Conway

Hazard Mitigation Plan Update 2014

This Plan includes the following:

- **Hazard Mitigation Plan (FEMA)**
- **Community Wildfire Protection Plan (Stand-alone Addendum)**

May 19, 2014
Approved Pending Adoption (APA)

Prepared for New Hampshire Homeland Security & Emergency Management
By
The Conway Planning Team

With assistance from Mapping and Planning Solutions

C O N W A Y

Plans are worthless, but planning is everything. There is a very great distinction because when you are planning for an emergency you must start with this one thing: The very definition of "emergency" is that it is unexpected, therefore it is not going to happen the way you are planning.

-Dwight D. Eisenhower

HAZARD MITIGATION PLAN DEFINITIONS

*"A **natural hazard** is a source of harm or difficulty created by a meteorological, environmental, or geological event".*

***"Hazard mitigation** is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards (44CFR 201.2). Hazard mitigation activities may be implemented prior to, during, or after an event. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs."*

(Source: Local Mitigation Plan Review Guide, FEMA, October 1, 2011)

Plan Prepared and Authored By
June E. Garneau, Owner/Planner
Mapping and Planning Solutions
91 Cherry Mountain Place
P.O. Box 283
Twin Mountain, NH 03595
www.mappingandplanning.com

Cover: The Saco River Valley, Conway, NH
Photo Credit: June Garneau, MAPS

Table of Content

Acknowledgements

The CWPP portion of this Plan was prepared in conjunction with UNH Cooperative Extension and the US Forest Service and is presented as an Addendum to this Plan by UNH Cooperative Extension. As part of the cooperation with UNH Cooperative Extension, some elements of the CWPP remain in the body of this Plan and Mitigation Action Items for the Community Wildfire Protection Plan are identified in Table 9.1 of this Plan.

The Plan was created through a grant from New Hampshire Homeland Security Emergency Management (HSEM). The following organizations have contributed invaluable assistance and support for this project:

- NH Homeland Security Emergency Management (HSEM)
- Federal Emergency Management Agency (FEMA
- NH Office of Energy & Planning (NHOEP)
- Mapping and Planning Solutions (MAPS)
- NH Forests & Lands (DRED)
- UNH Cooperative Extension
- USDA Forest Service, WMNF

This Plan is an update to the original Conway Hazard Mitigation Plan, Approved July 17, 2008

Approval Notification Dates for 2014 Update

Conditional Approval:	May 16, 2014
Date of Jurisdiction Adoption:	To be determined
Letter of CWPP Approval:	To be determined
Plan Approval Date (FEMA):	To be determined
Plan Distribute by MAPS	To be determined

Town of Conway Hazard Mitigation Planning Team

The Town of Conway would like to thank the following people for their time and the effort spent to complete this Plan; the following people have attended meetings and/or been instrumental in completing this Plan:

- Paul DegliAngeli ..... Conway Public Works Director
- Earl Sires ..... Conway Town Manager
- Tom Irving..... Conway Planning Director
- David Pandora..... Conway Building & Health Insp.
- George Walker ..... Conway Police Sargent
- Steve Solomon ..... Conway Fire Chief & EMD
- Wendy Scribner..... UNH Cooperative Extension
- Ed Duffy..... Conway Deputy EMD
- Richard Marr..... East Conway Fire Chief
- Neil Henry..... Redstone Fire Chief
- Ray Leavitt..... Center Conway Fire Chief
- John Neely..... US Forest Service
- Bob Boyd..... NH Forests & Lands (DRED)
- Rick DeMark..... NCRC&D
- Jennifer Gilbert..... NH OEP
- Heidi Lawton..... NH HSEM
- Olin Garneau ..... Mapping & Planning Solutions
- June Garneau..... Mapping & Planning Solutions

Many thanks for all the hard work and effort from each and every one of you. This plan would not exist without your knowledge and experience. The Town of Conway also thanks the Federal Emergency Management Agency and NH Homeland Security and Emergency Management as the primary funding source for the Plan.

THIS PAGE

INTENTIONALLY LEFT

BLANK

Executive Summary

The Conway Hazard Mitigation Plan Update 2014 was compiled to assist the Town of Conway in reducing and mitigating future losses from natural or human-caused hazardous events. The Plan was developed by participants of the Town of Conway Hazard Mitigation Planning Team, interested stakeholders, the general public and Mapping and Planning Solutions (MAPS). The Plan contains the tools necessary to identify specific hazards and aspects of existing and future mitigation efforts.

This Plan is an **update** to the 2008 Conway Hazard Mitigation Plan. In an effort to produce an accurate and current planning document, the Planning Team used the 2008 Plan as a foundation, building upon that Plan to provide more timely information.

This plan addresses the following natural hazards and human-caused hazards.

Natural Hazards

1) Flooding: *Riverine*
2) Flooding: *Local flooding & road erosion*
3) Flooding: *Hurricane & Tropical Storms*
4) Severe Winter Weather
5) Wildfire
6) Extreme Temperatures
7) Tornado
8) Erosion
9) High Winds
10) Downbursts
11) Drought
12) Earthquake
13) Hailstorm

Human-Caused Hazards

1) Hazard Material - Transport
2) Hazard Material - Fixed
3) Terrorism
4) Epidemic & Pandemic

This plan also provides a list of Critical Infrastructure and Key Resources (CIKR) categorized as follows: Necessary for Emergency Response Facilities (ERF), Not Necessary for Emergency Response Facilities (NERF), Facilities and Populations to Protect (FPP), and Potential Resources (PR). In addition, this plan addresses the Town's involvement in the National Flood Insurance Program (NFIP).

This hazard mitigation plan was originally designed to include a detailed study and analysis of wildfire/structure fires. The original goal was to produce a separate wildfire plan but that concept produced excessive overlap and cost. To streamline the process, the Community Wildfire Protection Plan (CWPP) portion of this Plan was prepared in conjunction with UNH Cooperative Extension and the US Forest Service and is presented as an Addendum to this Plan by UNH Cooperative Extension. As part of the cooperation with UNH Cooperative Extension, some elements of the CWPP remain in the body of this Plan and Mitigation Action Items for the Community Wildfire Protection Plan are identified in Table 9.1 of this Plan.

Although mitigation strategies are the main focus of this Plan, it is at times difficult to arrive at true mitigation projects. Some communities, though faced with an array of natural hazards, are able to adequately cope with the impact of these hazards. For example, although Severe Winter Weather is often a common hazard in New

Hampshire, and more often than not considered to be the most likely to occur, most New Hamshire communities handle two-three foot snow storms with little or no disruption of services. On the other hand, an unexpected ice storm can have disastrous effects on a community. Mitigation for this type of sudden storm is difficult to achieve; establishing warming and cooling centers, establishing notification systems, providing public outreach, tree trimming, opening shelters and perhaps burying overhead power lines are just a few of the strategies that may be put in place.

In summary, finding mitigation strategies for every hazard that effects a community is at times difficult. In addition, with today's economic constraints, cities and towns are less likely to have the financial ability to create some mitigation strategies, such as burying power lines. In preparing this Plan, the Conway Planning Team has considered a comprehensive list of mitigation strategies that could diminish the impact of hazards but has also decided to maintain a list of preparedness strategies for future reference and action.

To simplify the language in the Plan, the following abbreviations and acronyms will be used:

Conway Hazard Mitigation Plan Update 2014	the Plan or this Plan
Conway	the Town or the Community
Hazard Mitigation Planning Team	the Team
Hazard Mitigation Plan	HMP
Emergency Operations Plan	EOP
Community Wildfire Protection Plan	CWPP
Mapping and Planning Solutions	MAPS
Mapping and Planning Solutions Planner	the Planner
NH Homeland Security & Emergency Management	HSEM
Federal Emergency Management Administration	FEMA

For more Acronyms, please refer to Appendix E

Mission Statement:
To make Conway less vulnerable to the effects of hazards through the effective administration of hazard mitigation planning, wildfire hazard assessments, and a coordinated approach to mitigation policy and planning activities.

Vision Statement:
The community of Conway will reduce the impacts of natural hazards and other potential disasters through implementing mitigation measures, public education and deliberate capital expenditures within the community. Homes and businesses will be safer and the community's ISO rating may be improved.

Chapter 1: Hazard Mitigation Planning Process

A. Authority & Funding

The Conway Hazard Mitigation Plan Update 2014 was prepared in accordance with the Disaster Mitigation Act of 2000 (DMA), Section 322; Mitigation Planning, signed into law by President Clinton on October 30, 2000. This hazard mitigation plan was prepared by the Conway Hazard Mitigation Planning Team under contract with New Hampshire Homeland Security & Emergency Management (HSEM) operating under the guidance of Section 206.405 of 44 CFR Chapter 1 (10-1-97 Edition) and with the assistance and professional services of Mapping and Planning Solutions. This plan was funded by HSEM through grants from FEMA (Federal Emergency Management Administration); matching funds for team member's time were also part of the funding formula.

B. Purpose & History of the FEMA Mitigation Planning Process

The ultimate purpose of Disaster Mitigation Act of 2000 (DMA) is to:

"…establish a national disaster hazard mitigation program -

- *To reduce the loss of life and property, human suffering, economic disruption and disaster assistance costs resulting from natural disasters; and*
- *To provide a source of pre-disaster hazard mitigation funding that will assist States and local governments (including Indian tribes) in implementing effective hazard mitigation measures that are designed to ensure the continued functionality of critical services and facilities after a natural disaster".*[1]

DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act by, among other things, adding a new section "322 – Mitigation Planning" which states:

> *"As a condition of receipt of an increased Federal share for hazard mitigation measures under subsection (e), a State, local, or tribal government shall develop and submit for approval to the President a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government."*[2]

HSEM's goal is to have all New Hampshire communities complete a local hazard mitigation plan as a means to reduce future losses from natural or human-caused events before they occur. HSEM outlined a process whereby communities throughout the state may be eligible for grants and other assistance upon completion of this hazard mitigation plan.

The Conway Hazard Mitigation Plan Update 2014 is a planning tool to use to reduce future losses from natural and human-caused hazards as required by the Disaster Mitigation Act of 2000; this plan does **not** constitute a section of the Town's Master Plan, however mitigation strategies from this Plan may be incorporated into future Master Plan updates.

The DMA places new emphasis on local mitigation planning. It requires local governments to prepare and adopt jurisdiction-wide hazard mitigation plans as a condition to receiving Hazard Mitigation Grant Program (HMGP) project grants. Local governments must review yearly and update this plan every five years to continue program eligibility.

[1] Disaster Mitigation Act (DMA) of 2000, Section 101, b1 & b2
[2] Disaster Mitigation Act (DMA) of 2000, Section 322a

C. Jurisdiction

This plan addresses one jurisdiction – the Town of Conway, NH. The Town includes five fire precincts: North Conway (Map 6), Conway (Map 7), Center Conway (Map 8), Redstone, and East Conway.

D. Scope of the Plan & Federal & State Participation

A community's hazard mitigation plan often identifies a vast number of natural hazards and is somewhat broad in scope and outline. The scope and effects of this Plan were assessed based on the impact of hazards and wildfire/structure fires on: *Critical Infrastructure and Key Resources (CIKR); current residential buildings; other structures within the Town; future development; administrative, technical and physical capacity of emergency response services; and response coordination between federal, state and local entities.*

In seeking approval as a Hazard Mitigation Plan and a Community Wildfire Protection Plan (CWPP), the planning effort included participation of Homeland Security and Emergency Management, the US Forest Service, the Department of Resources and Economic Development (DRED), UNH Cooperative Extension, the NH Office of Energy & Planning (OEP) as well as routine notification of upcoming meetings to the state and federal entities above. Designation as a CWPP will allow a community to gain access to federal funding for hazardous fuels reduction and other mitigation projects supported by the US Forest Service. By merging the two federal planning processes (hazard and wildfire/structure fire), duplication is eliminated and the Town has access to a larger pool of resources for pre-disaster planning.

The Healthy Forest Restoration Act (HFRA) of 2003 includes statutory incentives for the US Forest Service to give consideration to local communities as they develop and implement forest management and hazardous fuel reduction projects. For a community to take advantage of this opportunity, it must first prepare a CWPP. This hazard mitigation planning process not only satisfies FEMA's criteria regarding wildfire/structure fires and all other hazards but also addresses the minimum requirements for a CWPP:

- ***Collaboration****: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.*

- ***Prioritized Fuel Reduction:*** *A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.*

- ***Treatment of Structural Ignitability:*** *A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.*[3]

Finally, as required under Code of Federal Regulations (CFR), Title 44, Part 201.6(c) (2) (ii) and 201.6(c) (3) (ii), the Plan must address the community's participation in the National Flood Insurance Program (NFIP), its continued compliance with the program, and, as part of vulnerability assessment, the Plan must address the NFIP insured structures that have been repetitively damaged due to floods.

[3] Healthy Forest Restoration Act; HR 1904, 2003; Section 101-3-a.b.c; http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_bills&docid=f:h1904enr.txt.pdf

E. Public & Stakeholder Involvement

Public and stakeholder involvement was stressed during the initial meeting and community officials were given a matrix of potential team members (page 17). Community officials were urged to contact as many people as they could to participate in the planning process.

A press release (right) appeared in the Conway Daily Sun on December 13, 2012. The Conway Daily Sun is a free daily newspaper with a print circulation of 16,100 and 5,200 online users.[4] The Conway Fire Chief / EMD also sent a press release to the local radio station, WMWV, stations 104.5, 93.5, and 95.3. The Hazard Mitigation Plan was put before the Conway Board of Selectmen on December 13, 2011 with the recommendation that work begin; the full minutes of this meeting are still available online (see below for applicable portion of minutes). A press release was also posted at the Library, Town Hall and at the Conway Post Office.

Lastly, the Planner sent emails to stakeholders that were recommended by the Team, including the Emergency Management Directors, Police Chiefs and Fire Chiefs from neighboring towns in both NH and Maine; an example can be seen on the following page.

TOWN UPDATING HAZARD MITIGATION PLAN

Published Date: Thursday, 13 December 2012 06:09

CONWAY — Conway is putting together a planning team to review and update the five-year hazard mitigation plan and is looking for interested people to help.

A local hazard mitigation plan is required for communities to qualify for federal funding in the event of a natural disaster, according to a statement released by Conway emergency management director Steve Solomon. The plan was last updated in 2008.

Local officials have already held a meeting with to begin the process, but a second meeting is scheduled for Tuesday, Dec. 18, at 10 a.m. at Conway Town Hall.

"Discussion will address issues such as flooding, hurricanes, drought, landslides and wildfires," the statement said. "All interested parties should contact Steve Solomon, fire chief and emergency management director, by phone at 447-2681, if they wish to be included in the process.

"The general public is encouraged to attend all meetings and to assist the team with first-hand knowledge of historic hazard events," the statement said. "The planning team will establish priorities, collaborate on activities, and increase public awareness and participation to reduce the impact of hazards."

The review is funded through Federal Emergency Management Administration grants.

It was noted that although there are several schools in Conway including two community colleges, three elementary schools, one middle school and one high school, no member of academia attended the planning meetings.

Ample public notice was provided for citizens and stakeholders of the community to become aware of the hazard mitigation planning taking place in Conway. While much effort was made to promote public participation, no general community members took the opportunity to participate. The Town of Conway understands that natural hazards do not recognize corporate boundaries.

ADOPTED: 1/17/12
As written

Minutes of Meeting
CONWAY BOARD OF SELECTMEN

December 13, 2011

REVIEW AND CONSIDERATION OF MAPS MAPPING AND PLANNING SOLUTIONS PLANNING SCOPE OF WORK AND AGREEMENT HAZARD MITIGATION PLAN

Mr. Sires reviewed a copy of the MAPS Mapping and Planning Solutions Planning Scope of Work and Agreement Hazard Mitigation Plan with the Board. Mr. Sires advised the State is proving the funding for same. Mr. Sires recommended we enter into the agreement and get this going. **Mr. Martin moved, seconded by Mr. Dickinson to approve the contract with MAPS as stated in this agenda item. The motion carried unanimously.**

[4] http://www.conwaydailysun.com/index.php/2011-08-07-02-51-05

Mapping & Planning Solutions Update

June Garneau <jgarneau@mappingandplanning.com>

Sent: Fri 8/24/2012 3:45 PM

To: 'Michael Carrier'; 'Michael Currier'; mdorman@plaistow.com; 'Michael Drake'; 'Michael Hartman'; 'Michael Kurland'; 'Lavoie, Michael'; 'Michael Maloney'; mmcgillen@townofcandia.org; 'Michael Moyer'; 'Michael Murphy'; 'Michael Williams'; 'Mike Ho Sing Loi'; 4nh@roadrunner.com; 'Nathan Cass'; 'Neal Janvrin'; 'Cutler, Ned'; 'Karen'; 'Nevan Cassidy'; 'Nicholas Giaccone'; 'Nick Marique'; 'Roberts, Pat'; 'Pat Tarpey '; 'Patrick Clark'; 'Patrick Webb'; 'Paul Donovan'; 'Paul Freitas'; 'Hatch, Paul'; 'Paul Smith'; 'Peck, Elizabeth';

Cc: Ndikum-Nyada, Brigitte

Message MAPS_MeetingsFutureAug22_12.pdf (167 KB)

Hi Everyone,

It has been a while since I have mailed my schedule of meetings with NH cities and towns. Things have been very busy, but are settling down a bit now.

Police Chiefs, Fire Chiefs and EMDs

As part of FEMA's request that neighboring community officials be invited to these meetings, I am extending an invitation to you...remember..."hazards know no boundaries". Also, if you are considering a contractor to prepare future Hazard Mitigation and/or Emergency Operations Plans, please drop me a note requesting more information.

WMNF & DRED Rangers, DOT, the NH State Police, Public Health Networks, PSNH, NH Electric Coop and County & State Officials

For other persons receiving this email it has been sent to you as you are also considered "stakeholders" and because many of the communities which I represent have expressed a desire to have you attend. Please review the attached schedule and consider attending one (or more) of these meetings. This may be of particular interest to foresters as I am working with several communities that have an abundance of **forested** and **White Mountain National Forest** land. I urge to consider attending.

Please feel free to contact me if you have any questions. I also suggest that you reconfirm the meeting before you come, just in case it may have cancelled!

Thank you and I hope you can join us!

June

Sample email (to the left) and meeting list (below) sent to NH EMD's, Police Chiefs, Fire Chiefs, Rangers and other State, Federal and Private Officials throughout the State on a monthlv basis.

Status update: 8/23/2012

Day	Date	Time	Town/Location	Plan Type	HSEM Field Rep	County
Friday	Nov 15	1:00 PM	Holderness Public Safety	EOP	Paul Hatch	Grafton
Monday	Nov 19	1:00 PM	Madison Fire Station	Hazmit	Heidi Lawton	Carroll
Tuesday	Nov 20	3:00 PM	Wakefield Public Safety Bldg.	EOP	Heidi Lawton	Carroll
Happy Thanksgiving						
Monday	Nov 26	10:00 AM	Campton Fire Station	Hazmit	Paul Hatch	Grafton
Monday	Nov 26	7:00 PM	Randolph Town Offices	Hazmit	Heidi Lawton	Coos
Friday	Nov 30	10:00 AM	Jackson Town Offices	Hazmit	Heidi Lawton	Carroll
Tuesday	Dec 4	10:00 AM	Littleton Community Center	EOP	Paul Hatch	Grafton
Tuesday	Dec 4	6:00 PM	Landaff Town Hall	Hazmit	Paul Hatch	Grafton
Wednesday	Dec 5	6:30 PM	Shelburne Town Offices	EOP	Heidi Lawton	Coos
Monday (tentative)	Dec 17	2:00 PM	Madison Fire Station	Hazmit	Heidi Lawton	Carroll
Monday (tentative)	Dec 17	6:00 PM	Milton Town Offices	EOP	Julia Chase	Strafford
Or...Tuesday (tentative)	Dec 18	3:00 PM	Milton Town Offices	EOP	Julia Chase	Strafford
Tuesday	Dec 18	10:00 AM	Conway Town Offices	Hazmit	Heidi Lawton	Carroll
Friday	Dec 21	10:00 AM	Waterville Town Offices	Hazmit	Paul Hatch	Grafton
Merry Christmas & Happy Holidays & Happy New Year 2013						
Tuesday	Jan 8	9:00 AM	Campton Fire Station	Hazmit	Paul Hatch	Grafton
Wednesday	Jan 9	6:00 PM	Wentworth Town Offices	Hazmit	Paul Hatch	Grafton
Friday	Jan 11	1:00 PM	Woodstock Town Offices	Hazmit	Paul Hatch	Grafton
Tuesday	Jan 15	10:00 AM	Littleton Community Center	EOP	Paul Hatch	Grafton
Tuesday	Jan 15	6:00 PM	Carroll Town Hall	Hazmit	Heidi Lawton	Coos
Wednesday	Jan 16	9:00 AM	Colebrook Town Offices	Hazmit	Heidi Lawton	Coos
Wednesday	Jan 16	4:00 PM	Pittsburg Town Offices	Hazmit	Heidi Lawton	Coos
Tuesday (tentative)	Jan 29	10:00 AM	Conway Town Offices	Hazmit	Heidi Lawton	Carroll
Tuesday	Jan 29	6:00 PM	Brookfield Town Offices	Hazmit	Heidi Lawton	Carroll
Wednesday	Feb 6	6:00 PM	Wentworth Town Offices	Hazmit	Paul Hatch	Grafton
Friday	Feb 15	1:00 PM	Woodstock Town Offices	Hazmit	Paul Hatch	Grafton
Tuesday	Feb 19	10:00 AM	Littleton Community Center	EOP	Paul Hatch	Grafton
Tuesday	Feb 19	6:00 PM	Carroll Town Hall	Hazmit	Heidi Lawton	Coos
Monday	Feb 25	6:00 PM	Brookfield Town Offices	Hazmit	Heidi Lawton	Carroll
Tuesday (tentative)	Feb 26	10:00 AM	Conway Town Offices	Hazmit	Heidi Lawton	Carroll
Monday	Mar 18	6:00 PM	Brookfield Town Offices	Hazmit	Heidi Lawton	Carroll
Tuesday (tentative)	Mar 19	10:00 AM	Conway Town Offices	Hazmit	Heidi Lawton	Carroll
Wednesday	Mar 20	6:00 PM	Wentworth Town Offices	Hazmit	Paul Hatch	Grafton

F. Incorporation of existing plans, studies, reports and technical information

The planning process included a complete review of the Conway Hazard Mitigation Plan of 2008 for updates, development changes and accomplishments. In addition, as noted in the Bibliography and in Footnotes located throughout the Plan many other documents were used to create this mitigation plan. Some, but not all, of those plans and documents are listed as follows:

The Conway Hazard Mitigation Plan of 2008	Compare & Contrast
The Conway Master Plan	Future Development
Town of Conway, NH Town Report 2012	General Information
Area Hazard Mitigation Plans (Littleton & Salem)	Formats & Mitigation Ideas
The Conway Zoning Ordinance	Building Regulations
The Conway Floodplain Management Ordinance	Floodplain Regulations
Census 2010 Data	Population Data
The NH DRA Summary of Inventory of Valuation MS-1 2012 for Conway	Structure Evaluation
The Economic & Labor Market Information Bureau Community Response	Population Trends
The American Community Survey (ACS 2007-2011)	Population Trends
NH Forests & Lands (DRED)	District Fires
NH Office of Energy & Planning	Flood Losses
The NH Department of Revenue property tax valuation by property type	Property Information

Other technical manuals, federal and state laws as well as research data were combined with these elements to produce this integrated hazard mitigation plan. Please refer to the Bibliography in Appendix A and the Plan's footnotes.

