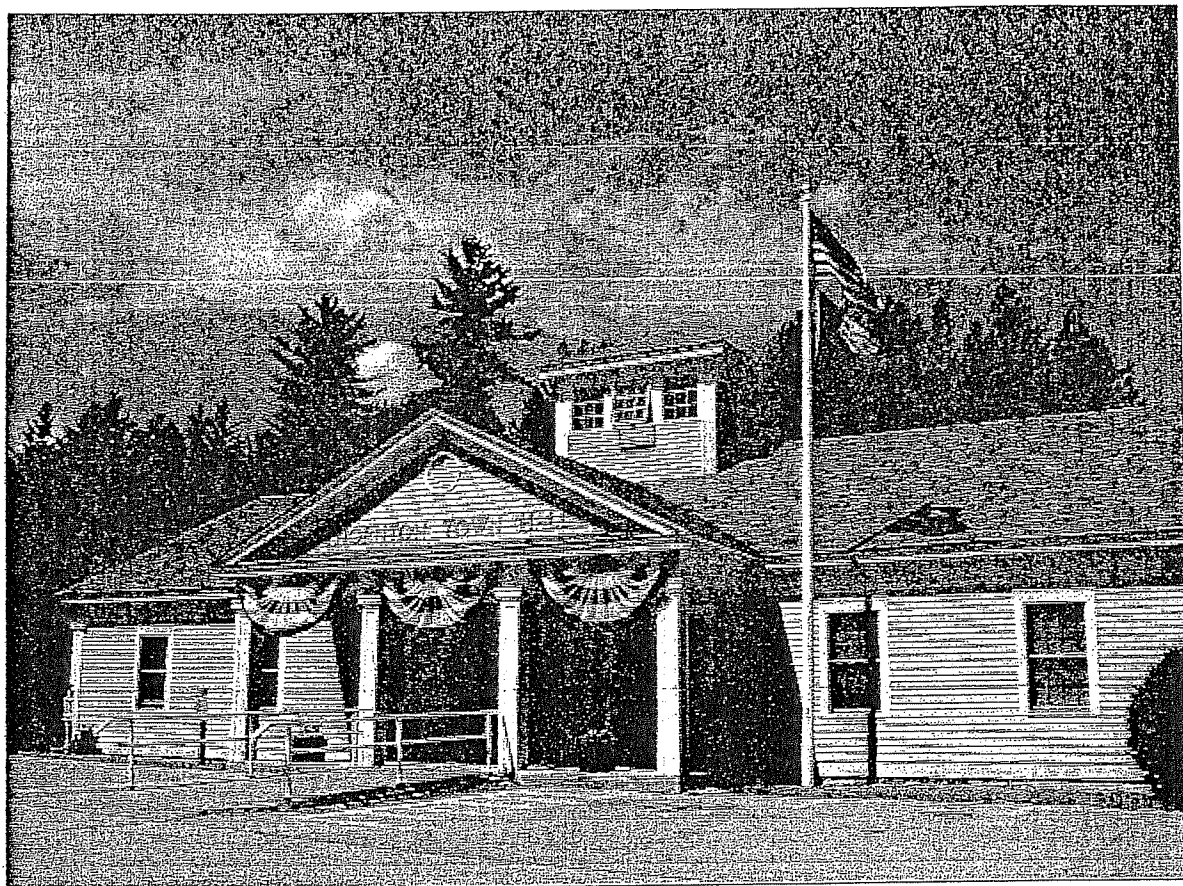


Town of Thornton, NH



Hazard Mitigation Plan 2011

(Adopted June 15, 2011)

TABLE OF CONENTS

1. INTRODUCTION	
Authority	1-1
Funding Source	1-1
Purpose	1-1
Introduction	1-1
Scope of Plan	1-2
Methodology	1-2
Goals	1-4
Planning Committee	1-6
2. COMMUNITY PROFILE	
Community Description	2-1
National Flood Insurance Program	2-1
Disaster Risk	2-1
Natural Hazard Analysis Matrix	2-2
Human Caused Hazard Analysis Matrix	2-3
Current Development Trends	2-4
3. HAZARD IDENTIFICATION	
Winter Weather	3-1
Flooding	3-2
Lightning	3-2
Drought	3-3
Extreme Heat	3-3
Severe Wind	3-4
Hurricane	3-5
Wild Fire	3-5
Earthquake	3-6
Avalanche & Hail & Landslide & Dam Failure	3-6
4. CRITICAL FACILITIES	
Introduction	4-1
Inventory of Critical Facilities & Assets	4-2
5. CAPABILITY ASSESSMENT	
Existing Protection Matrix	5-1
Integration of Mitigation Priorities	5-2

TABLE OF CONTENTS – CONTINUED

6. HAZARD MITIGATION PROJECTS	
Mitigation Goals & Objectives	6-1
Project ID & Prioritization	6-1
Completed Projects since 2006	6-3
2010 Prioritized Mitigation Projects	6-3
Incorporating Mitigation into Local Planning	6-3
Mitigation Action Plan	6-5

7. ADOPTION, IMPLEMENTATION AND MONITORING	
Adoption, Implementation and Monitoring	7-1
Resolution	7-2

APPENDIX A	Hazard Mitigation Resources
APPENDIX B	Documentation of Planning Process
APPENDIX C	Approval Letter from FEMA

Original Edition 2006
Updated Edition: June 15, 2011

Chapter 1 INTRODUCTION

Authority

This Hazard Mitigation Plan was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA), Section 322, Mitigation Planning. Accordingly, this Hazard Mitigation Plan will be referred to as the "Plan".

Funding Source

This Plan was funded by the NH Homeland Security and Emergency Management (HSEM) through an Emergency Management Planning Grant, with matching funds by the Town of Thornton.

Purpose

This Hazard Mitigation Plan is a planning tool to be used by the Town of Thornton, as well as other local, state and federal governments, in their effort to reduce the effects from natural and man-made hazards.

Introduction

On October 30, 2000 the President signed into law the Disaster Mitigation Act of 2000 (DMA 2000). The ultimate purpose of DMA 2000 is to:

- Establish a national disaster hazard mitigation program that will reduce loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from disasters, and
- Provide a source of pre-disaster hazard mitigation funding that will assist State and local governments in accomplishing that purpose.

DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act by, among other things, adding a new section, 322 – Mitigation Planning. This places new emphasis on local mitigation planning. **It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition of receiving Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) mitigation project grants.** Local governments must review and if necessary, update the mitigation plan annually to continue program eligibility.

Why Develop a Mitigation Plan?

The full cost of the damage resulting from natural hazards – personal suffering, loss of lives, disruption of the economy, loss of tax base – is difficult to measure. Our State is subject to many types of natural hazards: floods, hurricanes, severe winter weather, earthquakes, tornadoes, downbursts, and wildfires, all of which can have significant economic and social impacts. Some, such as hurricanes, are seasonal and strike in predictable locations. Others, such as floods, can occur anytime of the year and almost anywhere in the State.

Scope of the Plan

The scope of this Plan includes the identification of natural hazards affecting the town, as identified by the Hazard Mitigation Planning Committee. The hazards reviewed under the scope of this plan include those that are outlined in the State of New Hampshire's Hazard Mitigation Plan:

Avalanche
Flooding
Dam Failure
Drought

Extreme Heat
Earthquake
Hurricane
Lightning

Pandemic
Severe Wind
Winter Weather
Wild/Forest Fire

Methodology

In 2005, the Town of Thornton established a Hazard Mitigation Committee to develop the first edition of the Thornton Hazard Mitigation Plan. The Committee used the New Hampshire HSEM "Guide to Hazard Mitigation Planning for New Hampshire Communities" and the FEMA "State and Local Mitigation Planning How-To Guide" series CDs, to assist in its development. The Thornton HMP Committee followed the step process that was outlined in guidance. A total of 7 different meetings were held from October 2005 to May 2006 in order to capture data and provide input for the HMP. On August 17, 2006, the Thornton Board of Selectmen formally adopted the HMP.

During the 2010 Update, the Hazard Mitigation Planning Committee with the assistance of Hubbard Consulting LLC held a total of 3 meetings beginning on September 20, 2010 and ending on October 26, 2010. Two Public Information Meetings for the public to review and comment on the plan were held on these same dates (see Appendix B). The committee analyzed and revised the following sections of the Plan and provided input to update them: Chapter 3, 4, 5 and 6. The Board of Selectmen held a public hearing on June 15, 2011 to formally adopt the Plan.

The committee developed this Plan as a result of the above meetings and the following planning process.

Step 1: Form a Hazard Mitigation Planning Committee

Prior to the first meeting the Thornton EMD met with the Board of Selectmen to outline the scope of developing the plan. A planning matrix was provided (contained within the handouts of HMP Meeting #1), and discussions were held regarding the need for an HMP, the timeframe required, the number of meetings, and the necessity of involving the entire town in the process. A press release was published in the local newspaper and town office inviting residents, businesses, neighboring communities, academia and other private non-profit interests to participate in the planning process.

Step 2: Set Hazard Mitigation Goals and Objectives

At the first working meeting the committee identified the town's Hazard Mitigation Goals. Five Hazard Mitigation Goals were adapted from the State of New Hampshire's Natural Hazards Mitigation Plan. This first step is extremely important in helping the committee understand the purpose of the Plan and the direction it should go. (See the end of this chapter for the "Hazard Mitigation Goals of the Town of Thornton, NH".)

Step 3: Hazard Identification

Committee members identified both natural and man-made hazards that could impact the Town of Thornton. The hazards were then prioritized as to the risk of occurrence. Town infrastructure, facilities, businesses, and other areas that could be impacted by these disasters were identified and mapped using both 911 and GIS maps provided by the North Country Council. The committee also looked at the plans that were currently in place that could impact this HMP. The results of this step can be found in Chapter 3.

Step 4: Critical Facilities Analysis

The committee members created a Critical Facilities List for the town. The Critical Facilities List is divided into 3 sections: Facilities needed for Emergency Response; Facilities not necessary for emergency response; and places and populations to protect in the event of a disaster. The results of this step can be found in Chapter 4.

Step 5: Capability Assessment

The committee members identified what plans and policies are already in place to reduce the affects of hazards. The results of this step can be found in Chapter 5. Many of these plans and technical reports were reviewed and incorporated during the planning process. Some include: the Thornton Emergency Operations Plan and Thornton Master Plan.

Step 7: Develop Specific Mitigation Measures

The STAPLEE criteria were reviewed, and mitigation strategies were brainstormed. The Committee started identifying risk mitigation actions associated with each of the objectives. A complete list of Mitigation Projects can be found in Chapter 6.

