic equipment.	facilities due to lightning damage.	General Government Building budget item)
Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.	<ul> <li>Mapping and assessment will help to determine how areas at greatest risk of flooding can be targeted for hazard mitigation opportunities.</li> <li>Grant funding is available to support this project.</li> </ul>	<ul> <li>This action is expensive to implement.</li> <li>Approximately \$71,000</li> <li>Contract with Nashua Regional Planning Commission (source: Wilton Town Budget)</li> </ul>
Install Generators at all critical Town facilities and schools that do not currently have them, including the Wilton- Lyndeborough Cooperative High School, Wilton Town Hall, and Wilton Highway Garage.	<ul> <li>Critical facilities will continue to be able to function in the event of power outages.</li> <li>Schools will be more effective shelters for vulnerable populations</li> </ul>	<ul> <li>Generators are costly to purchase.</li> <li>\$25,000-\$75,000 per generator, depending on size (source: Wilton Operating Budget for each department installing generator, Wilton School Budget, FEMA Hazard Mitigation Assistance grant)</li> </ul>
Prepare, distribute, and make available NFIP, insurance, and building codes explanatory pamphlets or booklets by updating with current best practices and floodplain information.	<ul> <li>Educate residents, builders, and other professionals about NFIP</li> <li>Reduce property loss costs associated with flooding</li> </ul>	<ul> <li>Minimal, part of normal town operations</li> <li>\$200 annually; part of existing Code Enforcement budget (source: 2021 Wilton Town budget item)</li> </ul>
Identify and become knowledgeable of non-compliant structures in the community. Notify landowners of non- compliant structures.	<ul> <li>This action would assist in avoiding future losses due to flooding</li> </ul>	<ul> <li>Minimal, part of normal town operations (source: 2021 Wilton Town budget)</li> </ul>
Encourage drought-tolerant landscape design by developing an ordinance that promotes the use of permeable driveways and surfaces to reduce runoff and support groundwater recharge.	<ul> <li>This action has environmental benefits if residents comply with the ordinance</li> </ul>	<ul> <li>\$0 additional costs, part of normal Planning Board operations (source: Wilton Planning Board Budget)</li> </ul>
Encourage utility companies to offer special arrangements for paying heating bills, if not already required by state law.	<ul> <li>This action would benefit the entire Town and particularly the most at risk and needy populations.</li> </ul>	<ul> <li>\$0 additional costs, part of normal Planning Board operations (source: Wilton Planning Board Budget)</li> </ul>

Mitigation Action	Likely Benefits	Likely Costs
	<ul> <li>This action has broad social benefits for the community.</li> </ul>	
Inventory of town-wide special needs and at-risk populations for mitigation planning as well as town-wide questionnaire to identify privately maintained social and physical resources available to town officials during an emergency response.	<ul> <li>Helps vulnerable populations</li> <li>Voluntary participation</li> </ul>	<ul> <li>May be difficult to get personal contact information</li> <li>Voluntary participation means not everyone would be covered</li> <li>\$750 annually (source: Wilton Operating Budget, Emergency Management appropriation)</li> </ul>
Improve public awareness of severe winter storms by educating homeowners of the importance of installing carbon monoxide monitors and alarms.	<ul> <li>Protects human life during severe winter weather</li> <li>Voluntary participation</li> </ul>	<ul> <li>\$0 additional costs, part of normal Fire Department operations</li> </ul>
Tightly control burn permits and revoke when not properly and safely being utilized. Provide education on wildfire danger to residents when they apply for burn permits. Conduct education on campfire safety at schools. Post fire danger categories. Continue roadside mowing to reduce the likelihood of wildfires spreading and clear brush from around fire ponds.	<ul> <li>This action would result in reduced fire-fighting costs.</li> <li>This action would be most beneficial to portions of Town near wooded areas.</li> <li>Sound forestry practices can help reduce the risk of wildfire.</li> <li>This action would also be beneficial to mitigate manmade fire related hazards.</li> </ul>	<ul> <li>Large scale wildfires are relatively rare in Wilton and therefore the costs of implementing this action may outweigh the benefits of reduced property damage.</li> <li>Opinions vary about wildfire management, so this action could cause social and political tension.</li> <li>Enforcement of burn permits can be costly.</li> <li>\$0 additional costs, percentage of existing Fire Dept. and Public Works budgets (source: 2021 Wilton Town budget item)</li> </ul>
Implement a fuels management program to reduce hazardous vegetative fuels on public lands, near essential infrastructure, and on private lands by working with landowners. The program will explore strategies such as prescribed burning, cutting firebreaks into public wooded	<ul> <li>This action would result in reduced fire-fighting costs.</li> <li>This action would be most beneficial to portions of Town near wooded areas.</li> <li>Sound forestry practices can help reduce the risk of wildfire.</li> </ul>	<ul> <li>Large scale wildfires are relatively rare in Wilton and therefore the costs of implementing this action may outweigh the benefits of reduced property damage.</li> <li>Opinions vary about wildfire management. so</li> </ul>

Mitigation Action	Likely Benefits	Likely Costs
areas, and developing a vegetation management plan.	<ul> <li>This action would also be beneficial to mitigate manmade fire related hazards.</li> </ul>	<ul> <li>this action could cause social and political tension.</li> <li>\$50 per acre for prescribed burning, \$360 per fire break, \$0 additional costs for vegetation management plan development (source: Wilton Fire Department Budget)</li> </ul>