Conway Fire and Rescue
Photo Credit: June Garneau, MAPS

§201.6(b) requires that there be an open public involvement process in the formation of a plan. This process shall provide an opportunity for the public to comment on the Plan during its formation as well as an opportunity for any neighboring communities, businesses, and others to review any existing plans, studies, reports, and technical information and incorporation of those in the Plan, to assist in the development of a comprehensive approach to reducing losses from natural disasters.

G. Hazard Mitigation Planning Process & Methodology

The planning process consisted of twelve specific steps; some steps were accomplished independently while other areas were interdependent. Many factors affected the ultimate sequence of the planning process: length of meetings, community preparation and attendance, and other community needs; the planning process resulted in significant cross-talk regarding all types of natural and human-caused hazards by team members.

All steps were included but not necessarily in the numerical sequence listed. The list of steps is as follows:

PLANNING STEPS

Step 01: Team Formation and Orientation, Goal Identification
Step 02: Formulate Hazards List, Hazards Description and Threat Matrix
Table 3.1 – Hazards Risk Analysis
Step 03: Profile, List and Map Historic and Potential Hazards, Wildfire, Natural and Human-Caused
Table 3.2 – Historic and Potential Hazards
Step 04: Profile, List and Map Critical Infrastructure and Key Resources
Tables 4.1 to 4.2 – Critical Infrastructure & Key Resources
Step 05: Assess Community's participation in National Flood Insurance Program
Chapter 3, Section C
Step 06: Gather Town History, Past Development Trends, Future Development Trends, Town Statistics
Chapter 2, Sections A, B & C and Table 2.1, Town Statistics
Step 07: List Existing Mitigation Strategies & Brainstorm to Identify Potential Mitigation Strategies
Table 6.1 – Current Plans, Policies and Mutual Aid
Step 08: Examine the mitigation strategies from the prior plan
Table 7.1 – Accomplishments since the last Plan
Step 09: Evaluate and Categorize Potential Mitigation Strategies
Tables 8.1, Potential Mitigation Strategies & the STAPLEE
Step 10: Prioritize Mitigation Strategies to Determine Implementation Plan
Table 9.1 – Action Plan & Mitigation Strategies
Step 11: Team Review of Plan Contents for Submission to HSEM/FEMA
Step 12: Adopt and Monitor the Plan

Using a "building block" approach, the base, or foundation, for the mitigation plan update was the prior plan. Each table that was completed had its starting point with the last hazard mitigation plan completed by the community.

Ultimately, the "building blocks" lead to the final goal, the development of prioritized mitigation strategies that when put into an action plan, would lessen or diminish the impact of natural hazards on the Town.

H. Hazard Mitigation Building Blocks & Tables

I. Hazard Mitigation Goals

Before identifying new mitigation actions to be implemented, the Team established and adopted the following broad hazard mitigation goals. The goals that are in the 2013 State of New Hampshire Multi-Hazard Mitigation Plan were reviewed as were the goals that were in the 2009 Conway Hazard Mitigation Plan. After discussing these goals, the Conway Hazard Mitigation Team (2014) agreed to the following goals for this Plan.

Community & Resource Protection

- To improve upon the protection of the general population, the citizens of Conway and visitors, from all natural and man-made hazards.
- To reduce Conway's potential exposure to risk with respect to natural and man-made hazards.
- To minimize the damage and public expense which might be caused to public and private buildings and infrastructure due to natural and manmade hazards.

Coordination & Communication

- To improve the Town of Conway's:
  - *Emergency preparedness and communication network.*
  - *Disaster response and recovery capability.*
- To identify, introduce and implement improvements to establish and maintain a reliable communication system.
- To improve communication capabilities so that the citizens of Conway can be notified in the most efficient manner as possible.
- To ensure that regular communication occurs between various departments and with local, regional, and state officials and have up-to-date plans in place to address various emergency situations and ensure that those involved are aware of their responsibilities.

Outreach & Education

- To build an awareness of public responsibility for hazard mitigation as well as steps that the town is taking.
- To raise the awareness and acceptance of hazard mitigation opportunities through public education and outreach programs.
- To increase public awareness of the fire risk and the Town's potential liability with respect to wildfires.

Damage Prevention & Reduction

- To reduce the potential impact of natural and man-made disasters on the Town of Conway's:
  - *Emergency Response Capability*
  - *Critical Infrastructure & Key Resources*
  - *Private Property*
  - *Economy*
  - *Natural Environment*
  - *Historic treasures and interests, as well as other tangible and intangible characteristics that adds to the quality of life of the citizens and visitors to Conway.*
- To identify, introduce and implement cost effective hazard mitigation measures so as to accomplish the town's Goals and Objectives.
- To reduce the occurrence of road closures and road erosion due to localized flooding within the town of Conway.

J. Narrative Description of the Process

The Plan was developed with substantial local, state and federal coordination; completion of this new hazard mitigation plan required significant planning preparation. All meetings were geared to accommodate brainstorming, open discussion and an increased awareness of potential hazardous conditions in the Town.

Meeting 1, November 13, 2012

After waiting several months for the grant process to be complete, the first full meeting of the Conway Hazard Mitigation Team was held. Meeting attendance included Earl Sires (Town Manager), Paul DegliAngeli (Director of Public Works), Tom Irving (Planning Director), David Pandora (Building Inspector & Health Officer), Wendy Scribner (UNH Cooperative Extension), George Walker (Police Officer), Stephen Solomon (Conway Fire Chief & EMD), Heidi Lawton (NH Homeland Security & Emergency Management) and June Garneau (Mapping & Planning Solutions).

To introduce the Team to the planning process, June reviewed the evolution of Hazard Mitigation Plans, the funding, the 12 Step Process (handout), the collaboration with other agencies and the Goals (handout). The Team members reviewed the "Goals" and were pleased to see that the goals not only represented those that were in the 2008 Hazard Mitigation Plan, but also placed some emphasis on localized flooding.

June explained the need to sign-in, track time (handout) and to provide public notice to encourage community involvement. In addition, June provided the Team with a sample email that would be sent to "stakeholders" to invite them to take part in the planning process; the Team reviewed the email and suggested additional stakeholders, including the EMD, Fire and Police Chief (from Fryeburg, ME) to be added to the invitation list.

Work then began on *Table 2.1, Town Statistics*. Most of the work on this table was complete with the exception of a few items that June would either determine through GIS or get at a later date. There was some discussion about the population numbers in Conway; in general the Team felt that the data that had been obtained from the Census Bureau and the Economic and Labor Department Bureau's Community Profile accurately represented the Town's population. It was noted that, as a major New England tourist resort town, the population of this community increases by at least 300% during both summer and winter

Next on the Agenda were hazard identification and the completion of Table 3.1. After reviewing the hazards from the 2008 Plan, the hazards that were chosen for this Plan were identified.

HAZARDS MITIGATION POTENTIAL TEAM MEMBERS

FEDERAL
US Forest Service

STATE
Department of Transportation
DRED
RC&D (Non-Profit)

LOCAL
Selectmen (Past/Present)
Town Manager/Administrator
Town Planner
Police Chief
Fire Chief
EMD
Emergency Services
Fire Warden
Health Services
Education/School
Recreation Directors
Public Works Director
Road Agent
Water Management
Public Utilities
Waste Management
Dam Operators
Major Employers

LOCAL - SPECIAL INTEREST
Land Owners
Home Owners
Forest Management
Timber Management
Tourism & Sportsman's Groups
Developers & Builders

EXPERTS
GIS Specialists
Watershed Oversight
Environmentalists
Media

The Team then assessed the risk severity and probability by ranking each hazard on a scale of 1-5 (5 being highest) based on the following:

The Human Impact ..... Probability of Death of Injury
The Property Impact ..... Physical Losses and Damages
The Business Impact ..... Interruption of Service
The Probability ..... Likelihood of this occurring within 25 years

The rankings were then calculated to reveal the hazards which pose the greatest risks to the community; thirteen natural hazards and four human-caused hazards were identified. After analyzing these hazards using Table 3.1, riverine flooding, localized flooding, and flooding from heavy rain and tropical storms were designated as the primary concerns. In summary, these three individual hazards represent the Town's overall largest hazard, flooding.

Having completed Table 3.1, the Team went on to provide descriptions of each hazard and how they could, or do, impact the Town of Conway. In order to gain more knowledge of the impact of these hazards, June asked the Team to describe each hazard as it relates to Conway. For example, some of the questions asked were:

- *How often do these hazards occur?*
- *Do the hazards damage either the roads or structures?*
- *Have the hazards resulted in loss of life?*
- *Are the elderly and special needs populations particularly at risk?*
- *What has been done in the past to cope with the hazards?*
- *Was outside help requested?*
- *Are the hazards further affected by an extended power failure?*

In addition to bringing more awareness to the hazards, these questions provided information to further analyze the impact of the hazards on the community. June noted that these descriptions would be used in Chapter 5.

Before adjourning the meeting, June thanked the Team for their work and assigned "homework" to the Team members. June also asked the Team to think about other hazardous events that have taken place since the last plan and to begin thinking about Critical Infrastructure and Key Resources (CIKR). The next meeting was scheduled for December 18, 2012.

Meeting 2, December 18, 2012

This meeting was extremely well attending; meeting attendance included Earl Sires, Paul DegliAngeli, David Pandora, George Walker, Stephen Solomon, Wendy Scribner, Heidi Lawton, Olin Garneau (Mapping & Planning Solutions), John Neely (USFS-WMNF), Ed Duffy (Former EMD), Richard Marr (East Conway Fire Chief), Neil Ham (Deputy Chief, Redstone Fire Department), Ray Leavitt (Center Conway Fire Chief) and June Garneau.

The meeting began with a brief review of the planning process for the new Team members and another review of the "Goals" in the format that would be used in the Plan. The Team then reviewed the work done at the previous meeting on Table 2.1 (handout) and a few minor adjustments were made. The Team agreed that the increase in population during the summer and winter (300%) and on weekends year' round placed an enormous burden on the Town's infrastructure and emergency responders.

Table 3.1, Hazard Identification & Analysis was the next to be reviewed to see if the ranking of the hazards that was done at the last meeting still appeared to be correct; the Team concurred that the ranking of the hazards represented the risk to Conway fairly accurately.

Next on the agenda were *Tables 4.1–4.4, Critical Infrastructure and Key Resources (CIKR)*. The Emergency Response Facilities, the Non-Emergency Response Facilities, the Facilities & Populations to Protect, and the Potential Resources from the 2008 Plan were examined and a few minor adjustments were made for this Plan. In addition, the evacuation routes, helicopter landing zones and bridges on the evacuation routes were identified. Each of the Critical Infrastructure and Key Resources were analyzed for their "Hazard Risk".

Lastly, the Team worked on *Table 7.1, Accomplishments since the Last Plan*. Having pre-populated the table with the implementation strategies from the 2008 Plan, June lead the Team through each strategy to determine which of these were "Completed", should be "Deleted" or should be "Deferred" to this Plan as a new mitigation action item. Many of the strategies from the 2008 Plan had been completed by the Town; some were deleted as they were felt to be no longer useful and/or were considered to be emergency preparedness, not mitigation.

June introduced Wendy Scribner from the UNH Cooperative Extension who spoke about the Community Wildfire Protection Plan (CWPP). Wendy explained that she would be integrating her plan into this Hazard Mitigation Plan and that she would be looking at areas of the community that had a particularly high risk for wildfires. A meeting was set for the five fire chiefs to meet with Wendy to discuss the CWPP in more detail.

While talking about wildfires, June took the opportunity to explain how the Wildland Urban Interface (WUI) and the Base Risk Analysis had been used in previous plans. Using GIS projection, June showed the Team *Map 1, Base Risk Analysis*, and explained the process that was used to develop the map. June explained that slope, type of fuel (i.e., softwood or hardwood) and exposure (southwest being the most susceptible) were analyzed in GIS to determine where the high, medium and low risk areas of the town were. It became obvious in *Map 1, Base Risk Analysis* that the areas that are most susceptible to wildfire/structure fires are on the slopes the mountains within privately owned conservation land, specifically, Green Hills Preserve and the Dickinson Property.

June also discussed the Wildland Urban Interface (WUI), and projected a map of the Wildland Urban Interface over the Conway base layer and topography. The WUI was determined using GIS analysis to create a 300 foot buffer from the center line of all Class I-V roads and then an additional 1320 foot buffer from the first buffer (see Map 2). This area is determined to be the area in which the urban environment interfaces with the wildland environment and the area that is most prone to the risk of wildfire/structure fires. It should be noted that although the "WUI" was defined for the purpose of this Plan, many rangers and firefighters believe that towns with substantial wooded land, such as Conway, are entirely within the Wildland Urban Interface. Using GIS analysis and 1-foot aerial imagery (2011), June explained how the number of structures in the defined WUI had been located in previous plans; however, because Wendy would be preparing a more detailed CWPP, this would be done in this plan using existing building layers only if available from the Town.

With time running out, the meeting was adjourned. June asked the Team to think about hazardous events that have taken place since the last Plan was written and set the next meeting for January 29, 2013.

Meeting 3, January 29, 2013

Attendance at this meeting included Earl Sires, Tom Irving, David Pandora, George Walker, Steve Solomon, Heidi Lawton and June Garneau.

The meeting began with a review of the work done at the previous meeting including: *Tables 4.1–4.4, Critical Infrastructure and Key Resources (CIKR)* and *Table 7.1, Accomplishments since the Last Plan.* Using projection, June went through each of the items in Table 7.1 to insure that the concepts and ideas provided by the Team were accurately represented in the table. This process took a considerable amount of time, but when completed provided one of the "building blocks" in the mitigation process were done.

The first work item on the Agenda was *Table 6.1, Current Plans, Policies, & Mutual Aid.* Looking closely at the current mechanisms in place and those that were detailed in the 2008 Plan, the Team was able to determine whether the existing policies were effective or in "need of improvement". It was explained to the Team that those items that needed improvement would become "new strategies" for this Plan and be discussed again when we got to our final table*, Table 9.1, Mitigation Action Strategies.*

Meeting 4, February 26, 2013

Attendance was light at this meeting as it turned out to be in conflict with other meetings taking place in the Town; attendance included Tom Irving, David Pandora, George Walker, Ed Duffy, Bob Boyd (NH Forests & Lands-DRED), Heidi Lawton and June Garneau. A quick review of Table 6.1 left remaining questions that would need the rest of the Team to be answered; much of the work for this table was left for the next meeting.

The Team then looked at *Table 3.2, Historic Hazard Identification* a list of past and potentially hazardous locations and/or events. First, they looked at the hazards that were listed in the 2008 Plan and determined which they would like to see kept in this Plan. The Team also examined the record of Presidential Disaster Declarations that have taken place in recent years, a record that shows substantial increase over past decades. A robust discussion of hazardous events that have taken place in the past ten years resulted in an extensive list of events, which would be reviewed again with the full team present.

Damage from Tropical Storm Irene
Transvale Acres
Photo Credit: Richard Cardona;
http://www.fema.gov/photolibrary/photo_details.do?id=51357

The meeting was adjourned and the next meeting was set for April 2, 2013.

Meeting 5, April 2, 2013

Attendance at this meeting included Earl Sires, Tom Irving, David Pandora, George Walker, Steve Solomon, Wendy Scribner, Ed Duffy, Heidi Lawton and June Garneau.

The meeting began with an overall recap of the work that had already been done. The recap included a brief look at each of the following completed tables: *Table 2.1, Town Statistics, Table 3.1, Hazard Threat Analysis, Tables 4.1-4.4, Critical Infrastructure & Key Resources and Table 7.1, Accomplishments since the Last Plan*. This review helped the Team understand how each of these tables served as a building block for the final two tables, *Table 8.1, Potential Mitigation Strategies & the STAPLEE* and *Table 9.1, The Mitigation Action Plan*.

The Team then reviewed *Table 6.1, Current Plans, Policies & Mutual Aid*. Although this had been discussed at the last meeting, June felt it needed the attention of the full team in order to be certain that the ideas and concepts of the table accurately represented the Town. From this discussion, it was determined that twelve of the establish policies/plans were in need of improvement and would be added to Table 9.1 as new mitigation action items.

Table 3.2, Historic Hazard Identification was also reviewed again now that more Team members were in attendance. Additional detail was added to the table including more detail about the effects of Tropical Storm Irene. It was also noted that three wildfires had occurred since the last Plan, the largest of which was the Lucy Brook Fire with burned 140 acres in the White Mountain National Forest in the late 2000's. Additionally, on April 22, 2013 (after this meeting) a 51-acre brushfire occurred on Dewin Road; this was added to Table 3.2 by the Planner.

With time running out, June provided handouts to the Team that listed possible mitigation strategies by hazard, the "methodology" used for the STAPLEE and an explanation of the priority and ranking procedure. The next meeting was set for May 7, 2013.

Meeting 6, May 7, 2013

Attendance at this meeting included David Pandora, Steve Solomon, Wendy Scribner, Bob Boyd, Rick DeMark (NCRC&D), Heidi Lawton and June Garneau.

June projected the final pre-populated table for the Town's review. This table, a combination of Table 8.1 and Table 9.1, enabled the Team to examine each strategy from Tables 6.1 and 7.1 that they had previously determined to be either in need of improvement or deferred for further action. The table also provided examples of mitigation strategies that had been used in other plans for review for possible inclusion in this plan.

Using Table 9.1, the Team was now able to see and understand the "Action Items" for this hazard mitigation plan. Looking carefully at each "Action Item", the Team was able to assign responsibility, the timeframe for completion, the type of funding that would be required and the estimated cost of the action. After much discussion and a careful review, ultimately, the Team settled on 25 "Mitigation Action Items" they felt were achievable and that would help to diminish the impact of natural hazards in the future.

Next, additional time was spent discussing the Community Wildfire Plan. Wendy and June explained that they hoped to have Wendy's Community Wildfire Plan presented as an addendum to this Hazard Mitigation Plan but that

the "Action Items" from the CWPP would be included in Table 9.1 of this plan. June had prepopulated Table 9.1 with the CWPP action items, so the Team was able to assign responsibilities and estimated cost as they had done for the other action items. When all was said and done, an additional ten "Mitigation Action Items" were added bringing the total to 35. One additional meeting was scheduled to wrap up Table 9.1 and the remaining mapping.

Meeting 7, June 4, 2013

Attendance at this meeting included Earl Sires, David Pandora, Steve Solomon, Wendy Scribner, Ed Duffy and June Garneau.