Step 8: Adopt and Implement the Plan

After acceptance by the committee the Plan was submitted to the NH Homeland Security and Emergency Management and FEMA Region 1 for formal Approval. The Board of Selectmen formally adopted the Plan on June 15, 2011. The letter of approval from FEMA Region 1 can be found in Appendix C.

With respect to any ongoing mitigation projects, the lead and support agencies/people for such activity will be tasked with implementing the Plan's mitigation projects. The committee approved the "Prioritized Mitigation Projects" list, which identifies responsibility, funding/support and a timeframe for each of

the prioritized projects. The Emergency Management Director should be tasked with requesting annual reports as to the progress of each project.

Step 9: Monitor and Update the Plan

It is important that this plan be monitored and updated annually or after a presidentially declared disaster. Chapter 7 specifically addresses this issue.

Thornton Hazard Mitigation Goals, Objectives & Actions

Goal I - To improve the protection of the citizens of Thornton as well as visitors to the community, from identified natural and man-made hazards

Objectives:

- Continue to make Thornton's citizens and visitors to the community, aware of both natural and man-made disasters that could impact them

Goal II – To reduce the potential impact of natural and man-made disasters on Thornton's critical support services and facilities

Objectives:

- Reduce the cost impact of disasters on critical support services and facilities
- Ensure adequate response capability of emergency services to include a functional EOC
- Ensure continuity of local government
- Ensure fire sub-station functionality during an emergency
- Ensure transportation shed functionality during an emergency
- Ensure transfer station functionality during an emergency

Goal III – Reduce the potential impact of natural and man-made disasters on Thornton's infrastructure

Objectives:

- Ensure emergency response access to all parts of Thornton
- Ensure sufficiency of capital reserve funds to be able to respond to emergencies
- Ensure ingress/egress routes available for all parts of Thornton, for evacuation of its citizens and visitors, in time of emergency

Goal IV – To improve emergency preparedness response and recovery within the community

Objectives:

- Recruit and train more volunteers to assist with emergency response functions
- Improve functional use of the CERT

- Ensure proper use of the Incident Command System (ICS)
- Improve attendance by First Response personnel at NH BEM and EMI training courses
- Ensure local resources for response and recover operations are sufficient to meet the day to day needs of the community
- Ensure the Fire Department has access to water for operations along the Pemi River corridor
- Improve the response capability of medical support for the Thornton Community

Goal V – To reduce the potential impact of natural and man-made disasters on private property

Objectives:

- Make all property owners aware of existing hazards
- Ensure property owners are aware of response and recovery capabilities at all levels

Goal VI – To reduce the potential impact of natural and man-made disasters on Thornton's economy

Objectives:

- Make business owners aware of existing threats and the actions they can take to reduce the impending impacts

Goal VII – To reduce the potential impact of natural and man-made disasters on the natural environment with Thornton's borders

Objectives:

- Maintain a response capability to react to disasters impacting natural resources not normally controlled by higher level agencies
- Conduct an outreach program to the public to reduce the probability of man-made causes for disaster

Goal VIII – To reduce the Town's liability with respect to natural and man-made hazards

Objectives:

- Enforce existing ordinances and codes
- Ensure the citizens and visitor's to the community are made aware of the hazards and existing response capabilities of the Town

Goal IX – To reduce the potential impact on Thornton's historic infrastructure

Objectives:

- Preserve Thornton's historic buildings

Goal X – To identify, introduce, and implement cost effective hazard mitigation measures to accomplish the Town's goals

Objectives:

- Increase the awareness for personal responsibility
- Actively address and implement as many risk mitigation actions as possible (within available resources to include applying for grants)

Hazard Mitigation Planning Committee

Name	Title/Affiliation
Diamond, Rod	Thornton Police Sgt.
Dubey, Tom	Thornton Highway / Road Agent
Hatch, Paul	NH HSEM
Hubbard, Jane	Hubbard Consulting LLC
Kimball, Gloria	Thornton Selectman
Lockwood, Bonnie M.	McGrew Management Services LLC
Moller, Aimee	Thornton Police Chief
Peabody, Marianne	Thornton Health Officer
Tobine, David E.	Campton/Thornton Fire Department
Tyler, Carol	Thornton Central School

The committee members listed above participated in monthly committee meetings, provided departmental information, contributed in their field of expertise, reviewed and commented on committee meeting minutes, reviewed drafts of the Plan and worked together to identify and prioritize mitigation projects.

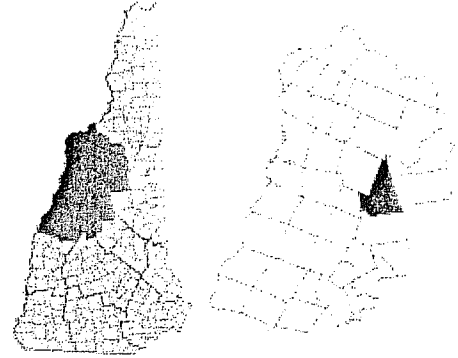
*Many thanks to all the hard work and effort from each and every one of you.
This plan would not exist without your knowledge and experience.*

Thank you!

Chapter 2 COMMUNITY PROFILE

Community Description

The Town of Thornton is located in the foothills of the White Mountains, in Grafton County. It lies approximately 50 miles north of Concord in the Pemigewasset River Valley. It is bordered by the Towns of Lincoln, Woodstock, and Livermore to the north, the Town of Waterville Valley to the East, the Town of Sandwich to the Southeast, the Town of Ellsworth to the West, and the Town of Campton to the South. The Pemigewasset River bisects the Town from north to south, and the Mad River transits along the southern boundary with Campton. Interstate I-93, which runs south to north, through the Town, is the main highway thoroughfare. State roads Route 3 and Route 175, run south to north and are the main transportation arteries for local traffic. Route 49 runs west to east in the southern part of the Town and is the main thoroughfare for traffic into Waterville Valley.



Thornton has a land area of 51 square miles with almost 52% of the Town being part of U.S. Forest Service, and the entire Town lying within the White Mountain National Forest. From 1990 to 2004, the population experienced a growth from 1505 to 2006 people. The NH State Office of Planning projects that Thornton's population will increase more slowly over the next 20 years by approximately 6% per year. Projected Town population by 2010 is expected to be 2110 people.

National Flood Insurance Program (NFIP)

The town is currently participating in the National Flood Insurance Program (NFIP). The community has Flood Insurance Rate Maps (FIRM) dated February 20, 2008. According to the NFIP Policy and Claims report by FEMA, there are 30 NFIP policies. There have been 5 claims made since 1975. There are no repetitive losses.

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	\$ of Closed Paid Losses	Adjustment Expense
Single Family	14	\$7,772	\$2,652,700	5	\$35,452.22	\$1,580.00
2-4 Family	2	\$2,377	\$575,000	0	\$0.00	\$0.00
All Other Residential	2	\$1,129	\$308,000	0	\$0.00	\$0.00
Non Residential	12	\$6,671	\$490,000	0	\$0.00	\$0.00
Total	30	\$17,949	\$4,025,700	5	\$35,452.22	\$1,580.00

Disaster Risk

Thornton is prone to a variety of natural hazards. These include: flooding, dam breach, severe wind events (downbursts, hurricanes, and tornadic activity),

wildfire, drought, earthquake, lightning, extreme heat, and severe winter weather, and man-made hazards. The following table summarizes the impact and probability of natural and man-made hazards.

Natural Hazards	Severity	Probability* In 25 years	Risk Severity x Probability
	Avg. of Human / Property / Business	Likelihood this will occur 0. Improbable 1. Remote 2. Occasional 3. Probable 4. Frequent	0-3 Low 4-6 Moderate 7-9 High 10-12 Severe
Flood	2	4	8
Severe Winter Weather	2	4	8
Severe Wind (Tornado/ Downburst)	2	3	6
Hurricane	2.3	2	4.6
Lightning	1.6	4	4.6
Drought	1.5	3	4.5
Extreme Heat		3	3
Pandemic	2.3	1	2.3
Earthquake	1.3	1	1.3
Wild/Forest Fire	1.3	1	1.3
Avalanche	1	1	1
Dam Failure	N/A	N/A	N/A
Hail	N/A	N/A	N/A
Landslide	N/A	N/A	N/A

0-3 Low Hazard Risk

4-6 Moderate Hazard Risk;

7-9 High Hazard Risk

Human Caused Hazards	Severity	Probability In 25 years	Risk Severity x Probability
	Avg. of Human / Property / Business	Likelihood this will occur 0: Improbable 1: Remote 2: Occasional 3: Probable 4: Frequent	0-3 Low 4-6 Moderate 7-9 High 10-12 Severe
Utility Interruption	3.3	3	9.9
Armed Attack (assault, sniper)	2.7	2	9.4
Haz Mat (Fixed)	2.7	2	9.4
Civil Disorder	2.8	3	8.4
Urban Fire	2.2	3	6.9
Bomb Threat	3.3	2	6.6
Mass Casualty (Trauma or Medical)	2.2	3	6.6
Haz Mat (Transport)	1.6	3	4.8
Biological Terrorism	2.3	1	2.3
Transport Incident (<i>plane, train, etc.</i>)	1.3	1	2.3
Terrorist Attack (WMD)	2	1	2

0-3 Low Hazard Risk

4-6 Moderate Hazard Risk;

7-9 High Hazard Risk

CURRENT DEVELOPMENT TRENDS ¹²

Thornton is a predominantly residential community lying within the White Mountain National Forest. There is no large-scale business located in the Town and the small businesses that are situated within its boundaries consist mainly of food service, lodging, campgrounds, small construction, school bus transportation, and day-care facilities. Tourism plays an important role in generating income for the food service, campground, and lodging sectors. The rivers, hiking trails, central location to several ski areas (Tenney Mountain, Waterville Valley, Loon Mountain, & Cannon Mountain) and scenic nature of the Town encourage recreation activities, tourism, and home ownership.

The quality of life, labor growth in the Plymouth area, and reputation of its school has contributed to a resurgence of home building in Thornton, as evidenced by the increase in the number of building permits for single-family dwellings. In the past three years, there have been a total of 149 permits for single family residences and 17 permits for multi-unit residences issued, versus only 40 permits issued for 2002. Most of these structures have been, or are being built outside the identified Pemi River and Mad River floodplains. Scarce land availability in the river corridors, along with setback codes, has influenced the building trend towards hillside development.

The Thornton Central School has a current population of 198 students and is projected to increase to 214 students over the next five years due to birth rates and new families moving into the area. Except for a planned \$4M addition to the school, there are no capital improvement projects in the Master Plan.