After completing a Benefit Cost review for each action, the Hazard Mitigation Team then prioritized the actions by conducting a STAPLEE Analysis, which stands for Social, Technical, Administrative, Political, Legal, Economic, and Environmental factors. For each mitigation action, the Team asked the following questions:

- Social— Will the action unfairly affect any one segment of the population? Will it disrupt established neighborhoods? Is it compatible with present and future community values? Will it adversely affect cultural resources?
- Technical—How effective is the action in avoiding or reducing future losses? Will it create more problems than it solves? What are some secondary impacts? Does it solve a problem or only a symptom?
- Administrative Does the community have the capability to implement the action? Can the community provide the necessary maintenance? Can it be accomplished in a timely manner?
- Political— Is there public support both to implement and maintain the action? Is the political leadership willing to support it? Does it present a financial burden to stakeholders?
- Legal— Does the community have the authority to implement the action? Is enabling legislation necessary? What are the legal side effects? Will the community be liable for the actions, support of actions, or lack of actions?
- Economic— What are the costs of this action? How will the costs be borne? Are state/federal grant programs applicable? Does the action fit into existing capital improvements or economic development budgets?
- Environmental— How will this action affect the environment? Does it comply with local, state, and federal environmental regulations? Is it consistent with community environmental goals? Are endangered or threatened species likely to be affected?

The cost and benefit of each mitigation action were then evaluated and assigned a quantitative score based on the STAPLEE criteria.

Benefit Score Range: 0 = Not Beneficial, 1 = Somewhat Beneficial, 2 = Beneficial, 3 = Very Beneficial

**Cost Score Range:** 0 = Not Costly, -1 = Somewhat Costly, -2 = Costly, -3 = Very Costly

Next, the scores for each action were added to determine priority. Finally, the Hazard Mitigation Team reviewed the scores and resulting prioritization to make sure it was consistent with historical risks, anticipated future risks, current emergency management priorities, and the Town's goals and Master Plan. The STAPLEE analysis and prioritized mitigation actions appear in Table 11 below.

Mitigation Action: Protect power lines by working with Eversource to harden electrical infrastructure,					
including trimming trees near power lines. Consider the costs and benefits of requiring that overhead					
	power lines be buried in all new developments.	1			
Criteria	Evaluation	Cost	Benefit		
Social	This action would not unfairly affect any segment of the population or disrupt established neighborhoods. It is generally compatible with community values that understand trees need to be trimmed for road maintenance and public safety, although all residents do not agree with this.	-1	3		
Technical	This action would be effective in avoiding or reducing future losses. It is very likely that a severe winter storm or severe wind event will occur and impact power lines. It would not create more problems than it solves and it solves the problem rather than only a symptom. Fewer trees directly along the road would also improve drainage, reduce rood systems in the roadway, and allow more sunlight to melt the snow, all resulting in better road conditions.	0	3		
Administrative (including responsible party)	Wilton has the capacity to implement this action. The Wilton Highway Department and Eversource would be the responsible parties. The Planning Board is responsible for considering the costs/benefits of burying power lines.	0	3		
Political	In general, there is political support for this action, although there may be some opposition to tree trimming along designated scenic roads. Developers may not support this action if it significantly increases their costs.	-1	3		
Legal	The Town does not have the authority to trim trees along scenic roads without first receiving approval from the Planning Board. The Planning Board has the legal authority to declare dead trees along a scenic road a public hazard and therefore allow them to be removed.	-1	3		
Economic (including direct cost)	Some costs associated with this action would be borne by Eversource. The remaining costs would be borne by the Town. The removal of large trees would cost an estimated \$1,200 per tree and would be performed by a hired contractor. The benefits of a more resilient electrical infrastructure far outweigh the costs of this action.	0	3		
Environmental	This action would positively impact the environment by improving road drainage and decreasing the need to use ice melting agents.	0	3		
Subtotal		-3	21		
Total			18		
Priority			1		

## Table 11—STAPLEE Analysis

**Mitigation Action:** Review and update Building Codes, Floodplain Ordinance, and Zoning Regulations. Proactively enforce the International Building Code (IBC) and International Residential Code (IRC) to protect buildings and infrastructure from the impacts of earthquake, flooding, severe wind, severe

Criteria	Evaluation	Cost	Benefit
Social	There are not social impacts associated with this action.	0	3
	Enforcement would apply evenly across all applicable		
	buildings, including new construction, major renovations, and		
	changes of use.		
Technical	This action is effective at avoiding and reducing future losses	0	3
	and it mitigates the impacts of these hazards.		
Administrative	Wilton has the capability to implement this action.	0	3
(including	Responsibility would fall under the Wilton Building Inspector.		
responsible party)			
Political	There is public support for this action. Concerns may exist	-1	2
	among some property owners who would be directly		
	impacted.		
Legal	Wilton has adopted these codes and has the legal authority to	0	2
	enforce them.		
Economic (including	There would be no additional costs associated with enforcing	0	2
direct cost)	building codes, as it falls under the existing Building Inspection		
	budget. This action could have a positive economic impact by		
	reducing the number of emergency response calls.		
Environmental	This action is environmentally beneficial if residents pay	0	2
	attention to and comply with reduced water consumption		
	measures.		
Subtotal		-1	17
Total			16
Priority			2