First on the Agenda was the STAPLEE process, a systematic method used to gauge the quality of each of the Action Items. The Social (S), Technical (T), Administrative (A), Political (P), Legal (L), Economic (E) and Environmental (E) impact for each action item was discussed; this analysis then became Table 8.1. In the end, the range of scores for the strategies was from 13-21, with 21 being the highest score; the average of all scores was 18.34. The strategies with the lowest scores, both of which involved the purchasing emergency generators for two of Conway's smaller fire stations, resulted in STAPLEE scores of 13 due to multiple reasons, including a possible lack of available land on which to put the generator and the likelihood that the tax payers will not want to fund the projects.

Using the handout that explained the ranking and priority methods, the Team first reviewed the "Action Items" and then listed the "ranking" of the strategies from 0-3, roughly in order of timeframe, the Town's authority to get the strategy accomplished and the STAPLEE score. Then within each rank, the Team assigned a priority; for example, if seven action items were ranked "1" then the priority rank was 1-7 (see explanation in Chapter 9). In this fashion, the Team was able to determine which action items were the most important within their rankings and in which order the action items would be accomplished.

With Tables 8.1 and 9.1 completed, the Team's work was complete, with the exception of some mapping details June would finish up with Chief Solomon and the final review. June agreed to put the final plan together and email a copy for the Town's review.

June thanked the Team for their hard work!

Note: Post meeting, June and Chief Solomon met at the Conway Fire Station to finalize the mapping details.

Documentation for the Planning process, including public involvement, is required to meet DMA 2000 (44CFR§201. (c) (1) and §201.6 (c) (1)). The Plan must include a description of the Planning process used to develop the Plan, including how it was prepared, who was involved in the process, and how other agencies participated. A description of the Planning process should include how the Planning team or committee was formed, how input was sought from individuals or other agencies who did not participate on a regular basis, what the goals and objectives of the Planning process were, and how the Plan was prepared. The description can be in the Plan itself or contained in the cover memo or an appendix.

K. Meeting Agendas

Meeting 1 – November 13, 2012

1) **Introduction**
   a) Evolution of Multi-Hazard Plans & Community Wildfire Protection Plans
   b) Reason for Hazard Mitigation and Update
   c) Community involvement to educate emergency responders and citizens of the town about the dangers of hazards
   d) Devise a plan that: lessens, diminishes or completely eliminates the threat of Hazards to the Town of Conway
2) **The Process**
   a) Funding
   b) Review of 12 Step Process & The Team (handout)
   c) Collaboration with other Agencies (CWPP/UNH, NCRC &D)
3) **Meetings**
   a) Community Involvement - Public Notice, Press Release
   b) Stakeholders (handout)
   c) Signing In, Tracking Time, Agendas, Narrative (handout)
4) **Today's Topics**
   a) Town Information
   b) Hazard Identification & Analysis
   c) Hazard Descriptions
5) **Next Meeting**
   a) Homework – Critical Infrastructure & Key Resources
   b) Digital Photos – contributions welcome
6) **Schedule Next 3 Meetings**
   a) _____
   b) _____
   c) _____

Meeting 2 – December 18, 2012

1) **Last Meeting**
   a) Hazard Mitigation "housekeeping"
   b) Town Information, Table 2.1 (emailed & handout)
   c) Hazard Identification & Analysis, Table 3.1 (emailed & handout)
2) **Today's Work**
   a) Review Tables 3.1, 2.1 (emailed 11/14, handout)
   b) Press Release & Stakeholders (emailed 11/15) (Daily Sun & WMWV)
   c) Review Goals (handout from last meeting)
   d) Hazard Descriptions
   e) Critical Infrastructure & Key Resources (Tables. 4.1-4)
   f) Table 7.1, Accomplishments since last Plan (time allowing)
   g) Table 6.1, Existing Plans, Policies & Mutual Aid (time allowing)
   h) Past & Potential Hazard Identification
   i) Begin work on Mitigation Action Items
3) **Homework**
   a) List hazardous events that have occurred in last five years with date, location, impact
   b) Begin thinking about possible mitigation strategies
4) **Schedule Next 3 Meetings**
   a) Tuesday, January 29, 2013 (tentative)
   b) Tuesday, February 26, 2013 (tentative)
   c) Tuesday, March 19, 2013 (tentative)

Meeting 3 – January 29, 2013

1) **Last Meeting**
   a) Reviewed Tables 3.1, 2.1
   b) Worked on Critical Infrastructure & Key Resources (Tables. 4.1-4)
   c) Worked on Table 7.1, Accomplishments since last Plan (time allowing)
2) **Today's Work**
   a) Review Table 7.1, Accomplishments since last Plan (handout)
   b) Table 6.1, Existing Plans, Policies & Mutual Aid (projection)
   c) Table 3.2, Historic Hazard Identification
3) **Next Meeting**
   a) Mitigation Action Items (handouts)
      i) Identify Action Items
      ii) Do STAPLEE
4) **Homework**
   a) List hazardous events that have occurred in last five years with date, location, impact
   b) Begin thinking about possible mitigation strategies
5) **Schedule Next 3 Meetings**
   a) Tuesday, February 26, 2013
   b) Tuesday, March 19, 2013

North Conway Village
Photo Credit: June Garneau, MAPS

Meeting 4 – February 26, 2013

1) **Last Meeting**
   a) Reviewed Table 7.1, Accomplishments since last Plan
   b) Worked on Table 6.1, Existing Plans, Policies & Mutual Aid
2) **Today's Work**
   a) Review Table 6.1, Existing Plans, Policies & Mutual Aid (emailed 2/1 & handout)
   b) Work on Table 3.2, Historic Hazard Identification
   c) Map potential and past hazardous areas
   d) Begin looking at potential new mitigation strategies (handouts)
3) **Next Meeting**
   a) Mitigation Action Items
      i) Identify Action Items
      ii) Do STAPLEE
      iii) Do Prioritizing (time allowing)
4) **Homework**
   a) Continue to think about possible mitigation strategies using handouts provided
5) **Next Meeting**

Meeting 5 – April 2, 2013

1) **Last Meeting**
   a) Review Table 6.1, Existing Plans, Policies & Mutual
   b) Worked on Table 3.2, Historic Hazard Identification (got to snowstorms)

2) **Today's Work**
   a) Complete work on Table 3.2, Historic Hazard Identification
   b) Map potential and past hazardous areas
   c) Mitigation Action Items
      i) Begin looking at potential new mitigation strategies (handouts)
      ii) Identify Action Items

3) **Next Meeting Work**
   a) Do STAPLEE
   b) Do Prioritizing
   c) Homework - Continue to think about possible mitigation strategies using handouts provided

4) **Next Meeting Date**
   a) TBD

Conway Police Department
Photo Credit: Conway Hazard Mitigation Plan, 2008

Meeting 6 – May 7, 2013

1) **Last Meeting**
   a) Review Table 6.1
   b) Completed work on Table 3.2, Historic Hazard Identification
   c) Mitigation Action Items
      i) Begin looking at potential new mitigation strategies (handouts)
      ii) Identify Action Items

2) **Today's Work**
   a) Mitigation Action Items
   b) Do STAPLEE

3) **Next Meeting Work**
   a) Do Prioritizing

4) **Next Meeting Date**
   a) Tuesday, June 4, 2013 @ 10 AM

Meeting 7 – June 4, 2013

1) **Last Meeting**
   i) Established Mitigation "Action Items" for Table 9.1
   ii) Discussed CWPP

2) **Today's Work**
   a) Continue work on Mitigation Action Items, Table 9.1
      i) Do STAPLEE
      ii) Verify "Ranking"
      iii) Do prioritizing

3) **Next Meeting Date**
   a) TBD

Chapter 2: Community Profile

A. Introduction

Conway is located on the eastern edge of Carroll County. It is bordered to the north by Chatham and Bartlett, to the west by Bartlett, Hales Location and Albany, to the south by Madison and Eaton and to the east by Fryeburg and Brownfield, Maine. Conway is comprised of five distinct village areas, Conway, Center Conway, North Conway, Redstone and East Conway. Each of these village areas has its own fire precinct and Fire Chief. Other areas of Town that are often referred to are Intervale & Kearsarge.

The most well-known of the villages of Conway is North Conway, a long-standing tourist village that attracts people from all over the world. The main street through this quintessential New England village is lined with quaint gift shops, restaurants and the famous Eastern Slopes Inn. Schouler Park in the center of the village hosts special and sporting events throughout the year and has the historic Conway Scenic Railroad Station as a backdrop. In addition, Cranmore Mountain Resort & Ski Area, two golf courses (Hale's Location and North Conway Village), two scenic covered bridges and the Mount Washington Observatory's Weather Discovery Center, are located either within the village of North Conway or nearby. North Conway village is always bustling with both locals and tourists. In another part of North Conway, locally known as the "Strip", are located many more reasons to visit the Town; shops, outlet stores, hotels, mini-golf, restaurants and even a waterpark keep the Strip one of the busiest places in New Hampshire.

Incorporated: 1763

Origin: When this 1763 charter was surveyed, the land was considered so full of inaccessible mountains and shelves of rock that the grantees requested an additional grant of land to the southeast. The petition was granted in 1764, with the additional parcel called Conway Addition. Conway was named in honor of John Montagu, fourth Earl of Conway. The Earl is most famous as the inventor of the Conway, a thin slab of meat placed between two slices of bread, which he consumed while spending a day at the gaming table. The town of Conway is in the Conway Range, with seventeen listed peaks, including Conway Dome.

Villages and Place Names: Great Rock Corner, Center Conway, Chicks Corner, East Conway, North Conway, Conway Landing, Wentworth Hill, Whiteface

Population, Year of the First Census Taken: 905 residents in 1790

Population Trends: Population change for Conway totaled 701 over 51 years, from 620 in 1960 to 1,321 in 2011. The largest decennial percent change was a 36 percent increase between 1970 and 1980; the smallest, a three percent increase between 2000 and 2010. The 2011 Census estimate for Conway was 1,321 residents, which ranked 172nd among New Hampshire's incorporated cities and towns.

Source: NH Community Profiles; 2013

North Conway is not all that Conway has to offer. Conway Village is the eastern starting point for the famous Kancamagus Highway and the gateway to the heart of the White Mountains. Conway Lake, just south of Conway Village, is home to many camps and boating and fishing enthusiasts. Kayakers enjoy the Saco River and throughout the entire town are campgrounds, public parks and hiking.

The major rivers running through the Town are the Saco and Swift Rivers, but many smaller rivers and streams permeate the landscape. The topography ranges from lush meadows and farmlands along the Saco to the peaks of the Green Hills in the north-central part of town. Black Cap Mountain, the highest point in town, rises to 2,369 feet above sea level. The lowest point is 450 feet at the Saco River[5].

Conway operates under the Town Manager form of government along with a five-member Board of Selectmen. Five fire precincts, one police station, full EMS services and a hospital are located within the Town's borders. Refer to Table 2.1 later in this chapter for more details.

[5] http://en.wikipedia.org/wiki/Conway,_New_Hampshire

Conway is located approximately a one hour drive from Portland, ME, a one-and-a-half hour drive from New Hampshire's seacoast and a two hour drive from Boston which makes travel to and from Town convenient for its many visitors. In the beautiful valley of Mount Washington, Conway truly is a wonderful place to live, work and visit.

B. Conway's Historic Past

The region that is now Conway was once home to the Pequawket Indians, an Algonquian Abenaki tribe. The Pequawket Indians fished, hunted and farmed along the Saco until their numbers dwindled from disease; the Pequawket eventually withdrew from the valley after a skirmish with white men in 1725.

Early years of settlement began when Governor Benning Wentworth gave charters to 65 men asking them to establish a village named "Conway". The first roads were built in 1766 and the meetinghouse and two schoolhouses were established by 1775. By the middle 1800's, Conway had already gained a reputation for its beautiful scenery as famous artists travelled there to paint at Artist Falls. Small-scale farming, mast building, lumbering and milling were the main pursuits of early settlers.

In the later part of the 19th century, the Boston & Maine and then the Maine Central Railroads came to Conway. With tracks running from southern New England north through Crawford Notch to Coos County and grand hotels such as the Mount Washington Hotel and the Mountain View Hotel, tourists were brought into town from up and down the East coast to visit the White Mountains. The trunk lines were also used for freight, primarily in the form of wood and wood products during the years of the Lumber Barons; not until 1911 and the passing of the Weeks Act making the way for the federal government to purchase and preserve land, did the clear cutting of the forests decline.

As the ski industry grew winter enthusiasts began to gather in Conway. Trails were cut on Cranmore Mountain and Hannes Schneider opened the Eastern Slopes Ski School in 1935. Boston and Maine's "Snow Trains" began transporting passengers from Boston in January 1931. "By the end of the season in 1934, B&M Railroad claimed to have carried more than 41,000 skiers to various parts of New Hampshire and New England since it began operation in 1931."[6]

Snow Train Flier
Credit: http://www.skinh.com

Another important time in Conway's history was in 1959 when the Kancamagus Highway was opened. This scenic highway, named for a Penacook Chief, became the highest paved road in New Hampshire.[7] The Kancamagus not only offered exceptional views of the White Mountains but also opened up travel between Conway and Lincoln. The highway is still today one of the State's main attractions.

[6]Ski NH; http://www.skinh.com/4th-and-5th-grade-programs/history-of-skiing-in-nh.aspx
[7]http://en.wikipedia.org/wiki/Conway,_New_Hampshire

C. Conway's Current & Future Development Trends

Chapter 1, A Vision and Future Land Use Plan for Conway, of the Conway Master Plan states "*The Town of Conway has changed significantly over the past twenty to thirty years. As an outdoor, recreation and retail destination the character of each village and therefore the town as a whole, especially in terms of land use, will continue to change in the future.*

During the master plan update process, public discussions about the future of Conway involved a variety of residents and stakeholders (business people, municipal officials, environmental advocates and others). While residents and stakeholders in Conway have experienced differences of opinion on many issues (most notably the proposed bypass issue)[8]*, the participants demonstrated some consensus regarding goals for Conway's future. These goals and policies, which are discussed on the next several pages, should not be regarded as an inflexible blueprint for the future development of Conway, but rather as a framework or guide for directing and managing future land use changes within the community.*

During the preparation of this master plan update, it was determined that an overall vision for the future of Conway should be articulated. The Planning Board created the following statement as an overall vision or guideline for Conway's future:

> ***Recognizing that our natural beauty is our greatest asset, our commitment is to balance growth with the needs of the environment and the community."***[9]

The Master Plan goes on to outline "Goals" along with lists of "Primary Objectives" to reach the goals. These Goals include the following (Primary Objectives can be found in the Master Plan):

*"**Housing Goal** - Due to increasing demand for housing caused by the centralized location and recreation aspects associated with Conway, coupled with a lack of housing units within lower price ranges, the Town of Conway should support the development of a range of housing choices for all ages and income levels.*

***Economic Development Goal** - Recognizing that the key economic character of the community is its tourism-based economy, future economic development initiatives should strive to diversify the employment and business establishment base within Conway.*

***Municipal Services and Infrastructure Goal** - Coordinate and harmonize existing municipal services and infrastructure providers in order to provide citizens with a high quality and efficient infrastructure and service network.*

***Roadways & Transportation Goal** - The town should use roadway improvements to enhance the character of Conway's villages, as well as introduce mechanisms and infrastructure to promote and encourage transportation system use by pedestrians and bicycle users.*

***Recreation Goal** - Promote and support a variety of recreational opportunities, including outdoor activities, for Conway residents of all ages and income levels.*

---

[8] "It should be noted that although debate between the state and representatives from the town relative to the proposed bypass is ongoing, the master plan update assumes that the bypass will be constructed based on the proposed and permitted design."

[9] Town of Conway Master Plan, Adopted May 29, 2003; Revised September 11, 2008

Sense of Community Goal *- The Town should preserve and enhance the unique design characteristics, features and identity of each village while at the same time creating locations in Conway which connects and bonds the community.*

Land Use Goal *- Regulations, policies and guidelines used to manage land development in Conway should change. In non-village portions of the town these changes should focus on targeting areas for medium and low density residential development, commercial and light industrial development, and limited development (protected areas). Village areas should be designated for a mix of high density residential, commercial and institutional uses."*[10]

In keeping with the goals of the Master Plan, Conway continues to fine tune its ordinances, zoning and subdivision regulations. However, due to the economic down-turn in New Hampshire and the rest of the US, new building has slowed in recent years. Citi-data reports that since the peak in 2004, requests for building permits for new home construction have declined each year with the exception of a slight increase in 2010; in 2011 only 17 building permits were issued (see box to right).[11]

Single-Family New House Construction Building Permits

- 1997: 21 buildings, average cost: $87,800
- 1998: 28 buildings, average cost: $89,500
- 1999: 45 buildings, average cost: $75,300
- 2000: 43 buildings, average cost: $103,500
- 2001: 65 buildings, average cost: $109,600
- 2002: 70 buildings, average cost: $125,200
- 2003: 91 buildings, average cost: $153,900
- 2004: 110 buildings, average cost: $152,500
- 2005: 98 buildings, average cost: $193,300
- 2006: 64 buildings, average cost: $159,400
- 2007: 51 buildings, average cost: $192,500
- 2008: 29 buildings, average cost: $222,500
- 2009: 17 buildings, average cost: $167,500
- 2010: 23 buildings, average cost: $202,500
- 2011: 17 buildings, average cost: $199,500

David Pandora, Conway's Building Inspector and Code Enforcement Officer, expresses some good news in the 2012 Town Report, *"2012 shows a slightly higher total in dollars and permits numbers for residential and commercial construction over last year. In 2011 the total number of single family homes constructed within the town was 17 and no new duplexes but with the new 32 unit housing development in Conway Village we had a total of 49 residences. In 2012, the total number of single-family homes constructed was 18 with no duplex units for a total of 18 new residences within the Town."*

David goes on to say, "*Commercial construction showed a minor increase in the value of new construction and renovations; the total number of permits for commercial activity is slightly above last year's numbers. In 2011 there were 101 permits and in 2012 there were 106 permits. There were 434 building permits total issued in 2012. This is higher than the 325 issued the previous year of 2011. This number reflects the total of both residential and commercial permits…This year (2013) is starting the same as last year with very few projects in the early planning stages; the few projects trying to secure approval are having difficulties*."[12]

Also stated in the Town Report, Thomas Holmes, Assessor, writes *"…In the last year, there have been several large commercial projects proposed that are currently working their way through the regulatory process. At the same time, we have some properties that have been largely vacant for quite some time. There appears to be an oversupply of smaller retail space and we have seen asking rents decline as a result. At the same time, larger, box like superstores are either expanding or looking to build on commercially zoned vacant land…"*[13]

[10] Town of Conway Master Plan, Adopted May 29, 2003; Revised September 11, 2008
[11] http://www.city-data.com/city/Conway-New-Hampshire.html
[12] Town of Conway, New Hampshire, Town Report 2012
[13] Town of Conway, New Hampshire, Town Report 2012

Also, The Conway Planning Board writes that a new hotel and restaurant, an addition to Walmart and an 80 thousand square foot retail building have been proposed and are going through the regulatory process.[14]

The Town's Selectmen, Town Manager and Boards recognize the importance of growth as outlined in the Master Plan, but also understand the impact that hazards can have on new facilities and homes if built within hazardous areas of the community. As the Planning Board clearly stated in the 2012 Town Report when writing about proposed projects "…*The Board addressed each issue with the intent to maintain compliance with and the integrity of all the current applicable regulations."*

Town officials will continue to assess and monitor any new growth and development, including critical infrastructure and key resources, in order to maintain compliance with the Town's regulations and with regards to potentially hazardous events, particularly in the flood zone areas of the town.