¹ 2000 US Census Data

² Town of Thornton Master Plan 2003
2011

CHAPTER THREE HAZARD IDENTIFICATION

EXTREME WINTER WEATHER

Location
There is a town-wide vulnerability to severe winter weather. Nor'easters (wind), Ice Storms, Heavy Snow Accumulations and Severe Cold can occur at any place within the town and generally affect the entire town when it happens. The higher elevations are more likely to experience snow or ice before the lower terrain.
Extent/Impact
A Nor'easter is defined as a large weather system traveling from south to north, passing along, or near the seacoast. The resulting counterclockwise cyclonic winds impact the coast and inland areas from a northeasterly direction. In the winter months, oftentimes blizzard conditions accompany these events. Heavy snow accumulations (generally considered one that deposits four or more inches of snow in a 12-hour period) especially those associated with Nor'easters can have a significant affect on the town, including extended power outages, road closures, collapsed roofs and increased snow removal costs. During ice storms, ice forms on cold surfaces, such as trees and power lines, and may continue to form until the ice is quite deep, as much as several inches thick. Ice damage results in power outages, road closures and forest damage. Ice on the roads can be the most difficult for a rapid emergency response. Private roads are difficult for emergency response vehicles due to the restricted access to roads during winter.
Previous Occurrence
<p>1958: The "Blizzard of '58" was a widespread storm that produced snow accumulations in excess of 25" from Alabama to Main. Intense cold and high winds persisted after the snow ended, prolonging the severe effects of the storm.</p> <p>1967: Snowstorm caused power outages for several days, some roads closed, access to services limited, some structural damage to facilities and homes</p> <p>February 1978: Region-wide Blizzard affecting southern New England. Events accumulations to 28" in northeast New Hampshire, 25" in west central New Hampshire and 33" along coastal New Hampshire. Hurricane-force winds and record-breaking snowfall made this storm one of the more intense to occur this century across parts of the northeastern United States.</p> <p>January 15, 1998: FEMA DR-1199-NH. 52 communities in nine counties impacted, six injuries and one fatality, 20 major roads closures, 67,586 without electricity, 2,310 without phone service, one communication tower failure, \$17+ million in damages to Public Service of NH alone. In Thornton, the Ice Storm caused power outages for several days, roads closed, access to services severely limited, some damage to power lines and structures due to fallen trees.</p> <p>January 15, 2004: FEMA DR-3193- Some limited road access, some short term power outages, limited structural damage to homes</p>
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Frequent

FLOODING

Location
In general, Thornton has been spared from town-wide severe damage due to flooding along the Pemigewasset River. The river tends to crest above flood stages north of Thornton in the Town of Woodstock, and south of Thornton, in the Town of Plymouth. Flooding, when it occurs, can be localized in the low lying area by the Jack-O-Lantern golf resort on Route 3, and by the area of I-93 exit 29. When the river has crested by exit 29, the water has flooded the structures at the Gilcrest Motel, and can cut off access to the exit/entrance ramps at the highway exit. The 100 year floodplain is designated on the FEMA Flood Insurance Rate Map. The term 100 year flood does not mean that a flood will occur once every 100 years. It is a statement of probability that scientists and engineers use to describe how one flood compares to others that are likely to occur. It is more accurate to use the phrase "1% annual chance flood." What it means is that there is a 1% chance of a flood of that size happening in any year.
Extent/Impact
The extent of damage caused by any flood depends on the depth and duration of flooding, the topography of the area flooded, velocity of flow, rate of rise, and the amount and form of development in the floodplain. Most of the past flooding events result in erosion and damage to culverts and roads throughout town. However, during larger flood events, there are portions of town that could flood residential and town structures.
Previous Occurrence
<p>1972: Pemi River flooding resulted in exit 29 (I-93) covered with a foot of water. Five days of heavy rain caused some of the worst flooding since 1927 damage was extensive along the Pemigewasset River.</p> <p>April 16, 1987: Caused by snowmelt and intense rain.</p> <p>October 29, 1996: FEMA DR-1077-NH -Heavy rains. Counties Declared: Grafton, Hillsborough, Merrimack, Rockingham, Strafford, and Sullivan.</p> <p>August 21, 2009: Heavy rain caused flash flooding in Thornton washing out several roads. Slow moving showers and thunderstorms produced 3 to 4 inches of rain, (radar estimated), in a 3 hour period. Lebreque Road and Sugar Run Road were washed out.</p>
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Frequent

LIGHTNING STRIKES

Location
The entire town is at moderate risk to lightning hazard. The higher elevation areas have an increased probability, such as the areas with cell towers, however lightning strikes can occur anywhere in the Town.
Extent/Impact
Residents and visitors to the New Hampshire area are more vulnerable to being struck by lightning because of the activities with which they are involved, particularly on those warm summer days when lightning is most likely to occur. Often, many people are outside enjoying the variety of recreational activities that attract people to New England during the summer when the vulnerability to lightning strike is highest. More likely to be affected are structures and utilities, often resulting in structure fires and power outages.
Previous Occurrence
1948: Lightning caused fires and power outages.
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Frequent

DROUGHT

Location
Droughts are difficult to define geographically. Due to their widespread nature a drought would affect the entire Town. However, a drought can affect fire suppression in those areas that do not have access to water.
Extent/Impact
A drought is defined as a long period of abnormally low precipitation, especially one that adversely affects growing or living conditions. Droughts are not as damaging to the Town as floods or winter weather. However a severe drought can affect public water supply, increase the probability of fires, and impede fire suppression. Those areas with minimal fire protection are at a higher risk as a result of a prolonged drought.
Previous Occurrence
According to the NH State Hazard Mitigation Plan (2004), five droughts of significant extent and duration are evident in the 1900s: 1929-36, 1939-44, 1947-50, 1960-69 and 2001-2002. The 2001-02 drought was the 3rd worst on record, exceeded only by the droughts of 1965-1966 and 1941-1942. All of these droughts were statewide in extent and had recurrence intervals ranging from 10 to more than 25 years. In the statewide droughts of 1947 many private wells dried up and there were many forest fires throughout the state. The 2001/02 drought was not as severe but resulted in some private wells going dry.
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Probable

EXTREME HEAT

Location
Extreme heat events are difficult to define geographically. Due to their widespread nature, a period of extreme heat would affect the entire town.
Extent/Impact
A heat wave is defined as 3 or more consecutive days of 90 degrees or higher. Extreme heat conditions may impact the health of residents and visitors. Facilities without generators and air-conditioners that house the elderly and disabled are very susceptible to human health issues. Utilities are also vulnerable as the demand for air-conditioning rises.
Previous Occurrence
The town has experienced frequent heat waves in any given 25-year period. However, the impact upon the town and its residents is minimal.
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Probable

SEVERE WIND

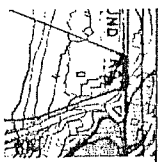
Location
Severe wind events (downburst, tornadoes or high winds associated with thunderstorms) can occur anywhere in Thornton. Generally the higher elevations are more susceptible as well as more vulnerable due to the fact that they are home to many communication towers, including emergency response/mutual aid towers. Due to the sporadic nature of tornados and severe wind events, they could occur anywhere in the Town of Thornton.
Extent
Depending on the size and location of these events, the destruction to property may be devastating. Several of the more significant and recent events within southern New Hampshire have caused several millions of dollars in damage and at least 5 fatalities. An F-2 Tornado, according to the Fujita scale, maintains wind speeds from 13-157 mph. A tornado occurring in Thornton would cause considerable damage. Roofs could be torn off frame houses; mobile homes demolished; large trees snapped or uprooted; and light object missiles would be generated as a result of an F-2 Tornado.
Previous Occurrence
<p>July 22, 2005: Grafton County law enforcement had numerous reports of tree limbs down on power lines in Plymouth and several surrounding towns. Limbs down on Mill Brook Rd.</p> <p>January 18, 2006: High winds knocked over trees which caused power outages and other damages to the area. Trees were reported down in Grafton County by local officials.</p> <p>October 20, 2006: A small but intense area of low pressure moved northeastward through the Gulf of Maine late on the 20th and into the Canadian Maritimes by the afternoon of the 21st. While most winds across the state were in the 35-45 mph range, winds likely gusted to near 60 mph in many areas. In Laconia, the maximum observed wind was 47 mph. The winds downed numerous trees onto power lines, houses, and vehicles. Public Service of New Hampshire reported more than 15,000 customers without electrical service while the New Hampshire Electrical Cooperative reported 8500 customers without service.</p> <p>October 28, 2006: A rapidly intensifying storm system moved up the eastern seaboard on Saturday the 28th, then tracked north across New York State on Saturday night. Sustained winds of 30 to 40 mph were common with gusts to 60 mph. Trees were reported down throughout the state. In Bethlehem and Laconia, trees were reported to have fallen on homes. Storm related wind damage totaled in the hundreds of thousands of dollars.</p> <p>Aug 25, 2007: Numerous severe thunderstorms began developing statewide during the late afternoon of August 17th and continued through the evening hours. Wind damage was widespread with these storms along with a few reports of large hail.</p> <p>April 16, 2007: Wind damage, trees down, power down, Mill Brook Rd closed due to trees down. Upper Mad River Rd. and Sherburne Rd closed for 24 hours. The Town received FEMA reimbursement</p> <p>Feb 26, 2010: Low pressure developed off the mid Atlantic coast on the morning of the 25th and deepened as it moved north, reaching southern New England by evening. Ahead of the low, east winds rapidly increased across New Hampshire with numerous gusts in excess of 60 mph being reported. A record number of homes and businesses lost power. Utilities reported 310,000 customers without power during the peak of the storm.</p>
Probability
<i>Likely/Possible/Unlikely</i>
Probable

HURRICANE

Location
When hurricane events occur in Thornton they affect the entire town. Certainly, the heavy rainfall associated with hurricanes will impact the 100-year floodplain but the high winds can have an impact on the whole town.
Extent/Impact
A hurricane is a tropical cyclone in which winds reach speeds of 74 miles per hour or more and blow in a large spiral around a relatively calm center. The eye of the storm is usually 20-30 miles wide and may extend over 400 miles. High winds are a primary cause of hurricane-inflicted loss of life and property damage. New Hampshire's exposure to direct and indirect impacts from hurricanes is real, but modest, as compared to other states in the region. That being said, the probability of hurricanes occurring in Thornton is possible. The impact is on the floodplain areas due to heavy rains as well as high winds that cause trees to fall down thereby causing power outages, structural damage to buildings, road closures and debris management issues.
Previous Occurrence
<p>September 21, 1938: The Great New England Hurricane affected southern New England, resulted in 13 Deaths and 1,363 families received assistance. Disruption of electric and telephone services for weeks. 2 Billion feet of marketable lumber blown down. Flooding throughout the State, in some cases equaling and surpassing the Flood of 1936. Total Direct Losses were \$12,337,643.</p> <p>August 31, 1954: Hurricane Carol affected southern New England. Extensive amount of trees blown down and property damage. Large crop loss. Localized flooding.</p> <p>August 28, 1971: Tropical Storm Doria passed over New Hampshire resulting in heavy rain and damaging winds.</p> <p>October 1999: Tropical Storm Floyd affected southern New England. Trees down, power outages and some damaged properties.</p>
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Occasional