Mitigation Action: Encourage utility companies to offer special arrangements for paying heating bills, if			
not already required by state law.			
Criteria	Evaluation	Cost	Benefit
Social	There are no known social issues associated with this action.	0	3
Technical	This action does not solve the problem of extreme	0	2
	temperatures or severe winter weather, but it does help solve		
	the symptom of exposure by making heating more affordable.		
	Extreme temperatures are very likely to occur in Wilton, so		
	mitigation measures are important.		
Administrative	Wilton has the capability to implement this action. The Health	0	3
(including	Officer and Welfare Department are the responsible parties.		
responsible party)			
Political	There is public support to implement and maintain this action.	0	3
Legal	Wilton has the legal authority to implement this action.	0	2
Economic (including	This action is consistent with normal Town operations and does	0	3
direct cost)	not impose additional economic costs.		
Environmental	There are no environmental impacts associated with this	0	0
	action.		
Subtotal		-1	16
Total			15
Priority			3

Mitigation Action: Inventory of town-wide special needs and at-risk populations for mitigation				
planning as well as town-wide questionnaire to identify privately maintained social and physical				
re	resources available to town officials during an emergency response.			
Criteria	Evaluation	Cost	Benefit	
Social	This is a voluntary program, so it would not affect any one	0	3	
	segment of the population. Helping vulnerable populations is			
	compatible with community values.			
Technical	This action is only effective at avoiding or reducing future losses	0	2	
	if residents voluntarily participate in it.			
Administrative	The Town has the capability to implement this action if	0	3	
(including	information is voluntarily provided by residents. The Wilton Fire			
responsible party)	Chief and Emergency Management are responsible for			
	implementing this action.			
Political	There is political support for this action.	0	2	
Legal	The Town has the authority to implement this action and no	0	2	
	enabling legislation is necessary. Participation in this program in			
	entirely voluntary.			
Economic	This action would cost roughly \$750 annually. It is consistent	0	3	
(including direct	with normal town operations and does not impose additional			
cost)	economic costs.			
Environmental	This action would not impact the environment.	0	0	
Subtotal		0	15	
Total			15	
Priority			3	

Mitigation Action: Tightly control burn permits and revoke when not properly and safely being utilized.				
Provide education on wildfire danger to residents when they apply for burn permits. Conduct				
education on campfire safety at schools. Post fire danger categories. Continue roadside mowing to				
reduce the	reduce the likelihood of wildfires spreading and clear brush from around fire ponds.			
Criteria	Evaluation Cos		Benefit	
Social	This action does not unfairly impact any segment of the	0	3	
	population and it is compatible with present and future			
	community values.			
Technical	This action helps to avoid or reduce future losses. Wildfire poses	0	3	
	danger during dry periods, which Wilton has been experiencing			
	in recent years. It has the potential to solve the underlying			
	problem of wildfires by removing the fuel source. It will not			
	create additional problems or cause secondary impacts.			
Administrative	Wilton has the capability to implement this action, although it	-2	3	
(including	poses an additional burden on the Fire Dept., particularly for			
responsible party)	enforcement of burn permits. Eversource is responsible for			
	removing underbrush and standing deadwood under power			
	lines.			
Political	There is public and political support for this action.	0	3	
Legal	Wilton has the legal authority to implement this action.	0	3	
Economic	The benefits of reduced fire-fighting costs and potential	-2	3	
(including direct	decrease in property damage could exceed the costs of			
cost)	implementing this action. At the same time, large scale wildfires			
	are relatively rare in Wilton and therefore the costs of			
	implementing this action may outweigh the benefits. Eversource			
	would be responsible for the direct costs of brush removal under			
	power lines.			
Environmental	Fire is a natural part of the ecosystem and suppressing it may	-1	2	
	have negative consequences. On the other hand, large-scale,			
	man-made fires can have a detrimental impact on the			
	environment.			
Subtotal		-5	20	
Total			15	
Priority			3	

Mitigation Action: Protect vulnerable populations from the impacts of extreme temperatures by					
establishing cooling and warming stations at community centers. Develop targeted outreach methods,					
including notifying occupants of senior housing facilities.					
Criteria	Evaluation	Cost	Benefit		
Social	This action primarily benefits Wilton's most vulnerable	0	2		
	residents. It is compatible with present and future community				
	values.				
Technical	This action does not solve the problem of extreme	0	2		
	temperatures, but it does solve the symptom of exposure.				
	Extreme temperatures are very likely to occur in Wilton, so				
	mitigation measures are important.				
Administrative	Wilton has the capability to implement this action. Emergency	0	3		
(including	Management and the Health Officer are responsible for it and				
responsible party)	it falls under ongoing emergency management operations. This				
	action can be implemented in a very timely manner.				
Political	There is public support to implement and maintain this action.	0	2		
Legal	Wilton has the legal authority to implement this action.	0	2		
Economic (including	This action is consistent with normal town operations and does	0	3		
direct cost)	not impose additional economic costs				
Environmental	There are no environmental impacts associated with this	0	0		
	action.				
Subtotal		0	14		
Total			14		
Priority			4		

Mitigation Action: Improve public awareness of severe winter storms by educating homeowners of the			
impo	ortance of installing carbon monoxide monitors and alarms.		
Criteria	Evaluation	Cost	Benefit
Social	This action would not unfairly affect any segment of the		
	population, disrupt established neighborhoods, or adversely	0	1
	affect cultural resources.		
Technical	This action does not solve the problem of severe winter		
	weather, but it does solve the symptom of carbon monoxide	0	3
	poisonings and protects human life.		
Administrative	The Town has the capability to implement this action if		
(including responsible	information is voluntarily provided by residents. The Wilton	0	2
party)	Fire Chief is responsible for implementing this action.		
Political	There is political support for this action.	0	2
Legal	There are no legal issues associated with this action.	0	2
Economic (including	This action is consistent with normal Fire Department	0	2
direct cost)	operations and does not impose additional economic costs.	U	5
Environmental	This action would not impact the environment.	0	0
Subtotal		0	13
Total			13
Priority			5