TABLE 2.1 STATISTICS OF INTEREST TO HAZARD MITIGATION PLANNING

Table 2.1 - Town Statistics				
Census Population Data	**2010**	**2000**	**1990**	**1980**
Conway, NH - Census Population Data	**10,115**	**8,646**	**7,973**	**7,158**
Carroll County	**47,818**	**43,918**	**35,526**	**27,929**
Elderly Population-% over 65 (Census 2010)	17.2%			
Median Age (Census 2010)	44.5			
Median Household Income (ACS 2006-2010)	$44,034			
Families below the poverty level (ACS 2006-2010)	5.1%			
Change in Population-Summer (%)	300%			
Change in Population-Winter (%)	300%			
Regional Coordination				
County	Carroll			
Regional Planning Commission	North Country Council			
Tourism Region	White Mountains			
Municipal Services & Government				
Town Manager	Yes			
Select Board	Yes; Elected - Five Member Board			
Planning Board	Yes; Elected			
School Board	Yes; Elected			
Zoning Board of Adjustment	Yes; Appointed			
Conservation Committee	Yes; Appointed			
Master Plan	Yes; 2003/2011			
Emergency Operation Plan (EOP)	Yes; 2007			
Hazard Mitigation Plan	Yes; 7/17/08			
Zoning Ordinances	Yes; 1980/12			
Subdivisions Regulations	Yes; 2011			
Capital Improvement Plan	No			

[14] Ibid

Table 2.1 - Town Statistics	
Capital Reserve Funds	Yes
Building Permits Required	Yes
Flood Ordinance	In Zoning Ordinance
Percent of Local Assessed Valuation by Property Type-2011 (NH Department of Revenue)	
Residential Buildings	68.4%
Commercial Land & Buildings	29.7%
Other (including Utilities)	1.9%
Emergency Services	
Emergency Warning System(s)	No; School: Alert Now
Police Department	Full; part & full time; 26 including Chief
Police Mutual Aid	Written with Fryeburg; statutory with area communities in State
Fire Department	5 Fire Department (independent); 5 Chiefs; 100 volunteer and full time
Fire Mutual Aid	Ossipee Valley Mutual Aid and Mt. Washington Valley Mutual Aid
Fire Stations	5 Fire Stations: Center Conway, Conway, East Conway, Redstone and North Conway
Fire Warden	Yes
Emergency Medical Services	Firefighters; Private Care Plus
Established EMD	Yes
Nearest Hospital	Memorial Hospital, North Conway; In town; 25 Beds
Utilities	
Highway Department	Yes; Full Public Works Director; 11 crew
Water Department	2 North Conway Water Precinct; Conway Village Fire District
Public Works Mutual Aid	No
Water Supply	2 North Conway Water Precinct; Conway Village Fire District; multiple small community water systems and private wells
Waste Water Treatment Plant	Yes (2)
Electric Supplier	PSNH; NH Electric Coop
Natural Gas Supplier	No
Cellular Telephone Access	Yes
Public Access Television Station	Yes; Channel 3; Conway Community TV
High Speed Internet	Yes
Telephone Company	Fairpoint; Time Warner
Transportation	
Primary Evacuation Routes	NH Route 16; NH Route 113; US Route 302 (other secondary evacuation routes are shown on Map 3)
Nearest Interstate	I-93 Exit 32 (39 Miles) or Exit 24 (49 Miles)
Nearest Airport	Eastern Slope, Fryeburg, ME, 4,200' asphalt, Lights & Navigation Aids
Nearest Commercial Airport(s)	Portland ME International Jetport; 65 Miles
	Manchester-Boston Regional Airport, Manchester, NH; 100 Miles
Public Transportation	Blue Loon, Carroll County Transit part of Tri-County CAP, Flex Route; Gibson Center
Railroad	Conway Scenic

Table 2.1 - Town Statistics	
Housing Statistics (2010 Census)	
Total Housing Units	6,921
Occupied Housing Units	4,479
Owner Occupied Units	3053
Renter Occupied	1426
Vacant Housing Units	2,442 (2,081 for seasonal, recreational or occasional use)
Other	
Elementary School(s)	3 - Grades K 1-6 (733 students) Pine Tree; Conway Elementary John Fuller School
Middle School(s)	1 - Grades 7-8 (304 students) Kennett Middle School
High School(s)	1 - Grades 9-12 (904 students) Kennett High School
Private School(s)	2 - Grades PK 1-12 (113 students) Robert Frost (charter school); Lilliputian Montessori School
SAU	SAU 9
Web Site	www.conwaynh.org
Emergency Page	No
Local Newspapers	Conway Daily Sun; Carroll County Independent; Mountain Ear
Assessed structure value (2012)	$1,054,758,665
Latest Flood Maps (DFIRMS)	March 19, 2013
National Flood Insurance Program	Yes; April 16, 1979
Conserved Land as a Percent of Total Land	
****Approximate USFS-Owned land (%)*	0.9%
****Approximate Municipality-Owned land (%)*	4.3%
****Approximate State-Owned Land (%)*	2.2%
****Approximate Private-Owned Land (%)*	17.9%
****Approximate Total Conserved Land %*	25.2%
Fire Statistics**	
Wildfire Fire Calls (12)	12 Fires; 20 Acres Burned
Carroll County Fire Statistics (12)	25 Fires; 5.5 Acres Burned
State Forest Fires FY (12)	318 Fires; 206 Acres Burned
**Information derived using GIS Analysis*	
***Information derived from the NH Division of Forests and Lands, Fire Warden & State Forest Ranger Report, November 2011; http://www.nhdfl.org/fire-control-and-law-enforcement/fire-statistics.aspx and from Town of Conway*	
Information found in Table 2.1, unless otherwise noted, was derived from the Economic & Labor Market Information Bureau, NH Employment Security, 2012. Community Response Received 8/31/12; http://www.nh.gov/nhes/elmi/htmlprofiles/pdfs/Conway.pdf and from the Town of Conway.	

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 3: Hazard Identification

A. Description of the Hazards

The first step in hazard mitigation is to identify hazards; the Team determined that fifteen natural hazards have potential to affect the community. Based on estimates of the potential impact, these hazards were broken down to the following categories. The categories below and in Table 3.2 were designated based on a simple analysis of the data in Column F in Table 3.1 and relative "grouping" of the hazards according to the "Relative Threat". No other criteria was used except to see what data "breaks" made sense

Natural hazards which are ***most*** likely to affect Conway:

1) Flooding: Riverine
2) Flooding: Local
3) Flooding: Hurricane & Tropical Storms
4) Severe Winter Weather
5) Wildfire

Natural hazards which ***may*** affect Conway:

6) Extreme Temperatures
7) Tornado
8) Erosion (river
9) High Winds
10) Downbursts

Natural hazards which are ***less likely*** to affect Conway are:

11) Drought
12) Earthquake
13) Hailstorm

Table 3.1 (following page) provides estimates of the level of impact each listed hazard could have on humans, property and business and averages them to establish an index of "severity". The estimate of "probability" for each hazard is multiplied by its severity to establish an overall "relative threat" factor. This matrix also shows the frequency of future occurrence (based on a 25-year window).

Based on this matrix, the most significant natural disaster threat to Conway is Riverine Flooding. The second most likely threat is Local Flooding and the third is Flooding as a result of Hurricane & Tropical Storms. However, it should be noted that four human-caused hazards were discussed by the Team including Hazardous Material-Transport, Hazardous Material-Fixed Location, Terrorism and Epidemic & Pandemic.

Hurricane Irene, which had been downgraded to a tropical storm by the time it hit Conway, resulted in very significant flooding and damage to structures in multiple parts of town. In light of this recent, it should be noted that hurricanes damage in Conway, as a result of both wind strength and flash flooding, may again create road closures and damage; however, the likelihood of major hurricanes to reach Conway is small, as is the likelihood of high category hurricanes occurring in New England in general.

TABLE 3.1: HAZARD THREAT ANALYSIS

Hazards which are **most likely** to affect Conway.	***A natural hazard is a source of harm or difficulty created by a meteorological, environmental, or geological event.***
Hazards which **may affect** Conway.	
Hazards which are **less likely** to affect Conway.	

Column	**A**	**B**	**C**	**D**	**E**	**F**
Scoring	Probability of death or injury	Physical losses and damages	Interruption of service	Likelihood of this occurring within 25 years	Average of Human, Property & Business Impact	Relative Threat
1 = Very Low						
2 = Low						
3 = Moderate						
4 = High					Columns	Columns
5 = Very High					A+B+C/3	D x E
Natural Hazards	**Human Impact**	**Property Impact**	**Business Impact**	**Probability**	**Severity**	**Risk Severity x Probability**
(1) Flooding: *Riverine*	2.00	4.00	3.00	5.00	7.00	35.00
(2) Flooding: *Local*	3.00	2.00	2.00	5.00	5.67	28.33
(3) Flooding: *Hurricane & Tropical Storms*	4.00	4.00	4.00	3.00	9.33	28.00
(4) Severe Winter Weather	4.00	3.00	3.00	3.00	8.00	24.00
(5) Wildfire	2.00	3.00	2.00	4.00	5.67	22.67
(6) Extreme Temperatures	4.00	2.00	1.00	3.00	6.33	19.00
(7) Tornado	4.00	4.00	4.00	2.00	9.33	18.67
(8) Erosion: Riverine	1.00	2.00	2.00	5.00	3.67	18.33
(9) High Winds	2.00	2.00	2.00	3.00	4.67	14.00
(10) Downbursts	2.00	2.00	2.00	3.00	4.67	14.00
(11) Drought	2.00	2.00	2.00	2.00	4.67	9.33
(12) Earthquake	2.00	2.00	2.00	2.00	4.67	9.33
(13) Hailstorm	1.00	1.00	1.00	3.00	2.33	7.00
Man-made Hazards	**Human Impact**	**Property Impact**	**Business Impact**	**Probability**	**Severity**	**Risk Severity x Probability**
(1) Hazard Material - Transport	4.00	4.00	4.00	2.00	4.00	8.00
(2) Hazard Material - Fixed	4.00	4.00	4.00	2.00	4.00	8.00
(3) Terrorism	4.00	3.00	4.00	2.00	3.67	7.33
(4) Epidemic & Pandemic	4.00	2.00	4.00	2.00	3.33	6.67

B. Risk Assessment

The next step in hazard mitigation planning was to identify the location of past hazard events and, if possible, what facilities or areas were impacted. The Team used Table 3.1, Hazard Threat Analysis, to identify potential threats and prioritize their threat potential. The Team then used a base map that included the 100-year floodplain, political boundaries, water bodies, the road network and aerial photos to locate all of the past hazard events on the base map. This step in the planning process serves as a stepping stone for predicting where future hazards could potentially occur. The Team identified past events in Conway, Carroll County and the State and listed them in *Table 3.2, Historic Hazard Identification.*

To assess the fire base risk, a formula based on the following criteria was used:

- ***Ignitability –*** *Using the 2001 NH Land Cover Assessment GIS Layer - A value between 0 and 9 was assigned based on ignitability to 23 land cover categories from open water to pitch pine forest.*
- ***Slope*** *- A value of 1-10 was assigned to various gradients of slope.*
- ***Aspect*** *- A value of 0-8 was assigned to various aspects from flat to southwest facing slopes.*

These criteria were combined using GIS analysis and weighted equally to determine risk levels throughout the Town. Once the analysis and mapping was complete in GIS, a matrix was created showing varying risk levels: low, medium, and high. Each risk level was assigned a color and was mapped over a base-map of the Town, see Appendix F: Map Documents, *Map 1: Base Risk Analysis*

Center Conway Fire & Rescue
Photo Credit: June Garneau, MAPS

C. Conway National Flood Insurance Program (NFIP) Status

Conway has been a member of the National Flood Insurance Program since; April 16, 1979. Using GIS analysis and the most recent Carroll County DFIRM, it was found that Conway has approximately 8.2 square miles of land in the 100-year floodplain and .34 square miles of land in the 200-year floodplain; these combined floodplains represent approximately 12% of the total area of Conway. The floodplain areas of Conway are primarily along the Saco River which has been known to flood its banks in the past. The most recent FEMA DFIRM is dated March 13, 2013. The floodplain can be seen in *Map 5, FEMA Floodplain & Past Hazards*, located in Appendix F of this plan.

According to the NH Office of Energy and Planning, 67 claims have been filed since 1978, but only 50 were paid for a total of $787,547 in losses. Of the 50 claims that were paid, 41 were single-family homes and 9 were considered non-residential. A total of 91 NFIP policies were reported to be in effect as of 10/31/12. There have been no repetitive loss properties in Conway. [15]

In 1968, although well-intentioned government flood initiatives were already in place, Congress established the National Flood Insurance Program (NFIP) to address both the need for flood insurance and the need to lessen the devastating consequences of flooding. The goals of the program are twofold: to protect communities from potential flood damage through floodplain management, and to provide people with flood insurance.

For decades, the NFIP has been offering flood insurance to homeowners, renters and business owners, with the one condition that their communities adopt and enforce measures to help reduce the consequences of flooding.

Source: http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp

The Town of Conway, in particular an area known as Transvale Acres, suffered severe flooding during Tropical Storm Irene. It should be noted that the Town has bought out 13 properties and has requested bids to demolish ten properties in Transvale Acres (see block to right; Town website, Notices).

TOWN OF CONWAY
REQUEST FOR DEMOLITION BIDS FOR 10 PROPERTIES IN TRANSVALE ACRES, CONWAY, NH

The **Town of Conway** is requesting bids for demolishing and removing debris from 10 properties. There is a **MANDATORY** Pre-bid meeting scheduled for Wednesday, September 11, 2013, 10:00 AM at Transvale Acres. **Bids will not be accepted from contractors who do not attend the pre-bid meeting.** Bid packages are available at Town Hall, Public Works Dept. (603-447-3811, Ext.123), or on our website www.conwaynh.org . Bids are due by **2:00 PM, Thursday, September 19, 2013, at which time they will be publically opened and read aloud,** at Town Hall, Public Works Dept., - 1634 East Main Street, Center Conway, NH 03813. Bids shall be delivered in a sealed envelope labeled

Conway's zoning, site plan, subdivision and wetlands regulations meet or exceed all state regulations with regards to building or substantially improving properties in the floodplain. The Planning Director, Planning Board and all other regulatory boards within the Town are aware of and comply with the National Flood Insurance Program.

Chapter 147-Zoning Ordinance (revised April 9, 2013) contains section 147.13.14 Floodplain Conservation Overlay (FCO) District. This section of the Zoning Ordinance clearly defines the regulations pertaining to all development in special flood hazard areas designated by FEMA in "its Flood Insurance Study for the County of Carroll, N.H. dated March 19, 2013, together with the associated "Flood Insurance Rate Maps dated March 19, 2013, which are declared to be part of this ordinance and are hereby incorporated by reference."[16]

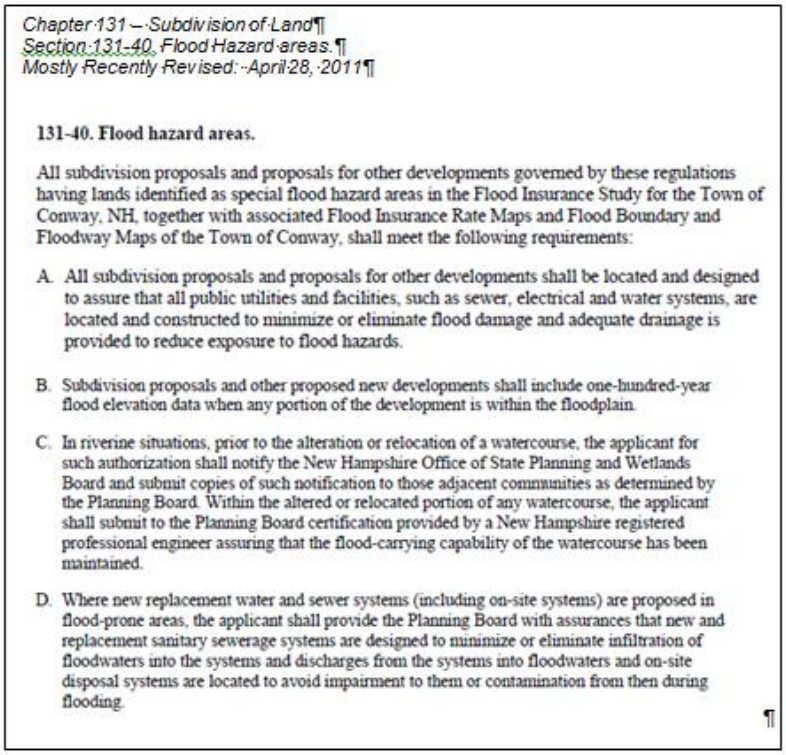
Repetitive Loss means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Source: *http://www.nh.gov/oep/programs/floodplainmanagement/floodinsurance.htm*

[15] NH Office of Energy & Planning; Jennifer Gilbert; email dated December 18, 2012
[16] Town of Conway, Chapter 147, Zoning Ordinance, April 9, 2013, Chapter 146-Zoning Ordinance, p. 161

As a very well-planned and progressive community, the Town of Conway meets or exceeds the requirements of the NFIP. The planning mechanisms that are in place bring new construction and/or substantial improvements under scrutiny by the Planning Board, Zoning Board and the Town Manager.

Because Conway's designated Special Flood Hazard Area has been significantly impacted in the past, the Team felt that it is worthwhile to have NFIP brochures and information available at the Town Office for current homeowners and potential developers and to continue to offer public outreach on flood mitigation strategies (see Action Item #6, Tables 8.1 & 9.1). In addition, Action Item #10 outlines the procedures the Town is taking to mitigate the flooding in Transvale Acres, the area that was hardest hit during Tropical Storm Irene.



Chapter 131 – Subdivision of Land
Section 131-40, Flood Hazard areas.
Mostly Recently Revised: April 28, 2011

131-40. Flood hazard areas.

All subdivision proposals and proposals for other developments governed by these regulations having lands identified as special flood hazard areas in the Flood Insurance Study for the Town of Conway, NH, together with associated Flood Insurance Rate Maps and Flood Boundary and Floodway Maps of the Town of Conway, shall meet the following requirements:

A. All subdivision proposals and proposals for other developments shall be located and designed to assure that all public utilities and facilities, such as sewer, electrical and water systems, are located and constructed to minimize or eliminate flood damage and adequate drainage is provided to reduce exposure to flood hazards.

B. Subdivision proposals and other proposed new developments shall include one-hundred-year flood elevation data when any portion of the development is within the floodplain.

C. In riverine situations, prior to the alteration or relocation of a watercourse, the applicant for such authorization shall notify the New Hampshire Office of State Planning and Wetlands Board and submit copies of such notification to those adjacent communities as determined by the Planning Board. Within the altered or relocated portion of any watercourse, the applicant shall submit to the Planning Board certification provided by a New Hampshire registered professional engineer assuring that the flood-carrying capability of the watercourse has been maintained.

D. Where new replacement water and sewer systems (including on-site systems) are proposed in flood-prone areas, the applicant shall provide the Planning Board with assurances that new and replacement sanitary sewerage systems are designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters and on-site disposal systems are located to avoid impairment to them or contamination from them during flooding.

NATIONAL FLOOD INSURANCE PROGRAM

The Town of Conway, through its floodplain management and other best practices, complies with the National Flood Insurance Program requirements. The Team understands that the benefits of the NFIP extend to structures that are not in the 100-year floodplain. The Town continues to work with the Office of Energy and Planning and will carefully monitor its continued compliance with the NFIP.

D. Profile of Past, Present & Potential Wildfire/Structure Fire Events in Conway

Historic fires can serve to help residents determine where future fires may occur, understand how the landscape and land use may have changed over time, and assist with determining priorities for future mitigation strategies.

The Conway Planning Team noted that very few significant wildfires have occurred in Conway in the recent past but that many of the community's residences are located in the Wildland Urban Interface (WUI). It was noted that if the right conditions were in place, a large wildfire could occur. Conway's forested lands include many of the factors associated with potential wildfire including steep terrain, a significant softwood forest and large areas where clear cuts and blow downs have occurred.

As an Addendum to this Plan, a Community Wildfire Protection Plan was produced which outlines specific areas in Conway that are, or could be, problematic for the Conway Fire Precincts. Members from each of the five precincts participated in a study of the problematic areas and in the creation of the CWPP. Please refer to the Community Wildfire Protection Plan Addendum for more detail on wildfire/structure fire in Conway.

E. Probability of Future Potential Disasters

Due to Conway's geographic location, forested lands, steep hills, heavy snow pack and topography, there is always a possibility of future disasters in Conway. The Town of Conway has been impacted in the past by natural disasters, including flooding, river ice jams, lightning, severe winter storms, severe wind and hurricanes. In addition, the potential exists for tornado and earthquake damage.

The three hazards of most concern, based on the analysis done in Table 3.1, were all flood-related. Riverine flooding, flooding on local roads and flooding as a result of hurricanes or tropical storms are the top three hazards listed by the Team. During Tropical Storm Irene, Conway experienced all three of these hazards: the Saco River flooded, local roads were made impassable because of overwhelmed culverts and the heavy rain created flooded ground and basements.

There is a high probability of flood-producing storms in the future. Chief Solomon's report in the Conway 2012 Town Report perhaps describes the potential for future disasters best.

"Emergency Management was active again in 2012. ***We had no storms as big as Irene, but we did have multiple, smaller flooding events to deal with*** *as well a continuing our standard planning and preparatory items. We continue to work with the schools on safety and preparedness and are in the process of updating both our hazard mitigation plan and our emergency operations plan. In addition, recovery from Tropical Storm Irene continues.*

This year, I have asked the Selectmen to put forth a warrant article for a generator at the rec center. We have designated that as our primary shelter location, but it lacks back up power. I hope you can see your way clear to vote for it.

I would also like you to think about your family's preparedness. ***We are in a cycle now in which all the experts tell us to expect more frequent and more severe weather events.*** *If you and your families are prepared to ride these storms out, the impact to you personally and to the Town as a whole will be less. If you are prepared to stay at home without electricity and have food, water, and heat to last 3 days to a week that does not require electricity, you will manage a severe storm much better than those that are evacuated or rescued and end up in a shelter.*

To put these events in perspective, I have been in the fire service and emergency management since February of 1990, 23 years. In the first half of my career (call it February of 1990 to August of 2001), there were 8 declared disasters in New Hampshire. In the second half (September 2002 to present), there have been 15. There are no tricks, or changes in what qualifies as a disaster in that time period. The frequency is on the rise. Five of those fifteen are within the last 2 years

For more information on family preparedness, check out readynh, or ready.gov."[17]

Any potential disaster in Conway is particularly impactful if combined with power failure, as would most likely be the case with severe winter storms, blizzards, hurricanes and ice storms. Unlike other smaller towns in the area, Conway has large grocery and big-box stores, but these too could become overwhelmed, particularly if the hotels and motels in town are full. Any power failure lasting for more than a few days would have a significant impact on not only the emergency response but on the populace in general. An outage during the winter months could result in frozen pipes and the lack of water and heat, a particular concern for the Town's elderly citizens (17.2% of the population). In addition, winter in New England commonly brings very low temperatures, while high temperatures can be experienced in the summer.