WILDFIRE

Location
The 1998 Ice Storm left a significant amount of woody debris in the forests and increases the potential for future Wildfires. The presence of the White Mountain Nation Forest with an abundance of soft wood on mountain tops presents high risks for wildfires
Extent/Impact
A forest fire is an uncontrolled fire in a woody area. They often occur during drought and when woody debris on the forest floor is readily available to fuel the fire. Fires in New Hampshire are predominantly human-caused, and roughly half of the total fire activity is in the most populous three southern counties. The proximity of many populated areas to the forested lands exposes these areas and their populations to the potential impact of wildfire. In addition, the potential for wildfires increases during a prolonged drought.
Previous Occurrence
The Hazard Mitigation Committee could not remember any wildfires and no records have been found.
Probability
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>
Remote



EARTHQUAKE

Location		
According to the NH State Hazard Mitigation Plan, New Hampshire is considered to lie in an area of "Moderate" seismic activity with respect to other areas of the United States and is bordered to the North and Southwest by areas of "Major" activity. There are no identified fault lines for the entire state, therefore an earthquake could occur and/or affect any location in the town.		
Extent/Impact		
An earthquake is a rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines, and often cause landslides, flash floods, fires, and avalanches. It is assumed that all of the buildings in the Town have not been designed to withstand seismic activity. More specifically, the older historic buildings that are constructed of non-reinforced masonry are especially vulnerable to any moderate sized earthquake. In addition, utilities (water, gas, etc) are susceptible to earthquake damage. Thornton has experienced the effect of small to moderate earthquakes that had minor to no effect on the town's infrastructure. However, if a large earthquake (6+ on the Richter Scale) occurred in or around the town, it is assumed that structural damage would be moderate to severe.		
Previous Occurrence		
<u>New England Location</u>	<u>Date</u>	<u>Magnitude</u>
Ossipee, NH	December 20, 1940	5.5
Ossipee, NH	December 24, 1940	5.5
Dover-Foxcroft, ME	December 28, 1947	4.5
Kingston, RI	June 10, 1951	4.6
Portland, ME	April 26, 1957	4.7
Middlebury, VT	April 10, 1962	4.2
Near NH / Quebec Border	June 15, 1973	4.8
West of Laconia, NH	Jan. 19, 1982	4.5
Probability		
<i>Remote/Occasional/Probable/Frequent (in 25 years)</i>		
Remote		

Avalanche, Dam Failure, Hail and Landslide

Description
Due to no history or risk of avalanche, dam failure, hail or landslide within the Town of Thornton, the Committee chose not to recognize the risk of these hazards in this Plan.

Chapter 4 CRITICAL FACILITIES

Introduction

The Critical Facilities List for the Town of Thornton has been identified by the Thornton Hazard Mitigation Planning Committee. The list is divided into three sections: Facilities needed for Emergency Response (Category 1), Facilities Not Necessary for Emergency response (Category 2), and Populations and facilities to protect in the event of a disaster (Category 3). In addition, the Inventory of Critical Facilities table assesses the value of these structures.

CATEGORY 1 (Facilities needed for Emergency Response)

- Fire
- Emergency Medical Services (EMS)
- Police
- Hospital
- Shelter
- Town Office Building
- Emergency Operations Center (EOC)
- Public Works
- Water Supply/Treatment
- Sewer Treatment
- Emergency Fuel

CATEGORY 2 (Facilities NOT necessary during an emergency event)

- Public Utilities
- Communications
- Transportation
- Evacuation Routes

CATEGORY 3 (Populations & Places to Protect)

- Schools
- Daycares
- High Concentration Populations
- Elderly Facilities
- Healthcare Facilities
- Recreation areas
- Historic Resources

Facility Name	Facility Type	Type of Hazard Impact	Assessed Value	Category
Town Garage	DOT Vehicles, Supplies,	HazMat, Winter Weather	\$209,800	1
Town Hall	EOC	HazMat, Winter Weather, Lightning, Earthquake, Human Caused Hazards	\$425,800	1
Police Station	Holding Cells, Police Dispatch	HazMat, Winter Weather, Lightning, Earthquake	Incl'd. With Town Hall	1
Fire Department/ EMS	Fire Station, Medical Support	HazMat, Winter Weather, Lightning, Drought	\$114,500 sub station	1
Central School	School, Emergency Shelter	HazMat, Winter Weather, Lightning, Earthquake, Human Caused Hazards	\$2,600,500	1
Robertson Transit	Transportation (Buses)	Winter Weather	\$77,500 garage \$43,000 land	2
Power Station	Electrical Power Sub-Station	Severe Wind, Winter Weather, Lightning	n/a	2
Transfer Station	Vehicle Storage/Debris Disposal	Winter Weather, Severe Wind, Hazardous Materials	\$119,000 \$81,600	2
Owl's Nest	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	1,492,600 clubhouse	3
Jack O' Lantern	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	\$317,500 clubhouse	3
Goose Hollow Campground	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	\$648,400	3
Pemi Campground	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	\$465,400	3
Campton USFS Campground	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	n/a	3
Tripoli USFS Camping Area	Recreation	Lightning, Flood, Winter Weather, Severe Wind, Wildfire	n/a	3

Chapter 5 CAPABILITY ASSESSMENT

The following table is a list of current policies and regulations adopted by the Town of Thornton that protect people and property from natural and man-made hazards. The Town reviewed and incorporated mitigation strategies into these policies and regulations, as appropriate. The table includes a description of the policy/regulation, the responsible agent, the policy's effectiveness and mitigation strategies to improve mitigation efforts.

Capability Assessment				
Existing Protection	Description	Responsible Agent	Effectiveness <i>Poor/Good/Exc.</i>	Recommended Changes
Thornton Floodplain Development Ordinance	Adopted 13 March 1990, pursuant to RSA 674:16. Follows NH Model Floodplain Development Ordinance and meets requirements of Section 60.3(B) of the NFIP.	Planning Board	Good	Continue to work with State NFIP Coordinator to ensure compliance with State & Federal Regulations.
Building Codes	Thornton adopted NH Building Code RSA 155-A:2	Selectmen	Good	State building code has been adopted
Pemi River Advisory Committee (a.k.a. Shoreland Protection Act)	Conservation oversight for the Pemi River Corridor. Developed the "Pemigewasset River Corridor Management Plan" that discusses recommendations for protecting the river corridor.	NA	Minimal	Currently, there are no additional protective setbacks for the Pemi Corridor except for State septic requirements.
Master Plan	Identifies goals and objectives for future development. Vision is to preserve the rural and scenic nature of the Town, provide a 2d home market without straining the infrastructure, and protect the Pemi River Corridor, wetlands, and forests. Currently updating	Selectmen	Good	Wetlands within Thornton have not been inventoried or studied.
Emergency Operations Plan	The Town is currently updating an EOP that meets the recommendations by the NH Homeland Security & Emergency Management. This plan identifies the response procedures and capabilities of the Town of Thornton in the event of a natural or man-made disaster.	EMD	Good	EOP is currently being updated.
Emergency Warning System	Code Red through Grafton County reverse call. Door-to-Door notification. Supplementing the EOP are PA systems in all Fire & Police vehicles.	Police & Fire	Good	Confirm process to activate Code Red.

Capability Assessment				
Existing Protection	Description	Responsible Agent	Effectiveness Poor/Good/Exc.	Recommended Changes
Subdivision Regulations	The purpose of Thornton's subdivision regulations is to provide for the orderly present and future development of the town by promoting the public health, safety, convenience and welfare of the town's residents.	Planning Board	Good	Planning Board sees no immediate changes needed.
Storm Drain / Culvert Maintenance	The Thornton Road Agent and the State DOT clean the drainage basins once a year and after major flooding events. Culverts are repaired as needed.	Road Agent	Excellent	Covered Bridge on Covered Bridge Rd. Scouring on Mill Brook Road side needs to be replaced where the cement has been undermined
School Emergency Plan	The school has a Comprehensive Emergency Management Plan and high level staff have been ICS trained.	Principal	Good	Continuously being monitored.
Rural Fire Resource Plan	A framework for community planners to identify priority areas for future installations of water drafting facilities such as dry hydrants and cisterns.	Fire	Good	Install dry hydrants as identified in the plan.
Public Health Planning	The Greater Plymouth Public Health Network (GPPHN) works to assure coordinated and comprehensive delivery of essential public health services and serves as a local liaison with state agencies involved in the public's health and safety.	Fire & GPPHN	Good	Continue to participated in Regional Public Health Meetings

Integration of Mitigation Priorities into Planning and Regulatory Tools

The Town should conduct periodic review of these regulations and this Hazard Mitigation Plan. Reviewing these plans on a regular basis will ensure the integration of mitigation strategies. This review will continue to be a priority of the Thornton Emergency Management Director and will likely include yearly requests in the annual budget process. Moreover, as suggested in the onset of this document, this *Plan* is a planning tool to be used by the Town of Thornton, as well as other local, state, and federal governments, in the effort to reduce future losses from natural and/or man-made hazardous events before they occur. Under the Prioritized Mitigation Projects *Action Plan* (found in Chapter 6), all parties listed under the Responsibility/Oversight category shall also review this listing annually, and consider the listed (and updated) mitigation projects within their annual budget requests.

Chapter 6 MITIGATION PROJECTS

Mitigation Goals and Objectives

The Town of Thornton adopted ten goals that follow the State's goals outlined in the State of New Hampshire Natural Hazard Mitigation Plan. Each goal has a number of objectives that reflect Thornton's focus on risk mitigation. From these objectives, specific risk mitigation actions were developed. (See Chapter 1 for complete list of Goals and Objectives).

Project Identification and Prioritization

The purpose of each proposed mitigation action is to help in reducing or preventing damage from a hazard event. In order to determine the effectiveness of each action, the STAPLEE (Social, Technical, Administrative, Political, Legal, Economic & Environmental) criteria were applied. Public administration officials and planners who make planning decisions commonly use this method of analysis. In applying the criteria, the following questions were asked:

- **Social** – Is the proposed action socially acceptable to the community? Are there equity issues involved that would mean one segment of the community is treated unfairly?
- **Technical** – Will the proposed action work? Will it create more problems than it solves?
- **Administrative** – Can the community implement the action? Is there someone to coordinate and lead the effort?
- **Political** – Is the action politically acceptable? Is there public support to both implement and maintain the project?
- **Legal** – Is the community authorized to implement the action? Is there a clear legal basis or precedent for this activity?
- **Economic** – What are the costs and benefits of the action? Does the cost seem reasonable for the project? What are the likely benefits?
- **Environmental** – How will the action impact the environment? Will the action need environmental regulatory approvals?