**Mitigation Action:** Encourage drought-tolerant landscape design by developing an ordinance that promotes the use of permeable driveways and surfaces to reduce runoff and support groundwater

	recharge.				
Criteria	Evaluation	Cost	Benefit		
Social	This action does not unfairly impact any segment of the	0	3		
	population and it is compatible with present and future				
	community values.				
Technical	This action helps to solve symptoms of drought	0	1		
Administrative (including	The Wilton Planning Board is responsible for drafting new	0	2		
responsible party)	ordinances.				
Political	There may be some opposition to additional regulations.	-1	1		
Legal	The Town has the authority to implement this action.	0	2		
Economic (including	There are minimal costs associated with this action, it is	0	2		
direct cost)	consistent with normal Planning Board operation.				
Environmental	This action has a positive impact on the environment by	0	2		
	promoting water conservation and supporting				
	groundwater recharge				
Subtotal		-1	13		
Total			12		
Priority			6		

Mitigation Action: Implement a fuels management program to reduce hazardous vegetative fuels on				
public lands, near essential infrastructure, and on private lands by working with landowners. The				
program will exp	program will explore strategies such as prescribed burning, cutting firebreaks into public wooded			
	areas, and developing a vegetation management plan.			
Criteria	Evaluation	Cost	Benefit	
Social	This action does not unfairly impact any segment of the	0	3	
	population and it is compatible with present and future			
	community values.			
Technical	This action helps to avoid or reduce future losses. Wildfire poses	0	2	
	danger during dry periods, which Wilton has been experiencing			
	in recent years. It has the potential to solve the underlying			
	problem of wildfires by removing the fuel source. It will not			
	create additional problems or cause secondary impacts.			
Administrative	Wilton has the capability to implement this action. The Fire	0	1	
(including	Department and Highway Department would be responsible.			
responsible party)				
Political	There is public and political support for this action.	0	1	
Legal	Wilton has the legal authority to implement this action.	0	3	
Economic	The benefits of reduced fire-fighting costs and potential	-2	3	
(including direct	decrease in property damage could exceed the costs of			
cost)	implementing this action. At the same time, large scale wildfires			
	are relatively rare in Wilton and therefore the costs of			
	implementing this action may outweigh the benefits. Eversource			
	would be responsible for the direct costs of brush removal under			
	power lines.			
Environmental	Fire is a natural part of the ecosystem and suppressing it may	-1	2	
	have negative consequences. On the other hand, large-scale,			
	man-made fires can have a detrimental impact on the			
	environment.			
Subtotal		-3	14	
Total			11	
Priority			7	

Mitigation Action: Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.			
Criteria	Evaluation	Cost	Benefit
Social	This action will not unfairly affect any segment of the	0	3
	population, disrupt established neighborhoods, or adversely		
	affect cultural resources. It is compatible with the		
	community's values of protecting life and property.		
Technical	This action will help to avoid and reduce future losses from	0	2
	erosion. Mapping and assessment will help to determine how		
	areas at greatest risk of flooding can be targeted for hazard		
	mitigation opportunities.		
Administrative	The Wilton Water Commission is responsible for implementing	0	1
(including	this action.		
responsible party)			
Political	There is public support to implement and maintain this action.	0	1
	The political leadership is also willing to support it.		
Legal	The Town has the authority to implement this action and no	0	1
	enabling legislation is necessary.		
Economic (including	This action will be funded through the Town Budget	-2	3
direct cost)			
Environmental	This action has the potential to prevent water loss and reduce	0	2
	property damage and subsequent environmental impacts.		
Subtotal		-2	13
Total			11
Priority			7

Mitigation Action: Protect critical facilities and equipment from lightning damage. Install and maintain					
lightning protection devices, such as surge protection, grounding, and lightning rods, on critical					
	electronic equipment.				
Criteria	Evaluation	Cost	Benefit		
Social	This action would not unfairly affect any segment of the	0	3		
	population, disrupt established neighborhoods, or adversely				
	affect cultural resources.				
Technical	This action is effective in avoiding or reducing future losses. It	0	1		
	would not create more problems than it solves. It would reduce				
	the inconvenience from a shutdown of critical facilities resulting				
	from power outages. However, incidents related to lightning				
	are very rare in Wilton.				
Administrative	Wilton has the capacity to implement this action. Each critical	0	2		
(including	facility department head is responsible for implementing the				
responsible party)	installation and maintenance of lightning protection devices.				
Political	There is political support to implement and maintain this	0	2		
	action.				
Legal	Wilton has the authority to implement this action	0	3		
Economic (including	The cost of \$1,000-\$5,000 per critical facility for lightning	-2	1		
direct cost)	protection devices would come out of the Wilton Town				
	Buildings and Grounds appropriation. Given the infrequent				
	occurrence of lightning strikes the costs of this action seem to				
	outweigh the benefits.				
Environmental	This action would not impact the environment.	0	0		
Subtotal		-2	12		
Total			10		
Priority			8		