[17] Town Report, Town of Conway,2012, page 54, Emergency Management Director

The major road systems which pass through Conway are fairly well-developed; however there are minor roadways that are dark, narrow, winding and bumpy; when affected by flooding, winter snow conditions and ice they become treacherous. In these conditions, vehicular accidents, wildlife collisions and truck accidents involving hazardous materials are always a possibility.

Table 3.1, Table 3.2 and Chapter 5, Section B provide more information on past and potential hazards in Conway.

TABLE 3.2: HISTORIC HAZARD IDENTIFICATION

2008 HMPT = 2008 Hazard Mitigation Planning Team
2014 HMPT = 2014 Hazard Mitigation Planning Team

Type of Event	Date	Location	Extent	Source
Past Flooding Hazards: Riverine flooding is the most common disaster event in the State of New Hampshire (aside from frequent inconveniences from rather predictable moderate winter storms). Significant riverine flooding impacts upon some areas in the State in less than ten year intervals. The entire State of New Hampshire has a high flood risk. Areas prone to flooding and road erosion are indicated on **Map 5.**				
Specific flood record for the Community & Recent Presidential Declarations & Emergency Declarations				
Flooding	1938	Route 16 (West Main Street) at the outlet for Pequawket Pond.	The 1938 hurricane impacted New Hampshire with flooding and strong winds; the Conway Village area flooded with several feet of water.	2008 & 2014 HMPT
Flooding	Mar-53	Saco River in Conway	The March 1953 flood was the largest flood in over 100 years on the river; the flood was caused by spring snowmelt augmented by heavy rain; nine inches of rain fell in the headwater area at Pinkham Notch and 7 inches at Fryeburg, Maine; this flood caused Pequawket Pond in Conway to flow over Main Street and into many buildings; it also overtopped Westside Road at the south end of the Swift River covered bridge.	2008 & 2014 HMPT
Flooding	1963	Saco River in Conway	A major flood occurred in 1963; it was considered to be a 50-year event and flooded Eastern Slopes Campground and several parts of West Side Road.	2008 & 2014 HMPT
Flooding	Jun-73	Saco River Basin	During the last four days of June 1973, a strong moist tropical airflow in association with a stationary frontal system resulted in moderate to heavy shower activity over much of the Saco basin; rainfall of over 9 inches at Pinkham Notch and 4 inches at Conway resulted in the fourth largest flood on the Saco River since 1900; North Conway Country Club and Seavey's Garage in Conway suffered great damage during this event.	2008 & 2014 HMPT

Type of Event	Date	Location	Extent	Source
Flooding	1973	Thompson Road	A heavy rain caused the undersized culvert to fail causing overtopping of the road with water.	2008 & 2014 HMPT
Flooding	1987	Conway Village	Saco flooded all the way to Fryeburg, ME; flooded basements, road closures and other parts of the community (very similar to Tropical Storm Irene).	2014 HMPT
Flooding	2004 (Every other year before that)	Artist Falls Road at Kearsarge Brook	Flood caused by heavy rain events closes the road at this location; caused by a low point in the road.	2008 & 2014 HMPT
Flooding	Periodically	Valley West Road	Flood caused by heavy rain events closes the road at this location and isolates 14 homes blocking access completely.	2008 & 2014 HMPT
Flooding	Periodically	West Side Road by River Road	Flood caused by heavy rain events closes the road at this location.	2008 & 2014 HMPT
Flooding	Periodically	West Side Road at Swift River	West Side Road floods annually at this location also, with River Road flooding at the same time, isolation of the west side of Conway occurs.	2008 & 2014 HMPT
Flooding	3-5 time per years	Transvale Acres	This area floods and there can be anywhere between 3 and 10 feet of water; people have had to be rescued by boat several times.	2008 & 2014 HMPT
Flooding	Periodically	River Road at Saco River	River Road floods at this location and blocks access to the west side of Conway making it very hard for residents to access their homes and/or emergency vehicles to respond to the potential needs of the population.	2008 & 2014 HMPT
Flooding	Periodically	West Side Road at Moat Brook	The road floods at this location approximately every 3 years.	2008 & 2014 HMPT
Flooding	Periodically	Route 153 at the outlet of Snake Pond	The road floods and the flood waters block the road to traffic.	2008 & 2014 HMPT
Flooding	Periodically	Dollof Hill Road at the outlet of Dollof Pond	The road floods periodically and flood waters block access for traffic.	2008 & 2014 HMPT
Flooding	Periodically	River Street (Route 113) between the Maine border and East Conway Road intersection	The Saco River floods and impacts the road at this location. Water moves up to the Route 113 and East Conway road intersection.	2008 & 2014 HMPT

Type of Event	Date	Location	Extent	Source
Flooding (Ice Jam)	2011 & Future Potential	Saco River at Abenaki Drive	An ice jam on the Saco River created a flood; the water rose 20 feet from normal level of river; Saco Pines development where there are 24 condominiums (3 buildings) experienced flooding, water came to within 7-8 feet of the buildings.	2008 & 2014 HMPT
Flooding (Ice Jam)	Periodically	Saco River at Bryant Drive	Ice jams on the Saco River created flooding situations on Bryant Drive; the water rises within 17 to 20 feet of the structures. There are 4 or 5 homes in this area.	2008 & 2014 HMPT
Flooding & Severe Storms	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	**Presidential Disaster Declaration: DR-1643:** Flooding in most of southern NH between May 12-23, 2006; Conway had ditch erosion but no other major damage.	2014 HMPT & FEMA
Flooding, Nor'easter & Severe Storms	April 15, 2007	All Ten NH Counties	**Presidential Disaster Declaration: DR-1695:** flood damages; FEMA & SBA obligated more than $27.9 million in disaster aid following the April nor'easter; lot of snow and a few roof collapses; isolated power loss with heavy wet snow and rain; some culverts overwhelmed from heavy rains resulting in road closures.	2014 HMPT & FEMA
Flooding & Severe Storms	July 24-August 14, 2008	Belknap, Carroll & Grafton & Coos	**Presidential Disaster Declaration: DR-1787:** Severe storms, tornado, and flooding on July 24, 2008; tornado did not reach Conway; Conway not severely impacted by heavy rain.	2014 HMPT & FEMA
Flooding; Tropical Storm Irene	August 26-September 6, 2011	Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	**Presidential Disaster Declaration: DR-4026:** Tropical Storm Irene Aug 26th-Sept 6, 2011; significant damage to Transvale Acres and loss of power; lost a municipal well; flooding on roadways; evacuations; shelter open for 10 days; damage to commercial campgrounds; road erosion on West Side Road & Cranmore Shores; limited damage to other residential structures; damage to Covered Bridge in Conway (tree fells down onto bridge); erosion in Hussey Field Recreation area.	2014 HMPT & FEMA

Type of Event	Date	Location	Extent	Source
Past or Potential Wildfire Hazards: New Hampshire is heavily forested and is therefore vulnerable to wildfire, particularly during periods of drought. The proximity of many populated areas to the state's forested lands exposes these areas and their populations to the potential impact of Wildfire. Wildfires were **not mapped.**				
Wildfire	1912	Swift River Area	One Thousand acres burned. (See State Hazard Mitigation Plan)	2008 HMPT
Wildfire	1914	Rock Branch	Over ten thousand acres burned. (See State Mitigation Plan)	2008 HMPT
Wildfire	1947	NH to the Atlantic Ocean	Brownfield Fires; several fires in Maine that spread to the Atlantic Ocean; also fires in NH at (Purity Springs Resort (Madison), Bald Ledge (Madison & Freedom) and at Camp Robinhood Fire (Freedom Pine Barrens).	2014 HMPT
Wildfire	1953	Shaw Mountain in Ossipee	**Presidential Disaster Declaration: DR-11:** This fire took place in the Pine Barrens region of east-central NH; the Towns of Tuftonboro, Moultonborough & Ossipee were involved; National Guard and Navy assisted; 2500 acres burned.	2014 HMPT & FEMA
Wildfire	Spring 1957	Madison & Freedom	The New England Box Fire; site of today's Madison Lumber Mill; started at incinerator at the saw mill; burned 2500-3000 acres.	2014 HMPT
Wildfire	Approx. 1997	Dollof Hill Road	Five acres burned.	2008 HMPT
Wildfire	2000	Whitaker Woods	Three acres burned.	2008 HMPT
Wildfire	Aug-02	Black Cap Mountain	Three acres burned due to a lightning strike; difficult access.	2008 & 2014 HMPT
Wildfire	Mid 2000's	Pine Hill	Pine Hill Fire; all woods fire; no structures damaged	2014 HMPT
Wildfire	2006	Sargent Road	Two to three acres of forest burned.	2008 HMPT
Wildfire	Apr-06	Potter Road (Eaton)	Three or more acres burned.	2008 HMPT
Wildfire	May-07	Highlands Drive	One acre of forest burned at Rockhouse Mt. was identified as an area of concern for wildfire.	2008 HMPT
Wildfire	Late 2000's	Moat Mountain	Lucy Brook Fire in the WMNF; 140 acres; no structures damaged, all woods fire; suspected cause was human caused	2014 HMPT
Wildfire	2008, 2009, 2010, 2012	Behind TJ Maxx	Arson; human caused fires at the old drive-in site; each fire was more than 1 acre (piece of pine barrens); arsonist still at large.	2014 HMPT

Type of Event	Date	Location	Extent	Source
Wildfire	Spring 2012	Sargent Road	Three acres, illegal burn; human caused	2014 HMPT
Wildfire	August-13	Greenhill Road	51 acres burned as a result of target shooting with tracers rounds that ignited dry grass/brush	2014 HMPT
Past or Potential Tornado, Downburst, Microburst & Hurricane Hazards: Tornados are spawned by thunderstorms and, occasionally by hurricanes, and may occur singularly or in multiples. A downburst is a severe localized wind blasting down from a thunderstorm. Downburst activity is very prevalent throughout the State, yet most go unrecognized unless significant damage occurs. Hurricanes develop from tropical depressions which form off the coast of Africa. New Hampshire's exposure to direct and indirect impacts from hurricanes is real, but modest, as compared to other states in New England. These hazards were **not mapped**.				
Specific high wind event record for the Community & Recent Presidential Declarations & Emergency Declarations				
Hurricane Katrina Evacuation	Aug-05	All Ten NH Counties	**Presidential Emergency Declaration: EM-3258:** Assistance to evacuees from the area struck by Hurricane Katrina and to provide emergency assistance to those areas beginning on August 29, 2005.	FEMA
Downburst	2006	Route 16 at Banners Restaurant	Downburst winds brought some trees down in that area. It also knocked down power in the Center Conway village.	2008 HMPT
Tornado, Severe Storms & Flooding	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	**Presidential Declaration: DR-1782**: Tornado damage to several NH counties; damage did not extend to Conway; Conway sent fire and ambulance to the damaged area.	2014 HMPT & FEMA
Hurricane Irene	August 26-September 6, 2011	All Ten NH Counties	**Presidential Emergency Declaration: EM-3333:** Emergency Declaration for Tropical Storm Irene for in all ten counties (see Flooding above for Irene's effect in Conway)	2014 HMPT & FEMA
Hurricane Sandy	October 26-November 8, 2012	All Ten NH Counties	**Presidential Emergency Declaration: DR-4095 & EM-3360:** Emergency Declaration for Hurricane Sandy for in all ten counties; Conway received about 1" of rain and minor flooding.	2014 HMPT & FEMA

Type of Event	Date	Location	Extent	Source
Past or Potential Severe Winter Weather Hazards: Severe winter weather in New Hampshire may include heavy snow storms, blizzards, Nor'easters, and ice storms (particularly at elevations over 1500 feet). Generally speaking, New Hampshire will experience at least one of these hazards during any winter season. Most New Hampshire communities are well prepared for such hazards. These hazards were **not mapped.**				
Specific ice and snow storm event record for the Community & Recent Presidential Declarations & Emergency Declarations				
Snow	1969	Town-wide	Major snowstorms brought large amounts of snow to Conway and all of northern NH; snow was measured in feet; roads were plowed with loaders and bulldozers; snow banks were over 7' high; roads were closed which made emergency response difficult; in Conway the 1969 storms impacted structures with damage to buildings.	2008 & 2014 HMPT
Snow	1978	Town-wide	**Presidential Declaration: DR-549;** Major snow storm in southern New England, but heavy snow also reached Conway; heavy equipment needed to be used to remove snow; area schools closed for a week and snowmobiles were used for transportation.	2014 HMPT
Ice Storm	January 7, 1998	State & Town-wide	**Presidential Declaration: DR-1199;** 1998 was a disastrous storm in Conway; some without power for up to two weeks; most devastation was at elevations of 700' or more; South Conway lost power for 3-5 days and Center Conway for about 1/2 a day; hardwood trees at elevation above 300 feet were damaged.	2008 & 2014 HMPT & FEMA
Snow	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	**Presidential Emergency Declaration: EM-3193:** The declaration covers jurisdictions with record and near-record snowfall that occurred over the period of December 6-7, 2003	FEMA
Snow	January, 22-23, 2005	Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan	**Presidential Emergency Declaration: EM-3207:** Total aid for the January storm is $3,658,114.66 (Carroll County: $52,864.23)	FEMA
Snow	February 10-11, 2005	Carroll, Cheshire, Coos, Grafton & Sullivan	**Presidential Emergency Declaration: EM-3208:** Total aid for the February storm is **$1,121,727.20** (Carroll County: $91,832.72)	FEMA

Type of Event	Date	Location	Extent	Source
Snow	March 11-12, 2005	Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	**Presidential Emergency Declaration: EM-3211**: Total aid for the March storm is $2,112,182.01 (Carroll County: $73,964.57)	FEMA
Snow	January, February & March 2005	All Ten NH Counties	**EM 3208-002:** The Federal Emergency Management Agency (FEMA) has obligated more than $6.5 million to reimburse state and local governments in New Hampshire for costs incurred in three snow storms that hit the state earlier this year, according to disaster recovery officials. Total aid for all three storms is $6,892,023.87 (January: $3,658,114.66; February: $1,121,727.20; March: $2,113,182.01)	FEMA
Ice Storm & Snow Storm	December 11-23, 2008	County & Town Wide	**Presidential Declaration: DR-1812 & Emergency Declaration: EM-3297;** damaging ice storms to entire state including all ten NH counties (Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan); fallen trees and large scale power outages; five months after December's ice storm pummeled the region, nearly $15 million in federal aid had been obligated by May 2009; Conway was not impacted; facilitated aid to other towns.	FEMA & 2014 HMPT
Snow	Winter of 2008	Town & State Wide	The winter brought several storms to New Hampshire resulting in high accumulation; in Conway there were multiple building collapses, occupied structures, a daycare and a multi-million building collapse (highest loss value in the state); accumulation of heavy snow over the course of the winter; large scale campaign to shovel roofs; showed that in spite of public outreach, not enough people did not heed warning.	2014 HMPT
Severe Storm	October 29-30, 2011	All Ten NH Counties	**Presidential Emergency Declaration: EM-3344:** Severe storm during the period of October 29-30, 2011. - All ten counties in the State of New Hampshire (aka: Snowtober).	FEMA
Severe Storm	Feb-13	All Ten NH Counties	**Presidential Emergency Declaration:** DR-4105: Nemo; heavy snow in later winter 2013; no major impact in Conway	FEMA & 2014 HMPT

Type of Event	Date	Location	Extent	Source
Past or Potential Earthquake Hazards: According to the NH State Hazard Mitigation Plan, New Hampshire is considered to lie in an area of "Moderate" seismic activity when compare to other areas of the United States, and is bordered to the North and Southwest by areas of "Major" activity. Generally, earthquakes in NH cause little or no damage and have not exceeded a magnitude 5.5 since 1940. These hazards were **not mapped**.				
Earthquakes	December 1940 (2)	Ossipee, NH	Magnitude 5.5 felt in two separate earthquakes	See below
Earthquakes	1947 (2), 1951, 1957, 1962, 1973, 1982, 2011	New England	Small earthquakes felt in New England measuring from 4.2 to 4.7 magnitude	See below
Earthquakes	October 2012	Northern New England	An earthquake measuring 4.6 on the Richter Scale with an epic center in Hollis, ME (just over the NH) was felt throughout New Hampshire and as far south as Rhode Island; buildings shook for 10-30 seconds but no damage was reported; affect was complete disruption of the telecommunication systems in Conway and in other part of the State.	FEMA & 2014 HMPT
Past or Potential Drought Hazards: Droughts are generally not as damaging or disruptive as floods, but are more difficult to define. A drought is a natural hazard that evolves over months or even years and can last as long as several years to as short as a few months. These hazards were **not mapped**.				
Drought	1929-1936	Town & State Wide	Regional	See below
Drought	1939-1944	Town & State Wide	Most severe in southeast	See below
Drought	1947-1950	Town & State Wide	Moderate	See below
Drought	1960-1969	Town & State Wide	Regionally, longest recorded continuous spell of less than normal precipitation	See below
Drought	2001-2002	Town & State Wide	Third worst drought on record	See below
Other Past or Potential Hazards: Man-made hazards and other unusual hazardous events have been noted throughout NH. These hazards are **not mapped.**				
Erosion	Ongoing	Saco River	Erosion along the Saco River is continuous; many have tried mitigation strategies but most of these have failed to correct or delete the chance for more river erosion; there are some properties located close to the Saco including a mobile home, two cottages off Burbank Road, a home and business and sections of the railroad tracks.	2008 HMPT
Man-Made	1976	Meetinghouse Road	Covered bridge burned down. The fire was started by vandals. The bridge was never rebuilt.	2008 HMPT

Type of Event	Date	Location	Extent	Source
Man-Made	1979	Maine Central Railroad over the Saco River	Train derailment close to the Saco River Bridge.	2008 HMPT
Man-Made	1992-1993	Route 302	Tractor-trailer fuel truck overturned but the spill was quickly contained and no major impact was sustained.	2008 HMPT
Man-Made	Annually	Transvale Acres	During flooding events, the water washes out debris (cars, propane tanks, picnic tables, etc.) as well as septic tanks content creating water contamination and possible safety issues.	2008 HMPT
Hazard Material - Fixed	**Although the Team did not identify specific examples of past occurrences of these hazards, it was felt worthwhile to list them as potential hazards to the Town. See Hazard Threat Matrix (Table 3.1) and Chapter 5 for more details on these hazards.**			
Hailstorm				
Extreme Temperatures				
Terrorism				
Epidemic & Pandemic				

*Historic hazard events were derived from the following sources unless noted otherwise:

- Website for NH Disasters:http://www3.gendisasters.com/mainlist/newhampshire/Tornadoes
- FEMA Disaster Information: https://www.fema.com/femaNews/disasterSearch.do
- New Changing Climate, Weather and Air Quality; http://www.neci.sr.unh.edu/neccwaq.html
- The Tornado Project: http://www.tornadoproject.com/alltorns/nhtorn.htm
- The Tornado History Project; http://www.tornadohistoryproject.com/
- The Disaster Center (NH); http://www.disastercenter.com/newhamp/tornado.html

For more information on state & county-wide past events, see Presidential Disaster and Emergency Declarations Appendix C.

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 4: Critical Infrastructure & Key Resources (CIKR)

With Team discussion and brainstorming, Critical Infrastructure and Key Resources (CIKR) within Conway were identified and mapped for the all-hazards plan. The "ID" number in the following lists is also represented as a CIKR in **Appendix F: Map Documents, *Maps 3 & 4, Critical Infrastructure and Key Resources***. Facilities located in adjacent towns were not mapped (NM). The Hazard Susceptibility rating was based on a scale of 1-3 with 1 indicating little or no risk.