Each proposed mitigation action was evaluated and given a score based on the above criteria. The following grading was used for each criterion:

- Good – 3
- Average – 2
- Poor – 1

Following the first round of scoring, the Committee then used these scores as a guideline for further prioritization. The Committee also looked at whether or not the action would reduce the risk of damage, contribute to the Town's goals and objectives, and be reasonably implemented. The brainstorming process helped in determining which actions overlapped different goals and objectives and enabled some consolidation for a manageable list of mitigation actions. Using

the overall guideline that this Plan should be specifically tailored for the Town of Thornton, the Committee decided to group the mitigation actions under the following general categories rather than in the more classic categories of prevention, structural projects, property protection, public education and awareness, natural resource protection, and emergency services:

- Administrative Actions
- Community Outreach
- Studies/Reviews/Planning
- Construction/Building
- Projects/Equipment Procurement/Maintenance
- Training
- Records/Databases

All of the actions would fall into one of the classic categories, but above categories enabled the Committee to more tightly group the mitigation actions for management and tracking.

The Committee then analyzed the group of actions under each general category, and prioritized the categories according to feasibility of implementation and its importance to achieving the mitigation goals and objectives of the Town. Within each general category, the individual mitigation actions are prioritized according to their STAPLEE score. During this analysis, the Committee decided to drop some of the mitigation actions that were part of the original list, either because they were felt to be too difficult to implement, or the benefits of implementation were outweighed by other considerations.

Once this list of priorities was developed, the Committee formulated an action plan that outlined how the actions would be implemented. The following questions were asked:

- WHO – Who will have the lead responsibility for implementing the action?
- WHEN – What is the time frame for implementation?
- HOW – How will the actions be funded? What additional resources will be required?

The complete list of projects can be found in the Mitigation Action Plan at the end of this Chapter.

Completed Projects since 2006

The Town of Thornton completed the original version of this plan in 2006. Since that time the town has completed the projects listed below. These completed projects are not included in the 2011 edition of the Hazard Mitigation plan. In addition, the Committee added *new projects* to the Mitigation Action Plan and those projects are identified in *Italics* in the Action Plan.

Completed Projects since 2006	
Established a Capital Improvement Plan (CIP) to ensure capital reserve funds are used to preserve town maintenance capabilities.	
Listed the Old Town Hall under the National Historic Register.	
Identified a secondary Emergency Operations Center.	
Participated in the development of a Regional Public Health Plan.	
Conducted a study of the covered bridge off Millbrook Road to determine stability and usable lifespan.	
Upgraded the primary EOC with phones, computers and wireless network.	
Assisted in the coordination of a regional MCI trailer.	
Digital backup of town records.	

2010 Prioritized Mitigation Projects:

In 2010, each committee member reviewed the projects listed above. After careful evaluation, the committee ranked the projects by voting for half of the projects. The project that received the most votes was ranked as the highest priority and the project receiving the least amount of votes received the lowest priority. (See Prioritized Mitigation Projects in Appendix B.) The committee was able to determine a basic benefit/cost by using the STAPLEE method. For each project identified, the committee considered the STAPLEE Criteria (Social, Technical, Administrative, Political, Legal, Economic and Environmental) to guide their decision in prioritizing the projects. The prioritized projects are identified in the Mitigation Action Plan.

Incorporating Mitigation Into Local Planning

In order for the requirements of this plan to be effective, it is essential that the Town of Thornton incorporate the strategies and actions into its planning process. Educating employees working within the Town Agencies along with members of the various Boards on the provisions of the plan is critical for ensuring that disaster preparedness and risk mitigation become part of their planning process when holding discussions, making decisions, and developing plans and Standard Operating Procedures (SOPs). As noted above, information outreach is a high priority action item that will impact more than just Town employees and Board members. Since interested citizens attend various Town meetings where decisions are made, having a community base that understands the importance of disaster mitigation planning will also assist in ensuring that future plans and actions integrate the requirements found in this plan.

The Board of Selectmen will instruct the Town Agency Heads to review their SOPs and ensure that where appropriate, the requirements of this plan are integrated into those procedures. They will also coordinate with both the Zoning Board and the Planning Board to ensure that risk mitigation planning continues to be a part of their recommendation/decision process in order to fulfill the goals and objectives outlined in this plan.

The Town will incorporate HMP requirements into the following documents:

- Master Plan – The Master Plan is updated every 5 to 10 years in accordance with RSA 674. The most recent edition was developed in 2003. This plan also includes a discussion of capital improvements within the Town. The next Master Plan update will integrate mitigation strategies and actions from the HMP (which will have been updated in accordance with the provisions of Section VI in this plan).
- Thornton Emergency Operations Plan (EOP) – The EOP is designed to allow the Town to respond more effectively to disasters as well as mitigate the risk to people and property. The EOP will be reviewed to ensure that where appropriate, specific mitigation actions outlined in the HMP are also addressed in the EOP.
- Town Budget – During the annual budget planning process, specific mitigation actions identified in the HMP, that require Town fiscal support will be reviewed for incorporation into the budget.

Thornton, NH Mitigation Action Plan					
Project	Responsibility/ Oversight	Funding/ Support	Timeframe	Hazard(s) Addressed	Priority (High/Med/Low)
1. Ensure NIMS and ICS compliance training for appropriate responders and EOC staff.	EMD / Police / Fire	HSEM	Annually	All Hazards	High
2. Upgrade fire and police, and highway department communications equipment.	Police, Fire & Highway	Grants & Town Budget	Annually and per FCC requirements	All Hazards	High
3. Incorporate Grafton County's CodeRed (emergency public notification) into Thornton's EOP.	Emergency Management Director (EMD)	Staff Time/ Grafton County	July 2011	All Hazards	High
4. Develop easements on properties along the Pemi River Corridor to allow Fire Department access to water year-round	Board of Selectmen / Planning Board / Road Agent / Fire Chief	Resource Conservation & Development	As funds and grants allow	Wildfire, Drought	4 High
5. Update EOP and include local resources database	Board of Selectmen / EMD	Staff Time / HSEM Grants	2012	All Hazards	High
6. Upgrade the EOC to current technological equipment.	EMD	Grants & Town Budget	2013	All Hazards	High
7. Purchase and install a generator at the Town Highway Department.	Road Agent	Town Budget	July 2011	Hurricane, Severe Wind, Winter Weather	Medium
8. Establish a list/survey of special needs (citizens) database	Health Officer	Staff Time	2012	Winter Weather, Flooding, Hurricane, Severe Wind	Medium
9. Position cisterns in strategic locations around Thornton to ensure water supplies are available for Fire Department response to entire Town	Fire Chief	Resource Conservation & Development & Grants & Town Budget	2015	Wildfire, Drought	Medium
10. Educate property owners on steps they can take for emergency preparedness in their own homes and businesses.	EMD	Homeland Security and Emergency Management (HSEM)	July 2011	All Hazards	Low
11. Re-establish the Community Emergency Response Team (CERT) program and provide training.	EMD/PD/FD	Volunteer NH	2013	All Hazards	Low
12. Continue enforcement of NFIP regulations. Continue public education through materials available at town hall and website.	Planning Board & Selectmen	Staff Time	Annually at Town Meeting	Flood	Low

Chapter 7 ADOPTION, IMPLEMENTATION, MONITORING

Adoption

The Thornton Selectmen by majority vote officially adopted the *Thornton Hazard Mitigation Plan* on June 15, 2011. The formal Resolution is on the following page.

Implementation

There were 12 mitigation projects that were prioritized by the Committee. For each project the Committee identified who, when and how they would be implemented. Please refer to the "Action Plan" in Chapter 6 for a description of the timeframe and persons or departments responsible for implementation of the Prioritized Projects. It will be the future responsibility of the Emergency Management Director to ensure implementation of these Prioritized Projects.

Monitoring & Updates

The *Thornton Hazard Mitigation Plan* must be reviewed, evaluated and updated at least once every five years. The Emergency Management Director is responsible for initiating this review and needs to consult with members of the Thornton Emergency Management Committee, in order to track progress and update the Prioritized List in Chapter 6. The EMD will convene the Committee at least once every five year to ensure the following:

- The Hazard Analysis will be evaluated for accuracy.
- Projects completed will be evaluated to determine if they met their objective.
- Projects not completed since the last updated will be reviewed to determine feasibility of future implementation.
- Lastly, new projects will be identified and included in future updates as needed.
- The public, members of the Committee, surrounding communities, businesses, academia, State agencies and non-profit agencies, will continue to be invited and involved during this process. These groups can be notified through invitations, public notices, newspaper articles, brochures and/or other public outreach activities.
- In keeping with the process of adopting the 2010 Thornton Hazard Mitigation Plan, a public hearing to receive public comment will be held. This will require the posting of two public notices, and where appropriate by posting a notice on the town's Web Site.
- Updates to the *Plan* may be adopted subsequent to a public meeting or hearing by the Thornton Board of Selectmen.
- Once every five years, the EMD will convene at least one meeting with the Committee to review the plan, receive public input and submit an updated plan to FEMA for approval.

**TOWN OF THORNTON, NH
A RESOLUTION ADOPTING THE
THORNTON HAZARD MITIGATION PLAN**

Date: June 15, 2011

WHEREAS, the Town of Thornton received funding from the NH Homeland Security and Emergency Management to assist in the preparation of the Thornton Hazard Mitigation Plan; and

WHEREAS, several public meetings and committee meetings were held between September 20, 2010 and October 26, 2010 regarding the development and review of the Thornton Hazard Mitigation Plan; and

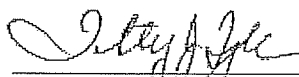
WHEREAS, the Thornton Hazard Mitigation Plan contains several potential future projects to mitigate hazard damage in the Town of Thornton; and

WHEREAS, a public hearing and meeting was held by the Board of Selectmen on June 15, 2011 to formally adopt the Thornton Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED that the Thornton Board of Selectmen Adopts the Thornton Hazard Mitigation Plan.

APPROVED and SIGNED THIS DAY OF June 15, 2011.