Mitigation Action: Install Generators at all critical Town facilities and schools that do not currently				
have them, including the Wilton-Lyndeborough Cooperative High School, Wilton Town Hall, and Wilton				
	Highway Garage.			
Criteria	Evaluation	Cost	Benefit	
Social	This action would benefit the entire population.	0	2	
Technical	This action would help to reduce the impacts of natural	0	2	
	hazards on critical facilities and emergency services provision.			
Administrative	Wilton has the capability to implement this action. The	0	2	
(including	Emergency Management Department is the responsible party			
responsible party)	for facilitating the implementation of this action.			
Political	There is public support to implement and maintain this action	0	1	
	if it can be done in a cost-effective manner.			
Legal	The Town has the legal authority to install generators at Town-	-1	2	
	owned facilities. The School Board would need to give			
	permission to install generators at School District owned			
	facilities and formal legal agreements would need to be put			
	into place.			
Economic (including	This action could be expensive depending on the size of	-2	2	
direct cost)	generator needed. FEMA Hazard Mitigation Assistance grants			
	are available to install generators in Critical Infrastructure and			
	Key Resources.			
Environmental	This action has no significant environmental impacts.	0	0	
Subtotal		-3	11	
Total			8	
Priority			9	

<b>Mitigation Action:</b> Identify and become knowledgeable of non-compliant structures in the community.			
Criteria	Evaluation	Cost	Benefit
Social	This action impacts people with structures in the floodplain.	0	1
Technical	This action would assist in avoiding future losses due to flooding.	0	2
Administrative (including responsible party)	Wilton does have the capability to implement this action. The Wilton Emergency Management Director and Building Inspector would be responsible for this action.	0	1
Political	It is unclear whether there is public and political support for this action.	-1	1
Legal	There are no legal issues associated with this action.	0	0
Economic (including direct cost)	There are minimal costs to accomplish this action.	0	1
Environmental	This action would help reduce property damage and subsequent environmental impacts.	0	1
Subtotal		-1	7
Total			6
Priority			10
Mitigation Actio	on: Prepare, distribute, and make available NFIP, insurance, and bui ets or booklets by updating with current best practices and floodpla	lding co ain info	odes rmation.
--	---	----------------------	------------------
Criteria	Evaluation	Cost	Benefit
Social	This action would not unfairly affect any segment of the population, disrupt established neighborhoods, or adversely affect cultural resources.	0	0
Technical	This action would help to avoid or reduce future losses. It has more potential to solve symptoms related to flooding than the underlying problem itself. It would not create additional problems or cause secondary impacts. Given that flooding is relatively rare in Wilton, this action would likely have minimal impact.	0	1
Administrative (including responsible party)	Wilton has the capability to implement this action. The Wilton Building Inspector would be responsible for it. It can be accomplished in a timely manner.	0	1
Political	There is public support to implement and maintain this action	0	1
Legal	Wilton has the legal authority to implement this action. The Town's role is only to provide and distribute the materials, not to make actual insurance determinations.	0	0
Economic (including direct cost)	This action is consistent with normal town operations and does not impose additional economic costs. It would cost \$500 per year to implement and would come out of the Building Inspection budget.	0	0
Environmental	This action has the potential to reduce property damage and subsequent environmental impacts only if the recommendations in the literature are implemented.	0	1
Subtotal		0	4
Total			4
Priority			11

#### Section 4.4 ~ Implementing and Administering Mitigation Actions

The Town of Wilton has integrated its 2015 Hazard Mitigation Plan into a variety of other planning mechanisms, including the Wilton Emergency Response Plan and Capital Improvements Plan. Updates to Wilton's Capital Improvement Plan will include any applicable mitigation projects identified in the 2021 Hazard Mitigation Plan. In addition, the Town of Wilton has incorporated and will continue to integrate requirements of the Wilton Hazard Mitigation Plan Update 2021 into other planning mechanisms. For example, the next update to the Town's Master Plan will incorporate elements of the Hazard Mitigation Plan where applicable.

The Wilton Hazard Mitigation Team will be responsible for helping Town boards and departments to integrate the Hazard Mitigation Plan into their own planning mechanisms. The Hazard Mitigation Team developed Table 12, which is an action plan that outlines who is responsible for implementing the prioritized mitigation actions, how they will be funded, and when they will be completed.

Timeframe	
Short Term	1 year or less, or ongoing*
Medium Term	2 -3 years
Long Term	4-5 years

\*Ongoing indicates that the action will be completed on an ongoing basis throughout the life of the Plan.

Priority	Mitigation Action	Responsible	Cost & Funding	Timeframe
		Party		
1.	Protect power lines by working with Eversource to harden electrical infrastructure, including trimming trees near power lines. Consider the costs and benefits of requiring that overhead power lines be buried in all new developments.	Highway Department, Planning Board	Cost = \$1,200 per large tree for removal; \$1,000- \$5,000 per critical facility for lightning protection devices Funding Source: Wilton Operating Budget, Highway Department appropriation and operating budget for each critical facility	Short Term/Ongoing
2.	Review and update Building Codes, Floodplain Ordinance, and Zoning Regulations. Proactively enforce the International Building Code (IBC) and International Residential Code (IRC) to protect buildings and infrastructure from the impacts of earthquake, flooding, severe wind, severe winter weather, and tornado.	Building Inspector	Cost = \$0 additional costs, percentage of the existing Building Inspection budget. Funding Source: Wilton Town budget	Ongoing
3.	Encourage utility companies to offer special arrangements for paying heating bills, if not already required by state law.	Health Officer, Welfare Department	Cost = \$0 additional costs, percentage of the existing Health Officer and Welfare Department budgets. Funding Source: Wilton Town budget	Medium Term
3.	Inventory of town-wide special needs and at-risk populations for mitigation planning as well as town- wide questionnaire to identify privately maintained social and physical resources available to town officials during an emergency response.	Fire Chief, Emergency Management	Cost = This action would cost roughly \$750 annually but is consistent with normal town operations and does not impose additional economic costs. Funding Source: Mason Town Budget	Short Term