TABLE 4.1 - EMERGENCY RESPONSE FACILITIES (ERF) & EVACUATION

EMERGENCY REPONSE FACILITIES (ERF)				
ERF'S are primary facilities and resources that may be needed during an emergency response. (Map 3)				
Map ID#	**Facility**	**Type of Facility**	**Hazard Risk**	
1	Conway Fire Station	Fire Station & Emergency Operation Center (EOC) & EMS	All Hazards & Flooding	2
2	Conway Police Station	Police Station; Backup EOC; Gasoline	All Hazards	1
3	Center Conway Fire Station	Fire Station & EMS	All Hazards	1
4	Redstone Fire Station	Fire Station	All Hazards	1
5	East Conway Fire Station	Fire Station	All Hazards	1
6	North Conway Fire Station	Fire Station	All Hazards	1
7	Conway Town Hall	Town Hall & Records	All Hazards	1
8	Conway Recreation Center	Primary Shelter	All Hazards	1
9	Town Public Works Garage	Fuel, Heavy Equipment, Sand & Gravel	All Hazards	1
10	Memorial Hospital - North Conway	Medical Facility	All Hazards	1
11	Care Plus Ambulance (Valley View Road)	Ambulance & EMS	All Hazards & Flooding	1
12	DOT Highway Garage	Emergency Fuel Facility; Gasoline & Diesel Fuel	All Hazards	1
13	Jesse Lyman	Backup Emergency Fuel Facility, Fuel Oil, Diesel, Propane, Kerosene	All Hazards	1
14	Tower at the summit of Pine Hill	Communications	All Hazards	1
2	Conway Police Department	Communications	All Hazards	1
15	Ham Radio Repeater / Cranmore Mountain	Communications	All Hazards & Wind	1
NM	Oak Hill Transmitter for Conway Fire Department (Madison)	Communications	All Hazards	1

EMERGENCY REPONSE FACILITIES (ERF)				
HELICOPTER LANDING ZONES (ERFH)				
Map ID#	**Helicopter Landing Zone (Map #3)**	**Type of Facility**	**Hazard Risk**	
16	Memorial Hospital - North Conway	Helicopter Landing Zone	All Hazards	1
17	Middle School Fields	Helicopter Landing Zone	All Hazards & Flooding	2
18	Kennett High School Fields	Helicopter Landing Zone	All Hazards	1
19	Pinetree School Fields	Helicopter Landing Zone	All Hazards	1
20	Heli Spot at Ranger District Office	Helicopter Landing Zone	All Hazards & Flooding	2
For additional landing zones, please refer to the Emergency Operations Plan.				
BRIDGES ON EVACUATION ROUTES (ERFB)				
Map ID#	**Bridge or Culvert (Map #3)**	**Type of Facility**	**Hazard Risk**	
21	Route 16 over the Saco River	Bridge on Primary Evac Route	All Hazards	1
22	Route 302 over the Saco River	Bridge on Primary Evac Route	All Hazards	1
23	Route 302 over Mill Brook (Red list)	Bridge on Primary Evac Route	All Hazards	1
24	River Road - 1st Bridge	Bridge on Secondary Evac Route	All Hazards & Flooding	3
25	River Road - 2nd Bridge	Bridge on Secondary Evac Route	All Hazards & Flooding	3
26	River Road - 3rd Bridge	Bridge on Secondary Evac Route	All Hazards & Flooding	3
27	Culvert on West Side Road & Moat Brook	Bridge on Secondary Evac Route	All Hazards & Flooding	2
28	West Side Road over the Swift River (access)	Bridge on Secondary Evac Route	All Hazards & Flooding	1
29	Mill Street at the Conway Dam	Bridge on Secondary Evac Route	All Hazards	1
EVACUATION ROUTES (EVAC)				
Evacuation Route (Map #3)		**Type of Evacuation Route**	**Hazard Risk**	
NH Route 16		Primary Evacuation Route	All Hazards	1
NH Route 153		Primary Evacuation Route	All Hazards & Flooding	2
US Route 302		Primary Evacuation Route	All Hazards	1
West Side Road		Secondary Evacuation Route	All Hazards & Flooding	3
East Conway Road		Secondary Evacuation Route	All Hazards & Flooding	2
River Road		Secondary Evacuation Route	All Hazards	1
North-South Road		Secondary Evacuation Route	All Hazards	1
West Main Street		Secondary Evacuation Route	All Hazards	1
NH Route 153		Secondary Evacuation Route	All Hazards	1
NH Route 112		Secondary Evacuation Route	All Hazards	1

TABLE 4.2 – NON- EMERGENCY RESPONSE FACILITIES (NERF)

NON-EMERGENCY RESPONSE FACILITIES (NERF)				
NERF'S are facilities, that although they are critical, they are not necessary for the immediate emergency response efforts. This would include facilities to protect public health and safety and to provide backup emergency facilities. (Map 4)				
Map ID#	**Facility**	**Type of Facility**	**Hazard Risk**	
30	Kennett High School (also FPP)	Secondary Shelter	All Hazards, Wind, Lightning	1
31	Frechette Oil - off West Side Road	Emergency Fuel Facility, Fuel Oil; Diesel	All Hazards & Flooding	1
32	White Mountain Oil (North Conway)	Emergency Fuel; Fuel Oil, Diesel	All Hazards & Hazardous Material Fixed	1
33	White Mountain Oil (Heath Road)	Emergency Fuel; Kerosene, Fuel Oil, , Diesel	All Hazards & Wildfire & Hazardous Material Fixed	1
34	White Mountain Oil (Redstone)	Storage Facility; Bulk Propane	All Hazards & Wildfire & Hazardous Material Fixed	2
35	Reliable Oil	Heating oil, kerosene, diesel	All Hazards & Wildfire & Hazardous Material Fixed	2
36	Amerigas (Redstone)	Storage Facility; Bulk Propane	All Hazards & Wildfire & Hazardous Material Fixed	1
37	North Conway Water & Sewer - Sawmill Lane	Water & Sewer Departments (NERF)	All Hazards & Dam Failure	1
38	Waste Water Treatment Plan (Conway)	Water & Sewer Departments (NERF)	All Hazards & Dam Failure	1
39	Water storage tanks - Bald Hill Road (2 tanks)	Water Supply	All Hazards	1
40	Pine Hill one million gallon water tank	Water Supply	All Hazards	1
41	Hurricane Mountain one million gallon water tank	Water Supply	All Hazards	1
In addition to the main water and sewer facilities noted above, Conway has additional multiple water wells, water pumping stations and sewage pumping stations located throughout Town.				

TABLE 4.3 – FACILITIES & POPULATIONS TO PROTECT (FPP)

FACILITIES & PEOPLE TO PROTECT (FPP)				
FPPs are facilities that need to be protected because of their importance to the town and to residents who may need help during a hazardous event. (Map 4)				
Map ID#	**Facility**	**Type of Facility**	**Hazard Risk**	
42	Kennett Middle School	Middle School	All Hazards & Flooding	2
43	Conway Elementary	Elementary School	All Hazards & Flooding	2
44	Pine Tree Elementary	Elementary School	All Hazards	1
45	John Fuller Elementary	Elementary School	All Hazards	1
46	Robert Frost School	Charter School	All Hazards	1
30	Kennett High School	High School	All Hazards & Wind & Lightning	1
47	Merriman House (Memorial Hospital)	Nursing Homes	All Hazards	1
48	Mineral Springs Nursing and Rehab	Nursing Homes	All Hazards	1
49	Pinewoods and Whitman Woods	Elderly Housing	All Hazards	1
50	Greenbriar (70 Washington Street)	Elderly Housing	All Hazards	1
51	Pondview Apartments (Pleasant Street)	Elderly Housing	All Hazards	1
52	Appletree Apartments (Village Lane)	Elderly Housing	All Hazards	1
53	North Conway Day Care (Vaughn Center)	Day Care Facilities	All Hazards	1
54	Children Unlimited (West Main Street)	Day Care Facilities & Special Needs	All Hazards	1
55	Conway Area Head Start	Day Care Facilities	All Hazards	1
56	Montessori School	School	All Hazards	1
In addition to the facilities to protect listed above, additional private day and health care facilities are located in Conway; the list is too extensive to add here.				

TABLE 4.4 – POTENTIAL RESOURCES (PR)

POTENTIAL RESOURCES (PR)
PRs are potential resources that could be helpful for emergency response in the case of a hazardous event; for Potential Resources.
Please refer to the Conway Emergency Operations Plan for Potential Resources.

Chapter 5: Hazards Effects in Conway

A. Identifying Vulnerable Structures

Because damages from floods and wildfire/structure fires are more predictable than damages from other disasters, it is important to identify the critical facilities and other structures that most likely to be damaged by these events. Using GIS analysis and aerial imagery, at-risk structures were identified throughout the Town.

First, all structures falling within the FEMA floodplain map were identified in GIS. To identify these structures, the Town's "building poly" GIS layer was narrowed to structures that were 1,000 square feet or more in order to eliminate sheds and outbuildings from the list. Then these structures were analyzed to see if they intersected the FEMA100-year floodplain. The result was that 117 structures were found to be in the FEMA floodplain (Map 5). This list was then narrowed by those structures that were on the Town's CIKR list (Tables 4.1-4.4); the CIKR that were found to be in the floodplain include:

- *Middle School Fields (heli LZ)*
- *Ranger District Station (heli LZ)*
- *North Conway Sewage (waste water treatment)*
- *Conway Elementary*
- *Greenbriar (elderly housing)*
- *Pond View (elderly housing)*
- *Five bridges on the evacuation routes*

Using the same methodology that was used for flooding, structures falling within the Wildland Urban Interface (WUI) were reviewed; a total of 1,015 buildings were found in the Conway WUI (Map 2). In addition, it was found that 16 CIKR were in the WUI. It is important to determine which Critical Infrastructure and Key Resources are most vulnerable to wildfire/structure fires and to identify mitigation strategies that will lessen the potential for fire. The CIKR that were found to be in the WUI include:

- *The Public Works Department (fuel)*
- *Memorial Hospital (medical)*
- *NH State DOT Shed (fuel)*
- *Reliable Oil (fuel)*
- *Amerigas (Redstone)(fuel)*
- *Conway Sewage (waste water treatment)*
- *Hurricane Mountain Water Tank (water supply)*
- *Pinetree Elementary School (school)*
- *Merriman House (nursing home)*
- *Mineral Springs (nursing home)*
- *Pinewood (elderly housing)*
- *Greenbriar (elderly housing*
- *Helipad at Memorial Hospital (Heli LZ)*
- *Middle School Fields (Heli LZ)*
- *Pine Tree School Fields (Heli LZ)*
- *Ranger District Station (Heli LZ)*

In reality, many of the CIKR above are located away from high risk areas for wildfire; however, adequate defensible space and available water resources should be maintained for all of them.

For all other hazards, besides floodplain and wildfire/structure fire, the HSEM matrix identified in Table 3.1 is used to evaluate likelihood and potential impact of each hazard.

B. Calculating the Potential Loss

It is difficult to ascertain the amount of damage that could be caused by a natural or human-caused hazard because the damage will depend on the hazard's extent and severity, making each hazard event somewhat unique. Therefore, we have used the assumption that hazards that impact structures could result in damage to either 0-1% or 1-5% of Conway's structures, depending on the nature of the hazard and whether or not the hazard is localized.

Assessed Value of All Structures (only)			
	2012	**1% damage**	**5% damage**
Residential	$642,593,600	$6,425,936	$32,129,680
Manufactured Housing	$13,261,900	$132,619	$663,095
Commercial	$267,800,900	$2,678,009	$13,390,045
Other	$0	$0	$0
Tax Exempt	$100,214,700	$1,002,147	$5,010,735
Utilities	$30,887,565	$308,876	$1,544,378
Total	$1,054,758,665	$10,547,587	$52,737,933
Provided by the Town of Conway			

Based on this assumption, the potential loss from any of the identified hazards would range from **$0 to $10,547,587** or **$10,547,587 to $52,737,933** based on the 2012 Conway MS1 which lists the assessed value of all structures in Conway to be **$1,054,758,665.** (See chart above).

Human loss of life was not included in the potential loss estimates, but could be expected to occur, depending on the severity and type of the hazard.

Natural Hazards

(1) Flooding (Riverine / Floodplain) .....$10,547,587 to $52,737,933
(2) Flooding (Local Flooding & Road Erosion) .....$0 to $10,547,587
(3) Flooding (Hurricane & Tropical Storms) .....$10,547,587 to $52,737,933

Extent

Floods are defined as a temporary overflow of water onto lands that are not normally covered by water. Flooding results from the overflow of major rivers and tributaries, storm surges, and/or inadequate local drainage. Floods can cause loss of life, property damage, crop/livestock damage, and water supply contamination. Floods can also disrupt travel routes on roads and bridges.

Inland floods are most likely to occur in the spring due to the increase in rainfall and melting of snow; however, floods can occur at any time of the year. A sudden thaw in the winter or a major downpour in the summer can cause flooding because there is suddenly a lot of water in one place with nowhere to go.

100-year Floodplain Events

Floodplains are usually located in lowlands near rivers and flood on a regular basis. The term 100-year flood does not mean that 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 this means is that there is a 1% chance of a flood of that size happening in any year.

Rapid Snow Pack Melt

Warm temperatures and heavy rains cause rapid snowmelt. Quickly melting snow coupled with moderate to heavy rains produce prime conditions for flooding.

River Ice Jams

Rising waters in early spring often breaks ice into chunks that float downstream and pile up, causing flooding behind them. Small rivers and streams pose special flooding risks because they are easily blocked by jams. Ice in riverbeds and against structures presents a significant flooding threat to bridges, roads and the surrounding lands.

Severe Storms

Flooding associated with severe storms can inflict heavy damage to property. Heavy rains during severe storms are a common cause of inland flooding.

Local Impact

Flooding - Riverine

Nearly every spring, ice jams, rapid snowmelt and heavy rain cause the flooding of the Saco River and other smaller rivers such as Moat Brook, Snow Brook, Artist Brook and the Swift River. As evidenced by the devastation that resulted during Tropical Storm Irene, it is apparent that not only snowmelt and spring/fall rains can cause problems with the Saco, but also tropical storms and heavy isolated rain storms. Many of Conway's roads have all been closed in the past by riverine flooding, often significantly restricting accessibility for emergency responders. Most notably of these is West Side Road.

Structures in the Floodplain	
Total Housing Units*	6921
Total Assessed 2012**	$1,054,758,665
Average Value	$152,400
Number in 100-Year Floodplain***	117
Estimated Assessed Value	$17,830,771
Medium Risk at 28%	0.28
Potential Loss Value in Floodplain	$4,992,616
**2010 Census*	
***Provided by the Town*	
****GIS Analysis by MAPS*	

Based on the Carroll County Floodplain Map, Conway has a relatively large 100-year floodplain which is located primarily along the banks of the Saco River. Through GIS analysis, 117 structures were found to be in the flood zone, not including bridges and dams.

The table above shows the methodology used to determine the risk assessment for structures in the floodplain. By averaging the cost of all structures and multiplying it times the number found in the floodplain, the estimated assessed value for these structures becomes $17,830,771 Then, assuming a medium risk of 28%, the final potential loss value for structures in Conway's floodplain is $4,992,616. The higher estimate of 1% to 5% is used above to take into consideration structures that may be outside of the floodplain.

Flooding - Roads

Heavy rain, rapid snowmelt and stream flooding often cause culverts to be overwhelmed and roads to wash out. Today, with changes in land use, aging roads, designs that are no longer effective and undersized culverts, the risk of flooding is a serious concern. Inadequate and aging storm water drainage systems create local flooding on many of Conway's roads. It is estimated that the Town experiences some sort of storm water problem whenever there is two or more inches of rain in a short period of time.

Road erosion on Murdock Hill Road (Action Item # 3), Dollof Hill Road (Action Item #9) and Artist Falls Road (Action Item #12) are addressed in this Plan. The Department of Public Works continues to address other areas of town where undersized or aging culverts are causing road flooding and erosion.

The cost of road flooding is difficult to calculate as it is not based on the loss of structures. The expected loss value would be primarily on the loss of accessibility and the time and cost of road repair, which could be substantial. An estimate of 0% to 1% of the total assessed value was used to determine overall loss value.

Flooding - Hurricane & Tropical Storm

Hurricanes are rare in New Hampshire, but they should not be ruled out as potential hazards. In most cases, Hurricanes have been down-graded to tropical storms by the time they reach northern New Hampshire.

Tropical Storm Irene, the remnants of Hurricane Irene, brought heavy rain, local flooding and significant riverine flooding to Conway. In August of 2011, with the arrival of Tropical Storm Irene, the Saco River experienced extraordinary flooding and changed its course forever.

Transvale Acres, a neighborhood located between the Saco and West Side Road was impacted the most during Irene, with loss of power, structure flooding, evacuations and even risk to human life. The Town of Conway has and continues to contract with FEMA to purchase and demolish structures within this neighborhood as a result of Tropical Storm Irene (Action Item #10).

In addition, Conway lost one municipal well, West Side Road, Cranmore Shores Road and other roads were flooded and experienced erosion, a shelter remained open for ten days, several commercial campgrounds experienced damage, the Hussey Field Recreation area suffered from river erosion and the Covered Bridge in Conway was damaged by fallen trees.

Due to the experience that Conway endured during Tropical Storm Irene, the potential loss value due to hurricanes and tropical storms was determined to be between 1% and 5% of the total assessed structure value.

4) Severe Winter Storms (including Ice Storms) ..... $10,547,587 to $52,737,933

Extent

Ice and snow events typically occur during the winter months and can cause loss of life, property damage and tree damage.

Snow Storms

A winter storm can range from moderate snow to blizzard conditions. Blizzard conditions are considered blinding wind-driven snow over 35 mph that lasts several days. A severe winter storm deposits four or more inches of snow during a 12-hour period or six inches of snow during a 24-hour period.

Sleet

Snowflakes melt as they fall through a small band of warm air and later refreeze when passing through a wider band of cold air. These frozen rain drops then fall to the ground as "sleet".

Freezing Rain & Ice Storms

Snowflakes melt completely as they fall through a warm band of air then fall through a shallow band of cold air close to the ground to become "supercooled". These supercooled raindrops instantly freeze upon contact with the ground and anything else that is below 32 degrees Fahrenheit. This freezing creates accumulations of ice on roads, trees, utility lines and other objects resulting in what we think of an "Ice Storm". "Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires and similar objects."[18]

The Sperry-Piltz Ice Accumulation Index (SPIA) (above) is designed to help utility companies better prepare for predicated ice storms.[19]

Local Impact

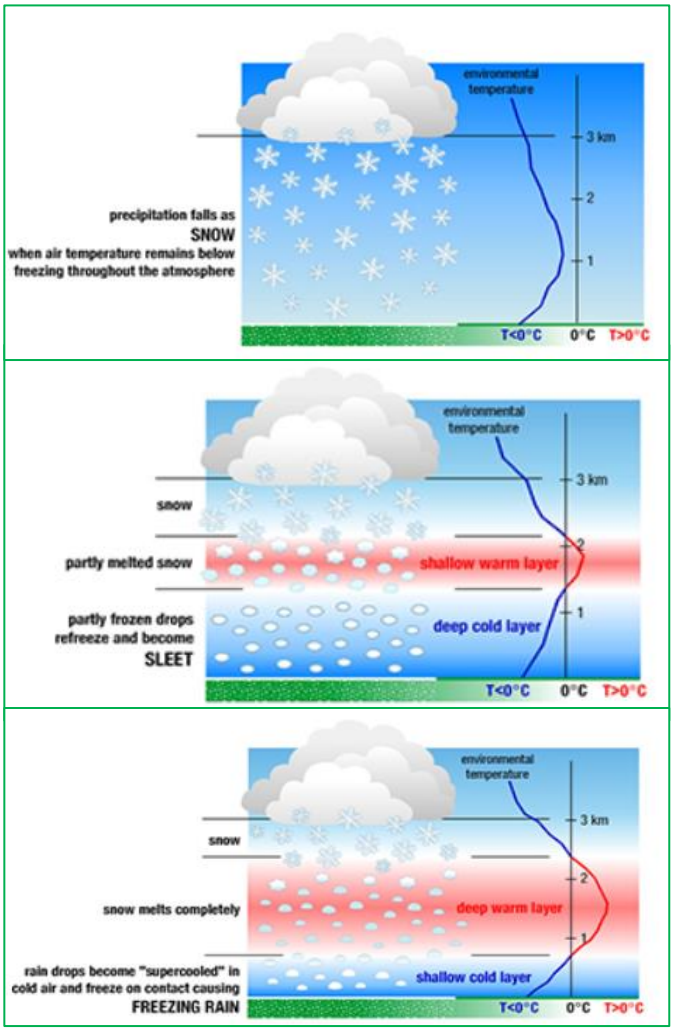
Heavy snowstorms typically occur from December through April. New England usually experiences at least one or two heavy snow storms with varying degrees of severity each year. Power outages, extreme cold and impacts to infrastructure are all effects of winter storms that have been felt in Conway in the past. All of these impacts are a risk to the Community, including isolation, particularly of the elderly, and increased traffic accidents. Damage caused by severe winter snowstorms varies according to wind velocity, snow accumulation, duration and moisture content. Seasonal accumulation can also be as significant as an individual snowstorm. Heavy overall winter accumulations can impact the roof-load of some buildings.

Conway's roads are often impacted by poor weather conditions and this combined with steep terrain can make travel difficult. The topography of Conway, with large mountains, river valleys and open farmland makes winter

The Sperry-Piltz Ice Accumulation Index, or "SPIA Index" – Copyright, February, 2009

ICE DAMAGE INDEX	* AVERAGE NWS ICE AMOUNT (in inches) *Revised-October, 2011	WIND (mph)	DAMAGE AND IMPACT DESCRIPTIONS
0	< 0.25	< 15	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	0.10 – 0.25	15 - 25	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
	0.25 – 0.50	> 15	
2	0.10 – 0.25	25 - 35	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
	0.25 – 0.50	15 - 25	
	0.50 – 0.75	< 15	
3	0.10 – 0.25	> = 35	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
	0.25 – 0.50	25 - 35	
	0.50 – 0.75	15 - 25	
	0.75 – 1.00	< 15	
4	0.25 – 0.50	> = 35	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
	0.50 – 0.75	25 - 35	
	0.75 – 1.00	15 - 25	
	1.00 – 1.50	< 15	
5	0.50 – 0.75	> = 35	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.
	0.75 – 1.00	> = 25	
	1.00 – 1.50	> = 15	
	> 1.50	Any	

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)



Types of Severe Winter Weather
NOAA – National Severe Storms Laboratory

[18] NOAA, National Severe Storms Laboratory, https://www.nssl.noaa.gov/education/svrwx101/winter/types/
[19] The Weather Channel, http://www.weather.com/news/weather-winter/rating-ice-storms-damage-sperry-piltz-20131202

weather conditions that much more threatening. Severe winter snow storms or blizzards, can shut all of Conway's roads down at least temporarily, and thus prevent many of the Town's citizens from going to work and prevent visitors from arriving. Fortunately, in New England, most road crews are able to handle 2-3' snow storms with a little time on their side.