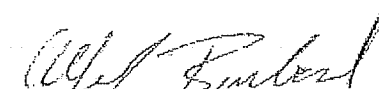
BOARD OF SELECTMEN



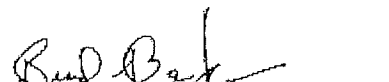
Chairman, Board of Selectmen



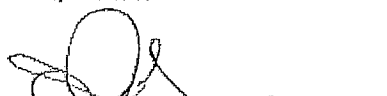
Selectmen



Selectmen



Selectmen



Selectmen

APPENDICES

Appendix A
Appendix B
Appendix C

Hazard Mitigation Resources
Documentation of Planning Process
Approval Letter from FEMA

APPENDIX A

Hazard Mitigation Resources

♦ HAZARD MITIGATION GRANT PROGRAM - "Section 404 Mitigation"

The Hazard Mitigation Grant Program (HMGP) in New Hampshire is administered in accordance with the 404 HMGP Administration Plan which was derived under the authority of Section 404 of the Stafford Act in accordance with Subpart N. of 44 CFR.

The program receives its funding pursuant to a Notice of Interest submitted by the Governor's Authorized Representative (or GAR, i.e. the Director of NHOEM) to the FEMA Regional Director within 60 days of the date of a Presidentially Declared Disaster. The amount of funding that may be awarded to the State/Grantee under the HMGP may not exceed 15% of (over and above) the overall funds as are awarded to the State pursuant to the Disaster Recovery programs as are listed in 44 CFR Subpart N. Section 206.431 (d) (inclusive of all Public Assistance, Individual Assistance, etc.). Within 15 days of the Disaster Declaration, an Inter-Agency Hazard Mitigation Team is convened consisting of members of various Federal, State, County, Local and Private Agencies with an interest in Disaster Recovery and Mitigation. From this meeting, a Report is produced which evaluates the event and stipulates the State's desired Mitigation initiatives.

Upon the GAR's receipt of the notice of an award of funding by the Regional Director, the State Hazard Mitigation Officer (SHMO) publishes a Notice of Interest (NOI) to all NH communities and State Agencies announcing the availability of funding and solicits applications for grants. The 404 Administrative Plan calls for a State Hazard Mitigation Team to review all applications. The Team is comprised of individuals from various State Agencies.

Eligible Subgrantees include:

- State and Local governments,
- Certain Not for Profit Corporations
- Indian Tribes or authorized tribal organizations
- Alaskan corporations not privately owned.

Minimum Project Criteria

- Must conform with the State's "409" Plan
- Have a beneficial impact on the Declared area
- Must conform with:
 - NFIP Floodplain Regulations
 - Wetlands Protection Regulations
 - Environmental Regulations
 - Historical Protection Regulations
- Be cost effective and substantially reduce the risk of future damage
- Not cost more than the anticipated value of the reduction of both direct damages and subsequent negative impacts to the area if future disasters were to occur i.e., min 1:1 benefit/cost ratio
- Both costs and benefits are to be computed on a "net present value" basis
- Has been determined to be the most practical, effective and environmentally sound alternative after a consideration of a range of options
- Contributes to a long-term solution to the problem it is intended to address
- Considers long-term changes and has manageable future maintenance and modification requirements

Eligible Projects may be of any nature that will result in the protection to public or private property and include:

- Structural hazard control or protection projects
- Construction activities that will result in protection from hazards
- Retrofitting of facilities
- Certain property acquisitions or relocations
- Development of State and local mitigation standards
- Development of comprehensive hazard mitigation programs with implementation as an essential component
- Development or improvement of warning systems

◆ FLOOD MITIGATION ASSISTANCE (FMA) PROGRAM

New Hampshire has been a participant in the Flood Mitigation Assistance Program (FMA or FMAP) since 1996/97. In order to be eligible, a community must be a participant in the National Flood Insurance Program.

In 1997, the State was awarded funds to assist communities with Flood Mitigation Planning and Projects. A Planning Grant from the 1996/97 fund was awarded to the City of Keene in 1998. In preparation for the development of the Flood Mitigation Plan, the Planning Department of the City of Keene created a digital data base of its floodplain including the digitizing of its tax assessing maps as well as its Special Flood Hazard Areas in GIS layers. The Plan Draft was submitted to FEMA for review and approval in March of 2000. The Plan includes a detailed inventory of projects and a "model" project prioritization approach.

In 1998, the FMAP Planning Grant was awarded to the Town of Salem. Given the complexity of the issues in the Spicket River watershed, the Town of Salem subcontracted a substantial portion of the development of its Flood Mitigation Planning to SFC Engineering Partnership of Manchester, NH, a private engineering firm. Salem submitted a Plan and proposed projects to the State and FEMA in May of 1999 which were approved by FEMA. This made Salem the first community in NH to have a FEMA/NFIP approved Flood Mitigation Plan.

Flood Mitigation Assistance Program

- NFIP Funded by a % of Policy Premiums
- Planning Grants
- Technical Assistance Grants to States (10% of Project Grant)
- Project Grants to communities
- Communities must have FEMA approved Flood Mitigation Plan to receive Project Funds

Eligible Projects

(44 CFR Part 78)

- Elevation of NFIP insured residential structures
- Elevation and dry-proofing of NFIP insured non-residential structures
- Acquisition of NFIP insured structures and underlying real property
- Relocation of NFIP insured structures from acquired or restricted real property to sites not prone to flood hazards
- Demolition of NFIP insured structures on acquired or restricted real property
- Other activities that bring NFIP insured structures into compliance with statutorily authorized floodplain management requirements
- Beach nourishment activities that include planting native dune vegetation and/or the installation of sand-fencing.
- Minor physical mitigation projects that do not duplicate the flood prevention activities of other Federal agencies and lessen the frequency of flooding or severity of flooding and decrease the predicted flood damages in localized flood problem areas. These include: modification of existing culverts and bridges, installation or modification of flood gates, stabilization of stream banks, and creation of small debris or flood/storm water retention basins in small watersheds (not dikes, levees, seawalls etc.)

◆ PRE-DISASTER MITIGATION PROGRAM (PDM)

FEMA has long been promoting disaster resistant construction and retrofit of facilities that are vulnerable to hazards in order to reduce potential damages due to a hazard event. The goal is to reduce loss of life, human suffering, economic disruption, and disaster costs to the Federal taxpayer. This has been, and continues to be accomplished, through a variety of programs and grant funds.

Although the overall intent is to reduce vulnerability before the next disaster threatens, the bulk of the funding for such projects actually has been delivered through a "post-disaster" funding mechanism, the Hazard Mitigation Grant Program (HMGP). This program has successfully addressed the many hazard mitigation opportunities uniquely available following a disaster. However, funding of projects "pre-disaster" has been more difficult, particularly in states that have not experienced major disasters in the past decade. In an effort to address "pre-disaster mitigation", FEMA piloted a program from 1997-2001 entitled "Project Impact" that was community based and multi-hazard oriented.

Through the Disaster Mitigation Act of 2000, Congress approved creation of a national Predisaster Hazard Mitigation program to provide a funding mechanism that is not dependent on a Presidential disaster declaration. For FY2002, \$25 million has been appropriated for the new grant program entitled the *Pre-Disaster Mitigation Program (PDM)*. This new program builds on the experience gained from Project Impact, the HMGP, and other mitigation initiatives.

Eligible projects include:

- State and local hazard mitigation planning
- Technical assistance [e.g. risk assessments, project development]
- Mitigation Projects
 - Acquisition or relocation of vulnerable properties
 - Hazard retrofits
 - Minor structural hazard control or protection projects
- Community outreach and education [up to 10% of state allocation]

The funding is 75% Federal share, 25% non-Federal, except as noted below. The grant performance periods will be 18 months for planning grants, and 24 months for mitigation project grants. The PDM program is available to regional agencies and Indian tribes. Special accommodation will be made for "small and impoverished communities", who will be eligible for 90% Federal share, 10% non-Federal.

◆ COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

These Federal funds are provided through the U.S. Department of Housing and Urban Development (HUD) and are administered by the CDBG Program of the New Hampshire Office of State Planning.

Some CDBG disaster related funding has been transferred to FEMA recently and the SHMO is scheduled to receive guidance as to which specific funds and, new program management criteria.

The specific CDBG funds designated for hazard mitigation purposes are made available to address "unmet needs" pursuant to a given Disaster Declaration to States which request them. For these funds, project selection guidance is provided by NHOEM and NHOSP administers the grant.

Pursuant to Declaration DR-1144-NH, \$557,000.00 was made available to the State and pursuant to DR-1199-NH, the grant award is targeted at \$1,500,000.00.

In October of 1998, HUD announced the program guidelines for the expenditure of the DR-1144-NH related funding and the community of Salem applied for, and has received preliminary approval for funding to acquire a 19 unit trailer park in the Floodplain.

Community Development Block Grant

- *U.S. Dept. of Housing and Urban Development*
- *Funds for a Declared Disaster's "Unmet Needs"*
- *Projects must meet one of three National Objectives*
- *Provide a direct benefit to low and moderate income persons or households*
- *Prevent or eliminate slums and blight*
- *Eliminate conditions which seriously and immediately threaten the public health and welfare*

Additional conditions with respect to the expenditure of these funds includes the provision that at least 50% of the grant award must be expended in a manner which benefits individuals who earn 80% or less than the area's (county's) median income.