#### Table 12—Implementation and Administration

Priority	Mitigation Action	Responsible	Cost & Funding	Timeframe
		Party		
3.	Tightly control burn permits and revoke when not properly and safely being utilized. Provide education on wildfire danger to residents when they apply for burn permits. Conduct education on campfire safety at schools. Post fire danger categories. Continue roadside mowing to reduce the likelihood of wildfires spreading and clear brush from around fire ponds.	Fire Department	Cost = \$0 additional costs, percentage of the existing Fire Department Budget. Funding Source: Wilton Town budget	Ongoing
4.	Protect vulnerable populations from the impacts of extreme temperatures by establishing cooling and warming stations at community centers. Develop targeted outreach methods, including notifying occupants of senior housing facilities.	Emergency Management, Health Officer	Cost = Percentage of \$900 Funding Source: Wilton Town Budget, Emergency Management appropriation (\$900)	Ongoing
5.	Improve public awareness of severe winter storms by educating homeowners of the importance of installing carbon monoxide monitors and alarms.	Fire Department	Cost = \$0 additional costs, percentage of the existing Fire Department Budget. Funding Source: Wilton Town budget	Ongoing
6.	Encourage drought-tolerant landscape design by developing an ordinance that promotes the use of permeable driveways and surfaces to reduce runoff and support groundwater recharge.	Planning Board	Cost = \$0 additional costs, percentage of the existing Planning Board Appropriation. Funding Source: Wilton Town budget	Short Term/Ongoing
7.	Implement a fuels management program to reduce hazardous vegetative fuels on public lands, near essential infrastructure, and on private lands by working with landowners. The program will explore strategies such as prescribed burning, cutting firebreaks into public wooded areas, and developing a vegetation management plan.	Fire Department, Highway Department	Cost = \$50 per acre for prescribed burning, \$360 per fire break, \$0 additional costs for vegetation management plan development Funding Source: Wilton Operating Budget	Medium Term
7.	Incorporate GIS data for drainage, sewer, and water supply infrastructure into hazard mitigation planning.	Water Commission	Cost = Approximately \$71,000 Funding Source: Wilton Town Budget	Medium Term
8.	Protect critical facilities and equipment from lightning damage. Install and maintain lightning	Critical Facility Department Heads	Cost = \$1,000- \$5,000 per critical facility for	Short Term

Priority	Mitigation Action	Responsible	Cost & Funding	Timeframe
	protection devices, such as surge protection, grounding, and lightning rods, on critical electronic equipment.	raity	lightning protection devices Funding Source: Wilton	
9.	Install Generators at all critical Town facilities and schools that do not currently have them, including the Wilton-Lyndeborough Cooperative High School, Wilton Town Hall, and Wilton Highway Garage.	School Board	Cost = \$25,000-\$75,000 per generator, depending on size Funding Source: Wilton Budget for each department installing generator, Wilton School Budget, FEMA Hazard Mitigation Assistance grant	Ongoing
10.	Identify and become knowledgeable of non-compliant structures in the community. Notify landowners of non-compliant structures.	Emergency Management, Building Inspector	Cost = \$0 additional costs, percentage of the existing Building Inspection budget and Emergency Management Appropriation. Funding Source: Wilton Town budget, Emergency Management Appropriation	Ongoing
11.	Prepare, distribute, and make available NFIP, insurance, and building codes explanatory pamphlets or booklets by updating with current best practices and floodplain information.	Building Inspector	Cost = \$200 annually Funding Source: Wilton Town Budget	Short Term

#### **CHAPTER 5. PLAN ADOPTION**

#### Section 5.1 ~ Formal Adoption by Governing Body

#### CERTIFICATE OF ADOPTION

#### TOWN OF WILTON, NH SELECT BOARD

#### A RESOLUTION ADOPTING THE TOWN OF WILTON, NH HAZARD MITIGATION PLAN UPDATE 2021

WHEREAS, the Town of Wilton has historically experienced damage from natural hazards and it continues to be vulnerable to the effects of climate change, drought, earthquake, extreme temperatures, flooding, severe wind, lightning, severe winter weather, tornado, and wildfire, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Wilton has developed and received conditional approval from NH Homeland Security & Emergency Management (HSEM) for its Hazard Mitigation Plan Update 2021 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held between August 25, 2020 and October 27, 2020 regarding the development and review of the Hazard Mitigation Plan Update 2021; and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedures for the Town of Wilton; and

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

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

RESOLVED by the Wilton Select Board:

- 1. The Plan is hereby adopted as an official plan of the Town of Wilton
- 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 Select Board by the Wilton Hazard Mitigation Team.

Adopted this day, the 154\_\_\_\_of \_\_\_\_\_March\_\_\_\_\_, 2021.

Matthew S. Fish, Chairman, Wilton Select Board

Kellie-Sue Boissonnault, Wilton Select Board

Kermit R. Williams, Wilton Select Board

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of the Town of Wilton the  $15^{\text{TW}}$  of MRCH, 2021.

Ons Ent

Witness

# Section 5.2 ~ FEMA Approval Letter



U.S. Department of Homeland Security FEMA Region I 99 High Street, Sixth Floor Boston, MA 02110-2132



Meghan Wells, State Hazard Mitigation Planner New Hampshire Department of Safety, Homeland Security and Emergency Management 33 Hazen Drive Concord, New Hampshire 03303

Dear Ms. Wells:

As outlined in the FEMA-State Agreement for FEMA-DR-4457, your office has been delegated the authority to review and approve local mitigation plans under the Program Administration by States Pilot Program. Our Agency has been notified that your office completed its review of the Town of Wilton, New Hampshire Hazard Mitigation Plan Update 2021 and approved it effective **March 25**, **2021** through **March 24**, **2026** in accordance with the planning requirements of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended, the National Flood Insurance Act of 1968, as amended, and Title 44 Code of Federal Regulations (CFR) Part 201.