Of more concern in Conway than 2-4' snow storms are ice storms, though the probability of the occurrence of a major ice storm is lower than that of a major snowstorm. A significant ice storm can inflict several million dollars' worth of damage to forests and structures. The 1998 Ice Storm inflicted significant damage in Conway causing ice on trees, downed power lines, closed roads, limited EMS access and power outages.

The 1998 Ice Storm was a disastrous storm in Conway. Most of the devastation took place at elevations of 700' or more, however hardwood forests above 300' were significantly damaged. Parts of the community lost power for up to two weeks and South Conway lost power for 3-5 days; however, Center Conway lost power for less than a day.

Due to the widespread nature of events of this kind, particularly from ice storms, the potential loss value is estimated to be between 1% and 5% of the total assessed value of all structures in town.

(5) Wildfire/Structure Fire.....$43,312,009

Extent

As stated by the National Wildfire Coordinating Group (NWCG), wildfires are designated in seven categories as follows:[20]

Class A: one-fourth acre or less
Class B: more than 1/4th acre, but less than 10 acres
Class C: 10 acres or more, but less than 100 acres
Class D: 100 acres or more, but less than 300 acres
Class E: 300 acres or more, but less than 1,000 acres
Class F: 1,000 acres or more, but less than 5,000 acres
Class G: 5,000 acres or more.

For the purpose of statistical analysis, The US Forest Service recognizes the cause of fires according to the following chart:[21]

Code - Statistical Cause

1 - Lightning
2 - Equipment Use
3 - Smoking
4 - Campfire
5 - Debris Burning
6 - Railroad
7 - Arson
8 - Children
9 - Miscellaneous

The definition of wildfire according to the International Wildland-Urban Interface Code is "an uncontrolled fire spreading through vegetative fuels exposing and possibly consuming structures". In addition the IWUIC goes to define the wildland urban interface area as "that geographical area where structures and other human development

[20] http://www.nwcg.gov/pms/pubs/glossary/s.htm
[21] http://www.fs.fed.us/im/directives/fsh/5109.14/5109.14,20.txt

meets or intermingles with wildland or vegetative fuels.[22] In Conway, the extent of the Wildland Urban Interface is clearly shown in Appendix F, Map 2.

There are two main potential losses with a wildfire: the forest itself and the threat to the built-up human environment (the structures within the WUI). In many cases, the only time it is feasible for a community to control a forest fire is when it threatens the built-up human environment. Therefore, the loss to the forest itself will not be a factor in our loss calculation analysis.

Local Impact

For many hazard mitigation plans, the Wildland Urban Interface (WUI) was determined to be the area in which the forest and human habitation intersect. Assuming the WUI to be a 1/4 mile buffer located 300 feet off the centerline of Class I-V roads and using GIS intersection tools, it was found that total of 1,015 structures were found in the WUI (see methodology earlier in this chapter). All structures within this WUI were assumed to be at some level of risk and, therefore, vulnerable to wildfire.

The table to the right shows the methodology used to determine the risk assessment for structures in the WUI. By averaging the cost of all structures and multiplying it times the number found in the WUI, the estimated assessed value for these structures becomes $154,685,746. Then, assuming a medium risk of 28%, the final potential loss value for structures in Conway's WUI is $43,312,009.

In Conway, a more in-depth study, the Community Wildfire Protection Plan (CWPP), was prepared to study the wildfire risk. The CWPP has been developed as an Addendum to this Plan.

Structures in the Wildland Urban Interface (WUI)	
Total Housing Units*	6921
Total Assessed 2012**	$1,054,758,665
Average Value	$152,400
Number in WUI***	1015
Estimated Assessed Value	$154,685,746
Medium Risk at 28%	0.28
Potential Loss Value	$43,312,009
**2010 Census*	
***Provided by the Town*	
****GIS Analysis by MAPS*	

6) Extreme Temperatures.....Structure loss value was not estimated

Extent

Extreme Heat

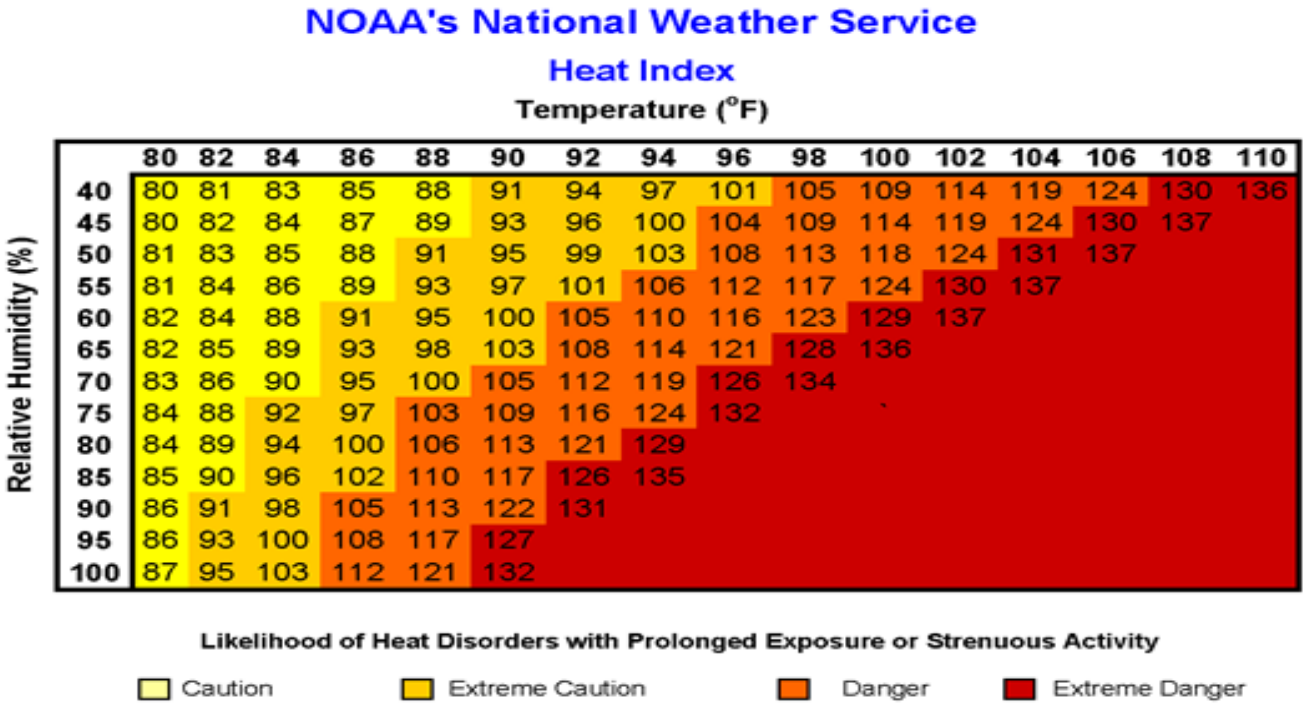
A Heat Wave is a "Prolonged period of excessive heat, often combined with excessive humidity." Heat kills by pushing the human body beyond its limits. In extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from the effects of a prolonged heat wave than

[22] International Wildland-Urban Interface Code, 2012, International Code Council, Inc.

those living in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, which can produce higher nighttime temperatures known as the "urban heat island effect."[23]

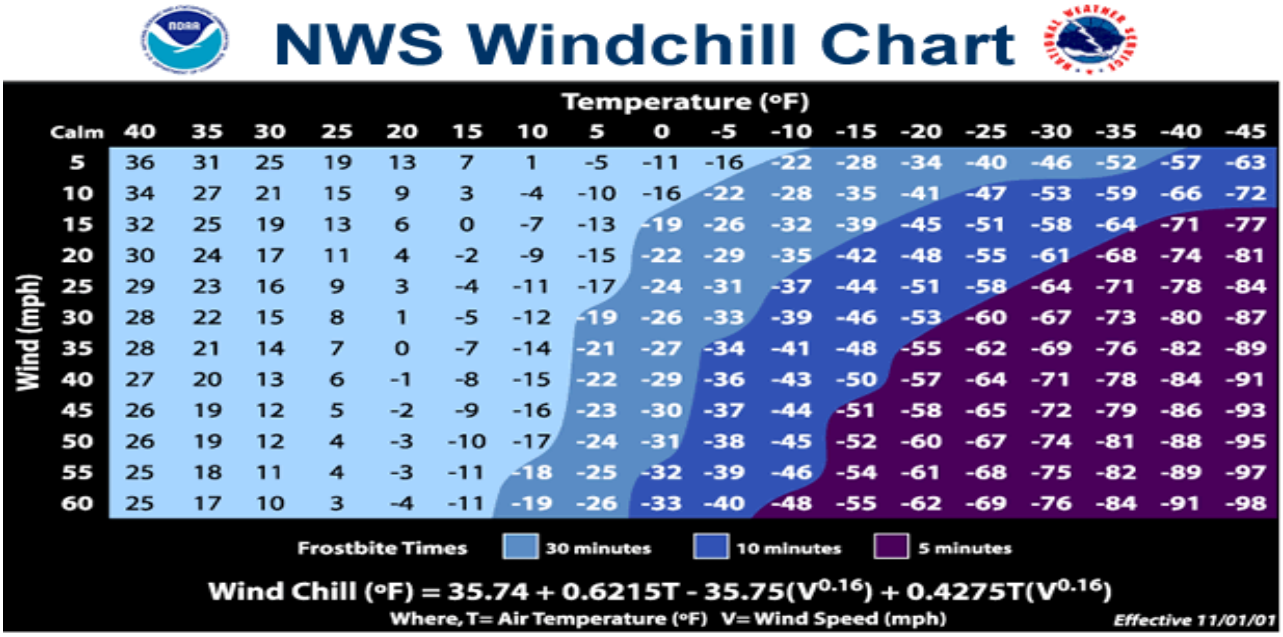


The chart above explains possible health conditions that may result from high heat.[24]

Extreme Cold

What constitutes extreme cold and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered "extreme cold." Whenever temperatures drop decidedly below normal and as wind speed increases, heat can leave your body more rapidly; these weather related conditions may lead to serious health problems. Extreme cold is a dangerous situation that can bring on health emergencies in susceptible people, without shelter or who are stranded, or who live in a home that is poorly insulated or without heat.[25]. The National Weather Service Chart on the following page shows Windchill as a result of wind and temperature.[26]

[23] NOAA, Index/Heat Disorders; http://www.srh.noaa.gov/ssd/html/heatwv.htm
[24] NOAA; http://www.nws.noaa.gov/os/heat/index.shtml
[25] CDC; http://www.bt.cdc.gov/disasters/winter/guide.asp f
[26] National Weather Service; http://www.nws.noaa.gov/om/windchill/



For those who are familiar with Northern New England weather, it is obvious that temperature extremes are very common. Winter temperatures can fall below -30°F and summer temperatures, laden with high humidity can soar to nearly 100°F. In the past, there was more concern about extreme cold temperatures, but with improved heating systems and local communications, most New Hampshire residents are able to cope with extreme cold.

Also of concern today are extreme heat conditions, becoming more common with climate change. Few residents, particularly the elderly and vulnerable populations, have air conditioners and are less able to cope with extreme heat.

Local Impact

Extreme temperatures when combined with power failure are of the most concern for Conway; power failure would result in no water, heat and air conditioning for the Town's vulnerable population. Both town officials and the community as a whole should be concerned and should look after its citizens to ensure that extreme temperatures do not create a life or property threatening disaster.

(7) Tornado .....$0 to $10,547,587
(10) Downbursts (Macro or Micro)

Extent

A tornado is a violent windstorm characterized by a twisting, funnel shaped cloud. Tornadoes develop when cool air overrides a layer of warm air, causing the warm air to rise rapidly. The atmospheric conditions required for the formation of a tornado include great thermal instability, high humidity and the convergence of warm, moist air at low levels with cooler, drier air aloft. Most tornadoes remain suspended in the atmosphere, but if they touch down they become a force of destruction.

Tornadoes produce the most violent winds on earth, at speeds of 280 mph or more. In addition, tornadoes can travel at a forward speed of up to 70 mph. Damage paths can be in excess of one mile wide and 50 miles long. Violent winds and debris slamming into buildings cause the most structural damage.

The Fujita Scale is the standard scale for rating the severity of a tornado as measured by the damage it causes. A tornado is usually accompanied by thunder, lightning, heavy rain, and a loud "freight train" noise. In comparison to a hurricane, a tornado covers a much smaller area but can be more violent and destructive.

A downburst is a strong downdraft which causes damaging winds on or near the ground according to NOAA. Not to be confused with downburst, the term "microburst" describes the size of the downburst. A comparison of a microburst and the larger macroburst shows that both can cause extreme winds. A microburst is a downburst with winds extending 2 ½ miles or less, lasting 5 to 15 minutes and causing damaging winds as high as 168 MPH. A macroburst is a downburst with winds extending more than 2 ½ miles lasting 5 to 30 minutes. Damaging winds, causing widespread, tornado-like damage, could be as high as 134 MPH.[27]

Tornadoes are relatively uncommon natural hazards in New Hampshire; on average, about six tornadoes touch down each year. Damage largely depends on where the tornado strikes. If it were to strike an inhabited area, the impact could be severe.

"Dr. T. Theodore Fujita developed the Fujita Tornado Damage Scale (F-Scale) to provide estimates of tornado strength based on damage surveys. Since it's practically impossible to make direct measurements of tornado winds, an estimate of the winds based on damage is the best way to classify a tornado. The new Enhanced Fujita Scale (EF-Scale) addresses some of the limitations identified by meteorologists and engineers since the introduction of the Fujita Scale in 1971. The new scale identifies 28 different free standing structures most affected by tornadoes taking into account construction quality and maintenance. The range of tornado intensities remains as before, zero to five, with 'EF-0' being the weakest, associated with very little damage and 'EF-5' representing complete destruction, which was the case in Greensburg, Kansas on

EF-Scale:	Old F-Scale:	Typical Damage:
EF-0 (65-85 mph)	F0 (65-73 mph)	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF-1 (86-110 mph)	F1 (73-112 mph)	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF-2(111-135 mph)	F2 (113-157 mph)	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF-3 (136-165 mph)	F3 (158-206 mph)	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF-4 (166-200 mph)	F4 (207-260 mph)	Devastating damage. Whole frame houses Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF-5 (>200 mph)	F5 (261-318 mph)	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd); high-rise buildings have significant structural deformation; incredible phenomena will occur.
EF No rating	F6-F12 (319 mph to speed of sound)	Inconceivable damage. Should a tornado with the maximum wind speed in excess of EF-5 occur, the extent and types of damage may not be conceived. A number of missiles such as iceboxes, water heaters, storage tanks, automobiles, etc.will create serious secondary damage on structures.

[27] NOAA - http://www.erh.noaa.gov/cae/svrwx/downburst.htm

May 4th, 2007, the first tornado classified as 'EF-5'. The EF scale was adopted on February 1, 2007."[28] The chart on the previous page from wunderground.com shows a comparison of the Fujita Scale to the Enhanced Fujita Scale.

Local Impact

A tornado touched down in Carroll County in July 2008 but did not did not reach Conway; Conway sent emergency assistance to the affected area. Conway has experienced minor downbursts that resulted in isolated property damage; a downburst in 2006 knocked down trees near Banner's on Route 116 and interrupted power in Center Conway.

Like high winds, the affects would be primarily power outages and blow downs; however, if a tornado, microburst or macroburst were severe enough, property damage could also occur. Due to the rareness of these events in New Hampshire, the likelihood of an event of this type is low and the affects would be localized. Therefore, the potential loss value was determined to be between 0% and 1%.

8) Mudslide, Landslide, Erosion (Riverine Erosion)..... $0 to $10,547,587

Extent

Erosion, landslides and mudslides are often associated with heavy rains, steep terrain and the overflow of river banks. Erosion, as defined by FEMA, is "The process of the gradual wearing away of land masses. Erosion can occur along coasts and rivers and streams. Although flood-related erosion is covered by flood insurance, this peril is not covered per se under the National Flood Insurance Program (NFIP). The mapping and regulatory standards of the NFIP do not currently address erosion, but Community Rating System (CRS) credit is given to communities that include this hazard in their regulations, planning, public information, hazard disclosure, and flood warning programs. Many States and communities have established setbacks and other requirements in areas subject to erosion."[29]

Local Impact

In Conway, the major of these concerns is erosion along the Saco River. Some properties are located close to the Saco; these include a mobile home, two cottages, a one-family home and business and sections of the railroad tracks.

Erosion and the subsequent loss of land along the Saco has been a continuous concern. Many mitigation efforts have been made, but these have either been unable to correct the problem or to diminish the likelihood for more erosion. Fluvial erosion is ongoing, and although possible, no structure damage has resulted from river erosion in the past. To the best of their ability, the Town will continue to work with other state agencies to mitigate the erosion along the banks of the Saco River.

Due to the localized nature of erosion, the structure loss value was estimated to be between 0% and 1% of the total assessed structure value in Town.

[28] Enhance Fujita Scale, http://www.wunderground.com/resources/severe/fujita_scale.asp
[29] Erosion definition; http://www.fema.gov/floodplain-management/erosion

9) High Winds (Windstorm)..... $0 to $10,547,587

Extent

"Severe wind can occur alone, such as during straight-line wind events and derechos, or it can accompany other natural hazards, including hurricanes and severe thunderstorms. Severe wind poses a threat to lives, property, and vital utilities primarily due to the effects of flying debris or downed tree and power lines. Severe wind will typically case the greatest damage to structures of light construction, particularly manufactured homes."[30]

Local Impact

Due to the geographic location of Conway and its location in the valley of some of the highest peaks of the White Mountains of New Hampshire, isolated high winds and down drafts are common occurrences within the Town. Wind tends swoop down the mountain sides, bringing down trees and causing power failures and road closures.

High wind events are unpredictable; winds of this magnitude could fall timber, which in turn could block roadways, down power lines and impair emergency response. Old-growth softwood is affected by these unexpected windstorms, particularly in the spring when the water table is high.

The effect of isolated high winds would most likely be localized in nature; therefore, the potential loss value due to hazards of this type was determined to be between 0% and 1% of the total assessed structure value.

11) Drought.....Structure loss value was not estimated

Extent

A drought is defined as a long period of abnormally low precipitation, especially one that adversely affects the growing season or living conditions of plants and animals. Droughts are rare in New Hampshire. They generally are not as damaging and disruptive as floods and are more difficult to define. The effect of drought is indicated through measurements of soil moisture, groundwater levels and stream flow. However, not all of these indicators will be minimal during a drought. For example, frequent minor rainstorms can replenish the soil moisture without raising groundwater levels or increasing stream flow. Low stream flow also correlates with low groundwater levels because groundwater discharge to streams and rivers maintains stream flow during extended dry periods. Low stream flow and low groundwater levels commonly cause diminished water supply.[31]

NEW HAMPSHIRE DROUGHT HISTORY

Dates	Area Affected	Recurrence Interval Yrs	Remarks
1929-1936	Statewide	10 to > 25	Regional
1939-1944	Statewide	10 to > 25	Severe in southeast and moderate elsewhere
1947-1950	Statewide	10 to 25	Moderate
1960-1969	Statewide	> 25	Regional longest recorded continuous spell of less than normal precipitation
2001-2002	Statewide	Not yet determined	Third worst drought on record, exceeded only by the drought of 1956-1966 and 1941-1942

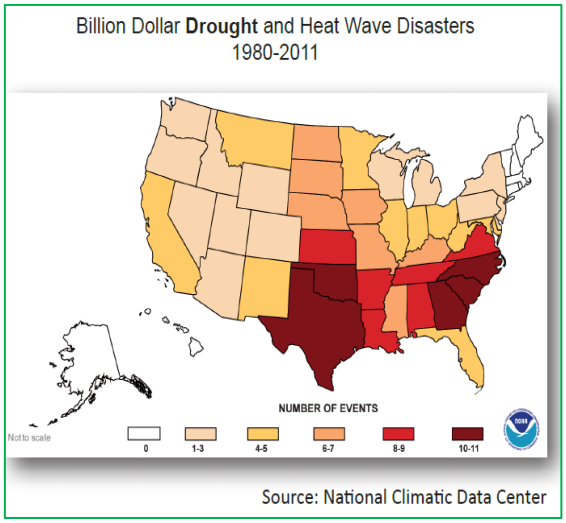
[30] Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards; FEMA, January 2013; Severe Winds

[31] NH Drought History chart; NH DES; http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf

Local Impact

An extended period without precipitation could elevate the risk for wildfire/structure fire and blow-downs in the forest and with an extreme drought, the water supply and aquifer levels could be threatened. Fortunately, significant droughts rarely occur in New Hampshire or Conway. According to the NH Department of Environmental Services, five significant droughts have occurred since 1929.[32]

The cost of drought in Conway is difficult to calculate as any cost would primarily result from an associated fire risk, diminished water supply. However, based on the unlikelihood of a serious drought occurring in New Hampshire and because the hardship would be primarily economic, the structure loss value was not estimated.