WEBSITES FOR MITIGATION RESOURCES	
American Planning Association	http://www.planning.org
Catalog of Federal Domestic Assistance Programs	http://aspe.os.dhhs.gov/cfda
Community Rating System	http://www.fema.gov/nfip/crs.htm
FEMA Individual Assistance Program	http://www.fema.gov/irr/inassist.shtm
FEMA Mitigation Planning	http://www.fema.gov/fima/planning
FEMA Public Assistance Program	http://www.fema.gov/irr/pa
Flood Hazard Mitigation	http://www.fema.gov/hazards/floods
Flood Mitigation Assistance Program	http://www.fema.gov/fima/mtap.shtm
Habitat for Humanity	http://www.habitat.org/
Hazard Mitigation Grant Program	http://www.fema.gov/fima/hmgp/
HAZUS and HAZUS-MH	http://www.fema.gov/hazus/index.shtm
Home Rule and Dillon Rule	http://www.naco.org/pubs/research/briefs/dillon.cfm
Institute for Business and Home Safety	http://www.ibhs.org/
Institute for Local Self Government	http://www.ilsg.org/
Landslide Hazard Mitigation	http://www.fema.gov/hazards/landslides
Maxwell Campbell Public Affairs Institute:	http://www.governing.com/gpp/2000/gp0intro.htm
City and County Report Cards	http://www.governing.com/gpp/2002/gp2intro.htm
Mitigation Success Stories	http://www.fema.gov/fima/success.shtm
Multi-hazard Mapping Initiative	http://www.hazardmaps.gov
National Association of Regional Councils	http://www.narc.org
National Dam Safety Program	http://www.fema.gov/fima/damsafe/
National Earthquake Hazard Reduction Program	http://www.fema.gov/hazards/earthquakes/eqmit.shtm
National Flood Insurance Program	http://www.fema.gov/nfip
National Hurricane Program	http://www.fema.gov/hazards/hurricanes/nhp.shtm
National League of Cities	http://www.nlc.org
Native eDGE	http://nativeedge.hud.gov
NH Bureau of Emergency Management	http://www.nhoem.state.nh.us
Pre-Disaster Mitigation Program	http://www.fema.gov/fima/pdm
Protecting Your Home	http://www.fema.gov/hazards/tornadoes/presskit3.shtm
Protecting Your Property from Fire: Dealing with Vegetation and Combustible Materials	http://www.fema.gov/fima/how2001
Protecting Your Property from Fire: Roofing	http://www.fema.gov/fima/how2002.shtm
Protecting Your Property from Wind	http://www.fema.gov/fima/how2018.shtm
Protecting Yourself from Tornadoes: Safe Rooms	http://www.fema.gov/mit/saferoom
Small Business Administration	http://www.sba.gov/disaster
The Grantsmanship Center: Community Foundations	http://www.tgci.com/resources/foundations/searchGeoLoc.asp
Tribal Governments: Laws, Legislation, and Related Topics	http://www.findlaw.com/01topics/21indian/index.html
U.S. Army Corps of Engineers	http://www.usace.army.mil
U.S. Department of Agriculture	http://www.usda.gov/da/disaster/nda.htm
U.S. Department of Agriculture, Natural Resources Conservation Service	http://www.nrcs.usda.gov
U.S. Department of Housing and Urban Development	http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/driquickfacts.cfm
U.S. Department of Transportation	http://www.fhwa.dot.gov/programadmin/erelief.html
U.S. Environmental Protection Agency	http://www.epa.gov/
U.S. State and Local Government Gateway	http://www.firstgov.gov/Government/State_Local.shtml
Wildfire Hazard Mitigation	http://www.fema.gov/hazards/fires

APPENDIX B

Documentation of Planning Process

Including:

Agendas

Attendance Sheets

Public Notices

Prioritized Mitigation Projects

Thornton, NH Hazard Mitigation Plan Update

Committee Meeting September 20, 2010 AGENDA

1. Complete Risk Rating Matrix
2. Update Hazards since 2005 (Ref: HMP 2006 Section III)
3. Set date for next Committee Meeting

Update Inventory of Critical facilities
Update Capability Assessment
Mitigation Projects – Any completed? Add new?

ATTENDEES

NAME	TITLE/AFFILIATION
Diamond, Rod	Thornton Police Department
Dubey, Tom	Thornton Road Agent
Hubbard, Jane	Hubbard Consulting LLC
Kimball, Gloria	Thornton Selectman
Lockwood, Bonnie M.	McGrew Management Services LLC
Peabody, Marianne	Thornton Health Officer
Tobine, David E.	Thornton Fire Department
Tyler, Carol	Thornton Central School

Thornton, NH All Hazard Mitigation Plan Update

Committee Meeting October 4, 2010 AGENDA

1. Update Inventory of Critical Facilities
2. Update Capability Assessment
3. Update Projects - if time?
4. Set date for next Committee Meeting

Prioritize Mitigation Projects
Mitigation Action Plan

ATTENDEES

NAME	TITLE/AFFILIATION
Dubey, Tom	Thornton Road Agent
Hubbard, Jane	Hubbard Consulting LLC
Kimball, Gloria	Thornton Selectman
Lockwood, Bonnie M.	McGrew Management Services LLC
Moller, Aimee	Thornton Police Chief
Peabody, Marianne	Thornton Health Officer
Tobine, David E.	Thornton Fire Department
Tyler, Carol	Thornton Central School

Thornton, NH All Hazard Mitigation Plan Update

Committee Meeting October 26, 2010 AGENDA

1. Prioritize Projects (vote)
2. Update Mitigation Action Plan
3. Next Step:
 - a. Hubbard to complete final draft
 - b. Submit draft to FEMA for review (about 6 months)
 - c. After conditional approval by FEMA, Thornton formally adopts Plan.

ATTENDEES

NAME	TITLE/AFFILIATION
Dubey, Tom	Thornton Road Agent
Hatch, Paul	NH HSEM
Hubbard, Jane	Hubbard Consulting LLC
Kimball, Gloria	Thornton Selectman
Lockwood, Bonnie M.	McGrew Management Services LLC
Moller, Aimee	Thornton Police Chief
Peabody, Marianne	Thornton Health Officer
Tobine, David E.	Thornton Fire Department
Tyler, Carol	Thornton Central School

PRIORITIZED PROJECTS

For purposes of prioritizing the projects listed in the table below, each committee member should vote **for half of the projects (6)**. There are total of 12 projects. The projects will be prioritized based upon the total number of votes received for each project.

Project	# of Votes
1. Public education on Grafton County's CodeRED (emergency public notification) into Thornton's EOP. (Volunteer education) Update flyer and website.	4
2. Educate property owners on steps they can take for emergency preparedness in their own homes and businesses.	1
3. Purchase and install a generator at the Town Highway Department.	3
4. Position cisterns in strategic locations around Thornton to ensure water supplies are available for Fire Department response to entire Town.	2
5. Develop easements on properties along the Pemi River Corridor to allow Fire Department access to water year-round.	4
6. Re-establish the Community Emergency Response Team (CERT) program and provide training.	1
7. Ensure NIMS, ICS and WebEOC compliance training for appropriate responders and EOC staff.	5
8. Update EOP and include local resources database.	4
9. Establish a list/survey of special needs (citizens) database.	3
10. Upgrade the EOC to current technological equipment.	4
11. Upgrade fire and police, and highway department communications equipment.	5
12. Continue enforcement of NFIP regulations. Continue public education through materials available at town hall and website.	0

Low: 0-1

Medium: 2-3

High: 4-5

APPENDIX C

Approval Letter from FEMA

LOCAL MITIGATION PLAN REVIEW CROSSWALK

INSTRUCTIONS FOR USING THE PLAN REVIEW CROSSWALK FOR REVIEW OF LOCAL MITIGATION PLANS

Attached is a Plan Review Crosswalk based on the *Local Multi-Hazard Mitigation Planning Guidance*, published by FEMA in July, 2008. This Plan Review Crosswalk is consistent with the *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act), as amended by Section 322 of the *Disaster Mitigation Act of 2000* (P.L. 106-390), the *National Flood Insurance Act of 1968*, as amended by the *National Flood Insurance Reform Act of 2004* (P.L. 108-264) and *44 Code of Federal Regulations (CFR) Part 201 – Mitigation Planning*, inclusive of all amendments through October 31, 2007.

SCORING SYSTEM

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Each requirement includes separate elements. All elements of a requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a summary score of "Satisfactory." A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing.

When reviewing single jurisdiction plans, reviewers may want to put an N/A in the boxes for multi-jurisdictional plan requirements. When reviewing multi-jurisdictional plans, however, all elements apply. States that have additional requirements can add them in the appropriate sections of the *Local Multi-Hazard Mitigation Planning Guidance* or create a new section and modify this Plan Review Crosswalk to record the score for those requirements. Optional matrices for assisting in the review of sections on profiling hazards, assessing vulnerability, and identifying and analyzing mitigation actions are found at the end of the Plan Review Crosswalk.

The example below illustrates how to fill in the Plan Review Crosswalk.:

Assessing Vulnerability: Overview				
Requirement §201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.				
Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?	Section II, pp. 4-10	The plan describes the types of assets that are located within geographically defined hazard areas as well as those that would be affected by winter storms.		<input checked="" type="checkbox"/>
B. Does the new or updated plan address the impact of each hazard on the jurisdiction?	Section II, pp. 10-20	<p>The plan does not address the impact of two of the five hazards addressed in the plan.</p> <p>Required Revisions:</p> <ul style="list-style-type: none">• Include a description of the impact of floods and earthquakes on the assets. <p>Recommended Revisions:</p> <p>This information can be presented in terms of dollar value or percentages of damage.</p>	<input type="checkbox"/>	
SUMMARY SCORE			<input type="checkbox"/>	

LOCAL MITIGATION PLAN REVIEW SUMMARY

The plan cannot be approved if the plan has not been formally adopted. Each requirement includes separate elements. All elements of the requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a score of "Satisfactory." Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer's comments must be provided for requirements receiving a "Needs Improvement" score.

Prerequisite(s) (Check Applicable Box)	NOT MET	MET
1. Adoption by the Local Governing Body: §201.6(c)(5) OR		
2. Multi-Jurisdictional Plan Adoption: §201.6(c)(5) AND		
3. Multi-Jurisdictional Planning Participation: §201.6(a)(3)		
Planning Process	N	S
4. Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)		
Risk Assessment	N	S
5. Identifying Hazards: §201.6(c)(2)(i)		
6. Profiling Hazards: §201.6(c)(2)(ii)		
7. Assessing Vulnerability: Overview: §201.6(c)(2)(ii)		
8. Assessing Vulnerability: Addressing Repetitive Loss Properties: §201.6(c)(2)(ii)		
9. Assessing Vulnerability: Identifying Structures, Infrastructure, and Critical Facilities: §201.6(c)(2)(i)(B)		
10. Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)		
11. Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)		
12. Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)		

*States that have additional requirements can add them in the appropriate sections of the *Local Multi-Hazard Mitigation Planning Guidance* or create a new section and modify this Plan Review Crosswalk to record the score for those requirements.

SCORING SYSTEM

Please check one of the following for each requirement.