With this plan approval, the jurisdiction is eligible to apply to New Hampshire Homeland Security and Emergency Management for mitigation grants administered by FEMA. Requests for funding will be evaluated according to the eligibility requirements identified for each of these programs. A specific mitigation activity or project identified in this community's plan may not meet the eligibility requirements for FEMA funding; even eligible mitigation activities or projects are not automatically approved.

The plan must be updated and resubmitted to the FEMA Region I Mitigation Division for approval every five years to remain eligible for FEMA mitigation grant funding.

Thank you for your continued commitment and dedication to risk reduction demonstrated by preparing and adopting a strategy for reducing future disaster losses. Should you have any questions, please contact Melissa Surette at (617) 956-7559 or <u>Melissa.Surette@fema.dhs.gov</u>.

Sincerely,

Paul F. Ford Acting Regional Administrator DHS, FEMA Region I

PFF:ms

cc: Fallon Reed, Chief of Planning, New Hampshire

# Town of Wilton, New Hampshire Hazard Mitigation Plan Update 2021 Appendix

Hazard Mitigation Team Meeting Agendas & Sign-in Sheets

Notification Letter

Hazard Mitigation Plan Update Website Screen Shot

Hazard Mitigation Team Meeting Agendas & Sign-in Sheets



### Wilton Hazard Mitigation Plan Update 2020 Meeting 1 August 25, 2020 | 9:00am | Wilton Town Hall

- 1. Review the planning process.
- 2. Determine who to notify about the planning process.
- 3. Determine how to involve members of the public in the planning process.
- 4. Determine what existing plans, documents, and reports to review and incorporate into the update.
- 5. Determine changes in development and land use since last plan that impact hazard mitigation.
- 6. Determine Wilton's existing capabilities in the following areas and its ability to expand and improve on these:
  - a. Planning and Regulatory Authority
  - b. Emergency Management
  - c. Floodplain Management
  - d. Administrative and Technical
  - e. Fiscal
- 7. Discuss homework and set next meeting date.

۱	Wilton Hazard Mitigation M	leeting ~ August 2	25, 2020	
Name	Title	Agency	Email	
ERIC L. QUESCA	J CHIEF OF POLLO	E WILTON P.1	). eolesenewiltonikpa.com	
DAVID B. Bois	SONNAULT EMD	Emergency M	IANAGEMENT DISCE Wiltonendewilter	Ċ.
Sherry Miller	Director, Wilton	Ambulance	emsadministrator ewilten nh-goi	ov ک
POUL BRANSCOMPE	TOWN ASMINISTRASP	Withow.	WHENTA & WILTON NUL PON	
Dow Nourse	FINE CHIEF	WELTAN FERE	FIRECHEEF@ WILTWARD. GOV	
Jamile Pack	Admin Assistant	Totu	adminassiste wiltonnhigov	
Sara Spille	community Men	Joer	saraj. Spittel @grnail.com	
Norma Sitri	Building Inspect	s/ Town	nditri awiltonnh.gov.	
Michele Decokan	hand Use Ashin/M	SY Manager Town	Decoteaux willownh.gor	
		. 0		

- 52



### Wilton Hazard Mitigation Plan Update 2020 Meeting 2 September 15, 2020 | 10:00am| Wilton Town Hall

- 1. Table 3—Natural Hazards in Jurisdiction
- 2. Table 4—Previous Occurrences of Hazards
- 3. Table 5—Probability of Future Hazard Events
- 4. Table 6—Critical Facilities and their Vulnerabilities
- 5. Section 3.5—Vulnerability by Hazard
- 6. Discuss homework and set next meeting date.

Name	Title	Agency	Email	
DAVID BOISSONNAC	Itsir, Emo	Wilton Emergency MA.	NAgement Wiltowende	culification-jou
Daw Nowese	FILL CHIEF	WILTON FOR DEAT	FIRECHTEFE	NILTON NH. GO
Sherry Mille/	Amp. Directer	Wilten Ambulanc	e emsadministrutor	Quiltmhh.com
JOHN FRECHTITE	LIEURINT	WILTON POLICE	NERECIMETA QUILTO	JNYARD. COM
Janice Pack	Almin Assist	Town of Willm	adminassistewilto	nh.gov
PAUL BRANSCOMBE	Town ADMIN	TOWN Q. WILTON	WILLOW IA C LUILLOW NH. GOV	<u> </u>
Michele Decoteau	handlise Admin	Town of Wilton	MDecoteau @wilto	nnh.gov
Norma Ditri	Building Inspector	Town of Wilton	nditriaiviltonnhog	or
				_
				_
	a subscription of the second	e de la parte de la	n 100-5	

# Wilton Hazard Mitigation Meeting ~ September 15, 2020



### Wilton Hazard Mitigation Plan Update 2020 Meeting 3 October 6, 2020 | 10:00am| Wilton Town Hall

- 1. Complete Table 1—Status of Previous Actions (Section 2.2)
- 2. Select at least 2 NFIP mitigation actions (Section 3.7 and 4.2)
- 3. Select at least 1 mitigation action per hazard (Section 4.2)
- 4. Homework and next meeting date

Name	Title	Agency	Email
Shemy Miller	Ampulance Director	Witch	emsadministratu @Willingh 50
FRIC L. QUEST	CHIEF OF POLICE	WILTON P.D.	edesence wiltomkpd. com
DAVID BOISSON	wit EMD i	Willow Em	wiltoneand ewiltonet-go
sara Spittel	Resident at large		Sara). Spitter @ gmail.com
Michele Decoteau	Land Use Admin	Wilton Town Ho	Il MDecoteaux wittor nh. go
Dow Nourse	Four CHIEF	WELTON FEEL	FERECHEEF C WELTWAY. GOU
But BRANSCONSE	TOWN ADAMASTRAJE	WILLON TOIN HALL	WILTONTA C WILTON NH. Gar
			/

.