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Mitigation Strategy	N	S
13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)		
14. Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)		
15. Identification and Analysis of Mitigation Actions: NFIP Compliance: §201.6(c)(3)(ii)		
16. Implementation of Mitigation Actions: §201.6(c)(3)(iii)		
17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		
Plan Maintenance Process	N	S
18. Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(ii)		
19. Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)		
20. Continued Public Involvement: §201.6(c)(4)(iii)		
Additional State Requirements*	N	S
Insert State Requirement		
Insert State Requirement		
Insert State Requirement		

LOCAL MITIGATION PLAN APPROVAL STATUS

PLAN NOT APPROVED

See Reviewer's Comments

PLAN APPROVED

LOCAL MITIGATION PLAN REVIEW CROSSWALK

Local Mitigation Plan Review and Approval Status

Jurisdiction: THORNTON, NH		Title of Plan: HAZARD MITIGATION PLAN		Date of Plan: December 2010
Local Point of Contact: Jane Hubbard		Address: Hubbard Consulting LLC PO Box 445 Andover, NH 03216		
Title:				
Agency: Hubbard Consulting LLC		E-Mail: jhubb_99@yahoo.com		
Phone Number: 603-848-8801				

State Reviewer:	Title:	Date:
-----------------	--------	-------

FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region [Insert #]		
Plan Not Approved		
Plan Approved		
Date Approved		

Jurisdiction:	DFIRM		NFIP Status*		
	In Plan	NOT in Plan	Y	N	CRS Class
1.					
2.					
3.					
4.					
5. [ATTACH PAGE(S) WITH ADDITIONAL JURISDICTIONS]					

* Notes: Y = Participating N = Not Participating N/A = Not Mapped

LOCAL MITIGATION PLAN REVIEW CROSSWALK

PREREQUISITE(S)

1. Adoption by the Local Governing Body

Requirement §201.6(c)(5): [The local hazard mitigation plan *shall* include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			NOT MET	MET
A. Has the local governing body adopted new or updated plan?	Waiting for FEMA			
B. Is supporting documentation, such as a resolution, included?	Conditional Approval			
SUMMARY SCORE				

2. Multi-Jurisdictional Plan Adoption

Requirement §201.6(c)(5): For multi-jurisdictional plans, each jurisdiction requesting approval of the plan *must* document that it has been formally adopted.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			NOT MET	MET
A. Does the new or updated plan indicate the specific jurisdictions represented in the plan?				
B. For each jurisdiction, has the local governing body adopted the new or updated plan?				
C. Is supporting documentation, such as a resolution, included for each participating jurisdiction?				
SUMMARY SCORE				

3. Multi-Jurisdictional Planning Participation

Requirement §201.6(a)(3): Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process ... Statewide plans will not be accepted as multi-jurisdictional plans.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			NOT MET	MET
A. Does the new or updated plan describe how each jurisdiction participated in the plan's development?				
B. Does the updated plan identify all participating jurisdictions, including new, continuing, and the jurisdictions that no longer participate in the plan?				
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

PLANNING PROCESS: §201.6(b): *An open public involvement process is essential to the development of an effective plan.*

4. Documentation of the Planning Process

Requirement §201.6(b): *In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:*

- (1) *An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;*
- (2) *An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and*
- (3) *Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

Requirement §201.6(c)(1): *[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the plan provide a narrative description of the process followed to prepare the new or updated plan?	1-2 See Methodology			
B. Does the new or updated plan indicate who was involved in the current planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)	1-2 and 1-6			
C. Does the new or updated plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)	1-2 and Appendix B (public notices).			
D. Does the new or updated plan discuss the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?	1-2 & Appendix B			
E. Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?	1-3 (capability assessment) and Chapter 5			
F. Does the updated plan document how the planning team reviewed and analyzed each section of the plan and whether each section was revised as part of the update process?	1-2 See 2 nd paragraph in Methodology			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

RISK ASSESSMENT: §201.6(c)(2): *The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.*

5. Identifying Hazards

Requirement §201.6(c)(2)(i): *[The risk assessment shall include a] description of the type ... of all natural hazards that can affect the jurisdiction.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan include a description of the types of all natural hazards that affect the jurisdiction?	2-2, 2-3 and Chapter 3			
SUMMARY SCORE				

6. Profiling Hazards

Requirement §201.6(c)(2)(i): *[The risk assessment shall include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the risk assessment identify the location (i.e., geographic area affected) of each natural hazard addressed in the new or updated plan?	Chapter 3			
B. Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the new or updated plan?	Chapter 3			
C. Does the plan provide information on previous occurrences of each hazard addressed in the new or updated plan?	Chapter 3			
D. Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the new or updated plan?	Chapter 2-2, 2-3			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

7. Assessing Vulnerability: Overview

Requirement §201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?	2-2 / 2-3			
B. Does the new or updated plan address the impact of each hazard on the jurisdiction?	Chapter 3 (extent/impact) Chap.4 and Chapter 2-2 thru 2-3			
SUMMARY SCORE				

8. Assessing Vulnerability: Addressing Repetitive Loss Properties

Requirement §201.6(c)(2)(ii): [The risk assessment] must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged floods.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?	Chap. 2.1 – no rep losses.	Note: This requirement becomes effective for all local plans approved after October 1, 2008.		
SUMMARY SCORE				

9. Assessing Vulnerability: Identifying Structures

Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?	Chapter 4	Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
B. Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?		Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		

LOCAL MITIGATION PLAN REVIEW CROSSWALK

Identified hazard areas?

SUMMARY SCORE

LOCAL MITIGATION PLAN REVIEW CROSSWALK

10. Assessing Vulnerability: Estimating Potential Losses

Requirement §201.6(c)(2)(iii)(B): [The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan estimate potential dollar losses to vulnerable structures?		Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
B. Does the new or updated plan describe the methodology used to prepare the estimate?		Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
SUMMARY SCORE				

11. Assessing Vulnerability: Analyzing Development Trends

Requirement §201.6(c)(2)(iii)(C): [The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan describe land uses and development trends?	2-4	Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
SUMMARY SCORE				

12. Multi-Jurisdictional Risk Assessment

Requirement §201.6(c)(2)(iii): For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan include a risk assessment for each participating jurisdiction as needed to reflect unique or varied risks?				
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

MITIGATION STRATEGY: §201.6(c)(3): *The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.*

13. Local Hazard Mitigation Goals

Requirement §201.6(c)(3)(i): *[The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A Does the new or updated plan include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards?	1-4 thru 1-5			
SUMMARY SCORE				

14. Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): *[The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?	Chapter 6-3 thru 6-4 'Hazards Addressed' Column shows all hazards represented			
B Do the identified actions and projects address reducing the effects of hazards on new buildings and infrastructure?	Chapter 6			
C. Do the identified actions and projects address reducing the effects of hazards on existing buildings and infrastructure?	Chapter 6			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

15. Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance

Requirement: §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan describe the jurisdiction (s) participation in the NFIP?	Chap. 2-1	Note: This requirement becomes effective for all local mitigation plans approved after October 1, 2008.		
B. Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?	Chap. 6 - Project #12	Note: This requirement becomes effective for all local mitigation plans approved after October 1, 2008.		
SUMMARY SCORE				

16. Implementation of Mitigation Actions

Requirement: §201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated mitigation strategy include how the actions are prioritized? (For example, is there a discussion of the process and criteria used?)	Chap. 6, Appendix B			
B. Does the new or updated mitigation strategy address how the actions will be implemented and administered, including the responsible department, existing and potential resources and the timeframe to complete each action?	Chapter 6 – Mitigation Action Plan			
C. Does the new or updated prioritization process include an emphasis on the use of a cost-benefit review to maximize benefits?	Chapter 6			
D. Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?	Chapter 6-3			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

17. Multi-Jurisdictional Mitigation Actions

Requirement §201.6(c)(3)(iv): For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan include identifiable action items for each jurisdiction requesting FEMA approval of the plan?	n/a			
B. Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?	n/a			
SUMMARY SCORE				

PLAN MAINTENANCE PROCESS

18. Monitoring, Evaluating, and Updating the Plan

Requirement §201.6(c)(4)(i): The plan maintenance process shall include a) section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan describe the method and schedule for monitoring the plan, including the responsible department?	Chapter 7-1			
B. Does the new or updated plan describe the method and schedule for evaluating the plan, including how, when and by whom (i.e. the responsible department)?	Chapter 7-1			
C. Does the new or updated plan describe the method and schedule for updating the plan within the five-year cycle?	Chapter 7-1			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

19. Incorporation into Existing Planning Mechanisms

Requirement §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan identify other local planning mechanisms available for incorporating the mitigation requirements of the mitigation plan?	Chapter 5 – Existing Protection Matrix			
B. Does the new or updated plan include a process by which the local government will incorporate the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?	Chapter 5 Existing Protection Matrix			
C. Does the updated plan explain how the local government incorporated the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?	Page 6-3			
SUMMARY SCORE				

Continued Public Involvement

Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE	
			N	S
A. Does the new or updated plan explain how continued public participation will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)	Chapter 7-1			
SUMMARY SCORE				

LOCAL MITIGATION PLAN REVIEW CROSSWALK

MATRIX A: PROFILING HAZARDS

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure that their plan addresses each natural hazard that can affect the jurisdiction. Completing the matrix is not required.

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any element of any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk.

Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i) Yes	A. Location		B. Extent		C. Previous Occurrences		D. Probability of Future Events	
		N	S	N	S	N	S	N	S
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earthquake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hurricane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Severe Winter Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Windstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To check boxes, double click on the box and change the default value to "checked."

Legend:

§201.6(c)(2)(i) Profiling Hazards

- A. Does the risk assessment identify the location (i.e., geographic area affected) of each hazard addressed in the new or updated plan?
- B. Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the new or updated plan?
- C. Does the plan provide information on previous occurrences of each natural hazard addressed in the new or updated plan?
- D. Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the plan?

LOCAL MITIGATION PLAN REVIEW CROSSWALK

MATRIX B: ASSESSING VULNERABILITY

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure that the new or updated plan addresses each requirement. **Completing the matrix is not required.**

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any element of any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk. Note: Receiving an N in the shaded columns will not preclude the plan from passing.

To check boxes, double click on the box and change the default value to "checked."

Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i) Yes	§201.6(c)(2)(iii) Assessing Vulnerability: Overview		A. Overall Summary Description of Vulnerability		B. Hazard Impact		§201.6(c)(2)(iii) Assessing Vulnerability: Identifying Structures		§201.6(c)(2)(ii) Assessing Vulnerability: Estimating Potential Losses				A. Loss Estimate		B. Methodology	
		N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earthquake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hurricane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Severe Winter Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Windstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Legend:

§201.6(c)(2)(ii) Assessing Vulnerability: Overview

- A. Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?
- B. Does the new or updated plan address the impact of each hazard on the jurisdiction?

- B. Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

§201.6(c)(2)(i)(A) Assessing Vulnerability: Identifying Structures

- A. Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?

§201.6(c)(2)(ii)(B) Assessing Vulnerability: Estimating Potential Losses

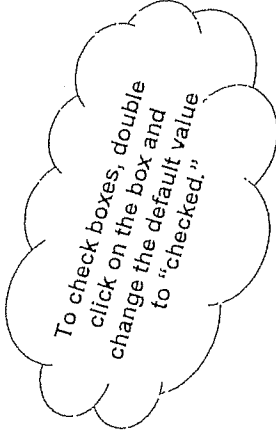
- A. Does the new or updated plan estimate potential dollar losses to vulnerable structures?
- B. Does the new or updated plan describe the methodology used to prepare the estimate?

LOCAL MITIGATION PLAN REVIEW CROSSWALK

MATRIX C: IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure consideration of a range of actions for each hazard. Completing the matrix is not required.

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk.



Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i)	A. Comprehensive Range of Actions and Projects		
		Yes	N	S
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earthquake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee Failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hurricane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Severe Winter Storm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Windstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Legend:

§201.6(c)(3)(ii) Identification and Analysis of Mitigation Actions

A. Does the new or updated plan identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?