# Wilton Hazard Mitigation Meeting ~ October 6, 2020

. .



### Wilton Hazard Mitigation Plan Update 2020 Meeting 4 October 27, 2020 | 10:00am | Wilton Town Hall

- 1. Complete Table 11—STAPLEE Analysis
- 2. Determine how elements of Hazard Mitigation Plan will be incorporated into other planning documents and initiatives (Section 4.4)
- 3. Determine method and schedule for keeping plan current after update (Section 1.6)
- 4. Determine how public will continue being involved in plan maintenance (Section 1.6)

Paul BRANSCOMPF	Tow ADMINISTROPE	Agency	WENTER C WILLEWAT COV
Sara Spitte 1	resident at Large	John F Grupan	Saraj Spittel Bar
DAVIN BOISSONMAULT	EMD	TOWNOFWILTON	Wilton condewij
lichele Decoteau	hand Use Admin	Town of W. Hon	MDecoteau@with
Germa Ditri	Building Inspector	Τ.Ο.ω.	NDitn'a Wiltonne
	W.		

# Wilton Henerd Mitigation Maating - October 27, 2020

ŝ.

**Notification Letter** 





September 3, 2020

Wilton-Lyndeborough Cooperative School District 192 Forest Road Lyndeborough, NH 03082

#### Subject: <u>Town of Wilton NH, Hazard Mitigation Plan Update</u>

Dear Sir or Madam,

The Town of Wilton, NH, in conjunction with the Nashua Regional Planning Commission, is in the process of updating its Hazard Mitigation Plan. All residents, members of the business community, and other interested individuals are welcome to participate in the Plan update process.

The Wilton Hazard Mitigation Plan Update will assess natural hazards that could impact the municipality and will document natural hazards that have occurred since the previous Plan was written. It will also identify critical facilities and infrastructure that are vulnerable to natural hazards and prioritize mitigation actions to protect these critical facilities and infrastructure. In addition, the Plan aims to enhance communication and coordination among municipal departments and to raise awareness of the potential and proactive measures that can be taken to mitigate against natural disasters.

We invite you to follow the Wilton Hazard Mitigation Plan Update process at <u>http://www.nashuarpc.org/energy-environmental-planning/hazard-mitigation-planning/</u>. For additional information or to participate in the Plan update, please contact me at <u>cassiem@nashuarpc.org</u> or 603-417-6570 x6578.

Sincerely,

#### NASHUA REGIONAL PLANNING COMMISSION

7.,000,,

Cassie Mullen Regional Planner II

Hazard Mitigation Plan Update Website Screen Shot



30 Temple Street, Suite 310 Nashua, NH 03060 Phone: 603.417.6570

About NRPC MPO & Transportation Planning Land Use Planning Economic Development GIS & Mapping Energy & Environmental Planning

# Hazard Mitigation Planning

Planning for natural disasters can reduce loss of life, injuries, and property damage. Hazard Mitigation Plans identify critical facilities and areas of concern throughout a municipality, analyze potential natural hazards and risks to these facilities, and prioritize mitigation measures to address the hazards. Municipalities must update their Hazard Mitigation Plans every five years in order to maintain eligibility for federal mitigation grants.

Potential natural hazards in the NRPC region include drought, earthquake, extreme temperatures, flooding, fluvial erosion, hurricane, severe thunderstorm, severe winter weather, tornado, and wildfire.

NRPC is currently working with Lyndeborough, Merrimack, Mont Vernon, and Wilton to update each town's Hazard Mitigation Plan.

- Lyndeborough
- Merrimack
- . Mont Vernon

A Wilton

Meetings

Meeting 1 Date & Time: August 25, 2020 at 9:00am Location: Wilton Town Hall Agenda

Meeting 2 Date & Time: September 15, 2020 at 10:00am Location: Wilton Town Hall Agenda

Meeting 3 Date & Time: October 6, 2020 at 10:00am Location: Wilton Town Hall Agenda

Meeting 4 Date & Time: TBD Location: TBD Agenda



NRPC can assist member communities with updating their Hazard Mitigation Plan. For more information, please contact:

Cassie Mullen Regional Planner II cassiem@nashuarpc.org (603) 417-6570 x6578

#### Hazard Mitigation Plans

- Brookline Hazard Mitigation Plan Update 2017

- Litchfield Hazard Mitigation Plan Update 2018
- Lyndeborough Hazard Mitigation Plan Update 2015
- Merrimack Hazard Mitigation Plan Update 2015

# Value yesterday. Enhance tomorrow. Plan today.

- Amherst Hazard Mitigation Plan Update 2015
- Hollis Hazard Mitigation Plan Update 2018
- Hudson Hazard Mitigation Plan Update 2018
- Mason Hazard Mitigation Plan Update 2018