12) Earthquake ..... $0 to $10,547,587

Extent

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. Larger earthquakes usually begin with slight tremors but rapidly take the form of one or more violent shocks, and end in vibrations of gradually diminishing force called aftershocks. The underground point of origin of an earthquake is called its focus; the point on the surface directly above the focus is the epicenter. The magnitude and intensity of an earthquake is widely determined by the use of two scales, the more commonly use Richter Scale (measures strength or magnitude) and the Mercalli Scale (measures intensity or severity). The chart to the right shows the two scales relative to one another. The Richter Scale measures earthquakes starting at 1 as the lowest with each successive unit being about 10 times stronger and severe than the previous one.[33]

Modified Mercalli Scale		Richter Magnitude Scale
I	Detected only by sensitive instruments	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibration like passing truck	2.5
IV	Felt indoors by many, outdoors by few, at night some may awaken; dishes, windows, doors disturbed; autos rock noticeably	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects	3.5
VI	Felt by all, many frightened and run outdoors; falling plaster and chimneys, damage small	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of autos	4.5
VIII	Panel walls thrown out of frames; fall of walls, monuments, chimneys; sand and mud ejected; drivers of autos disturbed	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up in air	7
		7.5
		8

Earthquakes can cause buildings and bridges to collapse, disrupt gas, electric and phone lines and are often associated with landslides and flash floods. Four earthquakes occurred in New Hampshire between 1924-1989 having a magnitude of 4.2 or more. Two of these occurred in Ossipee, one west of Laconia, and one

[32] NH DES; http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf
[33] Modified Mercalli Scale/Richter Scale Chart; MO DNR, http://www.dnr.mo.gov/geology/geosrv/geores/richt_mercali_relation.htm

near the Quebec border. It is well documented that there are fault lines running throughout New Hampshire, but high magnitude earthquakes have not been frequent in New Hampshire history.

Local Impact

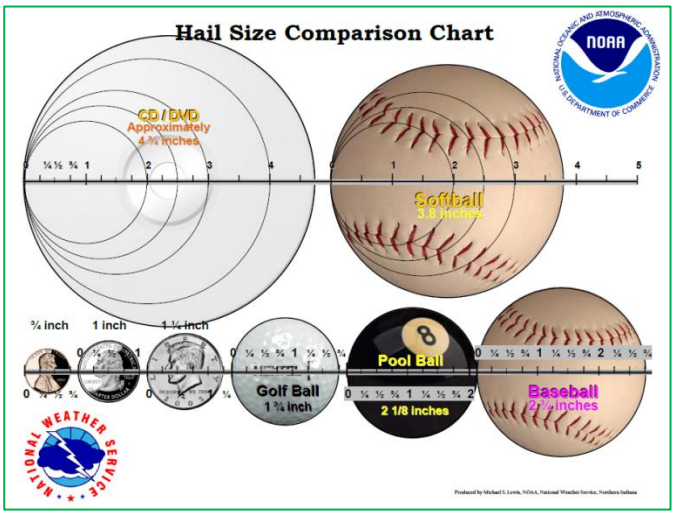
In October 2012, an earthquake with its epicenter in Hollis, ME and a magnitude of 4.6 on the Richter scale occurred. The tremor was felt through most of New England and in Conway; no damage was reported but the telecommunications systems through the area were interrupted.

Although historically earthquakes have been rare in New Hampshire, the potential does exist, and depending on the location, the impact could be significant. The potential structure loss value due to earthquakes was determined to be between 0% and 1% of the total assessed structure value.

13) Hailstorm ..... $0 to $10,547,587

Extent

Hailstones are balls of ice that grow as they're held up by winds, known as updrafts that blow upwards in thunderstorms. The updrafts carry droplets of supercooled water – water at a below-freezing temperature that is not yet ice. The super cooled water droplets freeze into balls of ice and grow to become hailstones. The faster the updraft, the bigger the stones can grow. Most hailstones are smaller in diameter than a dime, but stones weighing more than a pound have been recorded. "The largest hailstone recovered in the US fell in Vivian, SD on June 23, 2010 with a diameter of 8 inches and a circumference of 18.62 includes. It weighed 1 lb. 15 oz."[34]



Details of how hailstones grow are complicated, but the results are irregular balls of ice that can be as large as baseballs. The chart above shows the relative size differences and a common way to "measure" the size of hail.[35]

Local Impact

Hailstorm events, although not common in Conway, can occur at any time. Damage from hail could result in failed crops and structure and vehicular damage, thus creating an economic impact for individual citizens. Overall it was felt that a significant hailstorm event would be unlikely and would cause minimal damage; therefore the potential loss value is estimated at 0% and 1% of the assessed value.

[34] NOAA National Severe Storms Laboratory; https://www.nssl.noaa.gov/education/svrwx101/hail/
[35] NOAA, http://www.crh.noaa.gov/images/iwx/publications/Hail_Chart.pdf

Human Caused Hazards

1) Hazardous Material Transport ..... $0 to $10,547,587

The possibility of vehicular accidents involving hazardous materials is identified as potentially significant in Conway, particularly within busy North Conway Village or along the Conway "Strip", an area of shopping, outlet stores and businesses on NH Route 16.

US Route 302, a major northern New England east-west corridor, crosses through Town travelling from Vermont in the west to Portland, ME in the east. In addition, NH Route 16 passes north-south through the community bringing traffic from the Gorham-Berlin area in the north to Portsmouth and the seacoast communities in the south.

Both of these highways carry a substantial volume of vehicular traffic traveling to and from other parts of NH, including automobiles, busses and trucks. Often these trucks are loaded with chemicals and other dangerous substances. In addition, large and small vehicles make deliveries to the Town's citizens often on steep terrain and winding roads; the contents of some these vehicles are unknown while other vehicles, such as trucks hauling fuel and propane are common.

Conway has experienced hazardous material transportation events in the past. In 1979, a Maine Central Railroad derailment happened close to the Saco River Bridge and in 1992 an overturned tractor trailer spilled fuel onto US Route 302. No significant damage resulted from either of these events. It should be noted however, that a fuel or other hazardous materials spill into the Saco River could significantly affect the Saco River Aquifer, a very large aquifer from which multiple communities get their public drinking water.

There is always a very real threat of a hazardous material transportation accident, but the effects of such an event would be localized by nature; the potential loss value is estimated at 0% and 1% of the assessed value.

Hazardous Material – Fixed Location ..... $0 to $10,547,587

Conway has several areas that were noted as susceptible to damage from a fixed hazardous material event, particularly when combined with wildfire. These include, but are not limited to propane and other petroleum product storage at White Mountain Oil (three locations), Reliable Oil, Amerigas and Frechette Oil. These facilities are all subject to some degree of wildfire risk, however the White Mountain Oil facility in Redstone and Reliable Oil are the most susceptible.

In the past, no significant hazardous material events in a fixed location have taken place, but the possibility is real. Smaller fuel stores, chemicals used for golf course maintenance, liquid oxygen (LOX) at Memorial Hospital and the waste water treatment plants located within the community could present dangers in addition to the fuel storage facilities mentioned above.

If ignition of hazardous materials took place, entire buildings could be susceptible to explosion and fire. The resulting losses could be significant, not only in terms of structure loss but also loss of business revenue for local merchants, but these losses would, by the nature of the event, be confined to a limited area. Therefore, the potential loss value was estimated to be between 0% and 1% of the Town's total assessed structure value.

3) Terrorism ..... Structure Loss Value was not estimated

Terrorism is a fear throughout our country and the world, and although Conway is not host to any major terrorist targets such as hydro-dams or nuclear power plants, the possibility for a terrorist event, whether international or home-grown, is still real. The biggest fear would come from school incidents, possible civil unrest or the targeting of large gatherings of people.

Terrorism is identified as a remote, although possible, hazard for Conway, but due to the localized and unpredictable nature of a terrorist event, the structure loss value was not estimated.

4) Epidemic/Pandemic..... Structure Loss Value was not estimated

Conway's unique geography provides hikers and summer and winter recreation enthusiasts many opportunities to visit the Town; this tourist community's population shows a very significant increase on summer and winter weekends, and a particularly high increase in autumn as tourists from around the world visit Conway's scenic beauty. It is not unusual for Conway's population to nearly triple at almost any time of the year. In addition, many people who work in Conway travel from smaller communities in the Mount Washington Valley.

Because of these factors, the Team decided that an epidemic or pandemic could present a possible threat to Conway. With the occurrence of world-wide pandemics such as SARS, H1N1 and Avian Flu, Conway could be susceptible to an epidemic and subsequent quarantine. However, because there would be no direct impact to structures within the Town, structure loss value was not estimated.

A Note on Extended Power Failure

Extended power outages of five or more days have occurred in Conway, both as a result of local line damage from high winds and storms and problems with the power grid. If a major and/or extended power outage occurs and lasts for more than a week, a significant hardship on individual residents could result, particularly those citizens who are elderly, handicapped or poor.

Although many northern New Hampshire residents are somewhat self-sufficient (many residences are equipped with generators and many others have woodstoves), any of the hazards that are mentioned above, whether natural or human-caused would be significantly worsened without power.

Schouler Park – North Conway Village
Photo Credit: June Garneau

Town officials attempt to remain aware of persons who may need help in emergency situations. Nonetheless, an extended power failure causing frozen pipes and a lack of heat and water is potentially a serious hazard for the community.

Chapter 6: Current Town Policies, Plans & Mutual Aid

After researching historic hazards, identifying CIKR and determining potential hazards, the Team determined what is already being done in Town to protect its citizens and structures.

Once identified, the Team addressed each current policy or plan to determine its effectiveness and to determine whether or not improvements were needed. This analysis became one of the tools the Team used to identify mitigation action items for this plan.

With the knowledge of what regulations Conway currently had in place, creating new strategies was less difficult. This process was helpful in identifying current plans and policies that were working well and those that should be addressed as a new "action item" as well as the responsible departments. The table that follows, Table 6.1, Policies, Plans & Mutual Aid, shows the analysis that resulted from discussion with the Team.

TABLE 6.1: CURRENT POLICIES, PLANS & MUTUAL AID

Action Items noted here are shown in Tables 8.1 and 9.1.

Key to Effectiveness:

- **Excellent** – The existing program works as intended and is exceeding its goals.
- **Good** – The existing program works as intended and meets its goals.
- **Average** – The existing program does not work as intended and/or does not meet its goals.
- **Poor** – The existing program does not work as intended, often falls short of its goals, and/or may present unintended

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Inter-connect Agreement for Water Precincts	Lower Bartlett, North Conway and Conway Village water precincts have an interconnect agreement in case of emergency.	Conway	Water Precincts Commissioners	Average	**No Improvements Needed:** An inter-connect for the water precincts has been established and tested; this unidirectional system is doing what it was meant to do.
Building Permits	The Town complies with the current version of State Building Codes; currently there is a full-time code enforcement officer to enforce the standards.	Conway	Building Inspector / Board of Selectmen	Good	**Improvements Needed:** Building permits are required for all building in Conway; the Building Inspector inspects commercial and multi-family (3 or more) only; the building permit informs developers and builders of residential properties that they must comply with state building codes, but these buildings are not inspected; the Town should consider inspecting residential buildings**. (Action Item #13)**

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Life safety and fire codes	Provides guidance for all buildings for life safety and fire codes; state codes are adopted	Conway	Fire	Good	**Improvements Needed:** Conway uses the State Fire Codes as its base and will call upon the State Fire Marshall to assist in inspections if the need arises; however, the Town's sprinkler ordinance needs to be reviewed and updated. **(Action Item #14)**
NIMS & ICS Training for Town Officials & EOC Staff	Ensure effective command, control, and communications during emergencies	Conway	Emergency Management Director	Good	**Improvements Needed:** Some of Conway's town officials have received NIMS & ICS training, although some have not; EMD should encourage all town officials to take NIMS 700 and ICS 100 and 200. **(Action Item #15)**
Backup power - Generators	In the event of an emergency, backup power is available at the Center Conway, Conway and the North Conway Fire Stations, part of the Kennett High School, the Public Works Garage and the Conway Police Station. In addition the municipality's water and sewer systems have backup power; generators are still needed at other critical facilities.	Recreation Center, Town Hall, Redstone FD, East Conway FD	EMD	Poor	**Improvements Needed:** The Recreation Center (Primary Shelter), the Town Hall (records and administration), and the Redstone and East Conway Fire Stations need generators. **(Action Items #16-19)**
E-911	Markers at driveway entrances that identify residence locations in conjunction with the E-911 alerting system.	Conway	Select Board	Poor	**Improvements Needed:** There are currently many driveways (approximately 50%) that still do not have the appropriate 911 markers; the Town should consider establishing an ordinance to assist in the enforcement of 911 signage and provide more public outreach to educate and encourage homeowners to insure accurate emergency response. **(Action Item #20)**

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Fire Department Training	Fire Department and EMS personnel training for wildfire suppression and other fire related issues.	Conway	Emergency Management Director / Fire Chiefs	Good	**Improvements Needed:** Training of all fire responders is coordinated by the EMD and includes the many aspects of emergency response; training is done through the Conway Fire Department, Ossipee Valley Fire Mutual Aid, Mt. Washington Valley Fire Mutual Aid and the Fire Academy; deferred for continued training through 2018. **(Action Item #5)**
Emergency Operation Plan (2007)	This plan offers all members of the emergency management team a better understanding of procedures in case of a disaster.	Conway	EMD	Good	**Improvements Needed**: Regular 5-year update being completed in 2013. **(Action Item #21)**
School Emergency Response Plan (Currently being updated in 2013)	Insures preparedness and response for school personnel and town emergency personnel in the instance of a major disaster	Conway Schools	EMD & School Board (SAU 9)	Good	**Improvements Needed:** The Conway Public School EOPs (5) are being updated to include current state terminology and will continue to be updated according to state requirements; projects need completion for all of Conway Schools. **(Action Item #2)**
State Division of Forest and Lands/Fire Permits	State regulations for open burning and permits	Conway	NH Forests & Lands & DES	Poor	**Improvements Needed:** The system that is in place with NHFL and the local fire warden works well when the public complies; poor compliance and inconsistent enforcement in the five districts; Town is waiting for reappointments from the State; increased public education is needed. **(Action Item #22)**
Emergency Warning System	The Town does not currently have a system to alert residents of upcoming emergencies or hazardous events with the exception of public radio and TV; the school does have a reverse calling system, Alert Now, for parents of students.	Conway	EMD	Poor	**Improvements Needed:** The Town has researched several methods of notification and has found that many are not cost effective; deferred to this Plan to continue to explore available alert systems that will provide town-wide and/or neighborhood alerts. **(Action Item #4)**

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Police Mutual Aid	County and state police mutual aid system and individual agreements with surrounding communities	Conway	Police Department & Police Commission	Good	**No Improvements Needed:** A recently enacted state-wide statute provides for mutual aid between all police departments for critical incidents throughout the state; Conway PD also has written agreements with two Maine towns, Oxford and Fryeburg. RSA 105:13 allows an officer to assist with other towns if there is a written agreement between department heads, regardless of the level of the incident, provided there is a police department in the community.
Ossipee Valley Mutual Aid & Mount Washington Valley Mutual Aid	Fire mutual aid including more than 20 towns in Carroll County and the Town of Milton.	Conway	Five Fire Chiefs	Good	**No Improvements Needed:** Conway belongs to two fire mutual aid systems and also has a written agreement with Brownfield, ME; system works well.
Capital Reserve Funds	A phased projection of major equipment and supply purchase/replacement by each department and town	Conway	Board of Selectmen	Good	**No Improvements Needed:** Conway does not have a Capital Improvement Plan but does have Capital Reserve Funds which are reviewed annually at budget time; through the Capital Reserve Funds the town has laid out projected capital improvement needs for the next ten years; the Town feels that these funds constitute its CIP.
State Health Department Public Health Plan	State plan, "Regional Public Health Emergency Response Annex" written by state health department to be prepared for any public health emergency; the Town is part of the Carroll County Public Health Network.	Conway	Public Health Network Coordinator	Good	**No Improvements Needed:** Public Health Plan does what it is meant to do.

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Conway Lake Dam Emergency Action Plan	The Town of Conway has prepared its own emergency action plan in case of a dam breach at Conway Lake. The plan has determined that there is very little risk to property and life that would result from a dam breach.	Conway Lake Dam	Public Works & Center Conway Fire District	Good	**No Improvements Needed:** The Conway Lake DAM EAP was recently updated in 2012; not in need of any changes at this time.
Flood Ordinance - Part of Zoning Ordinance (2012)	Enrolled in NFIP program since April 16, 1979. Update ordinance regularly; meets state's standards (flood maps need improvement by FEMA)	Conway Flood Zone	Planning Board & Legislative Body	Excellent	**No Improvements Needed:** The Town and its Planning Department are very well educated on the NFIP, particularly since the devastating effects of Hurricane Irene; the Town is fully compliant with the NFIP and has adjusted their Flood Ordinance as needed; the ordinance does not allow building in the floodplain and any substantial improvements must be reviewed and comply with strict regulations.
Master Plan (2003/2011)	Includes goals, objectives and expectations for future development of the town	Conway	Planning Board	Excellent	**No Improvements Needed:** Gets reviewed annually by Planning Board and necessary changes are made; reviewed in 2012 by the Planning Board and no substantive changes were made at that time.
Zoning Ordinances (2012)	Constantly updated, they are considered current; include drainage, wetland buffer regulations and infrastructure provisions.	Conway	Planning Board & Legislative Body	Excellent	**No Improvements Needed:** Gets reviewed annually by the Planning Board and necessary changes are made and presented at Town Meeting.
Subdivision Regulations (2011)	Includes fire and emergency access, drainage, street and road standards and other subdivision requirements	Conway	Planning Board	Excellent	**No Improvements Needed:** Gets reviewed annually by the Planning Board and necessary changes are made as needed.
Local Road Design Standards	Conway Subdivision and Site Plan Regulations include road design standards.	Conway	Planning Board	Excellent	**No Improvements Needed:** No roads will be accepted as town-maintained roads that are not built to town specs; road standards have recently been revised and are more than adequate.

Current Program or Activity	Description	Area of Town Covered	Responsible Agent	Effectiveness	Improvements or Changes Needed
Bridge Maintenance Program	There is currently one bridge on the state Red List. Inspection and clean-up occur annually. The state inspects all bridges every other year and maintains them on a regular basis.	Conway	Public Works	Good	**No Improvements Needed:** The Conway Public Works Department has established a short and long-term schedule for bridge maintenance and replacement. Currently, there are no "red-listed" bridges in Town.
Culvert Maintenance / Replacement Program	Effort to assess culvert capabilities and to replace culverts as deemed necessary	Conway	Public Works	Good	**No Improvements Needed:** The Conway Public Works Department has established a short and long-term schedule for culvert maintenance and replacement. Currently, there are no culverts in town that are in immediate need of replacement.
Town Shoreland Protection Program (Part of Zoning Ordinance)	The Town has its own shoreland protection regulations.	All great ponds and lakes	Planning Board / Legislative Body	Good	**No Improvements Needed:** The Town's shoreland regulations work very well and are actually stricter than the State's Shoreland Protection Act.
Site Plan Review Regulations	Regulations that ensure that uses permitted by zoning are constructed on a site in such a way that they fit into the area in which they are being constructed without causing drainage, traffic or lighting problems.	Conway	Planning Board / Board of Selectmen	Good	**No Improvements Needed:** The Town's stringent site plan review regulations apply to all non-residential and multi-family; these regulations do what they are meant to do.
Memorial Hospital Emergency Management Plan	Prepares hospital administration and staff for evacuation and other emergency response in case of a disaster.	Memorial Hospital	Hospital CEO	Good	**No Improvements Needed:** The Memorial Hospital administration continuously updates their EMP and conducts frequent exercises to practice the Plan.

Chapter 7: Prior Mitigation Plan(s)

A. Date(s) of Prior Plan(s)

Conway has participated in the development of a prior Hazard Mitigation Plan, which received Final Approval by FEMA July 17, 2008. This Plan, the "Conway Hazard Mitigation Plan Update 2014" is and update to the first plan to be developed based on the Disaster Mitigation Act (DMA) of 2000.

Below are the strategies that were identified in the 2008 Plan. The Team identified the current status of each strategy based on three questions:

- Has the strategy been completed?
- Has (or should) the strategy be deleted?
- Has (or should) the strategy be deferred for consideration in this Plan?

TABLE 7.1: ACCOMPLISHMENTS SINCE PRIOR PLAN(S) APPROVAL

NOTE: Items in red were extracted word-for-word from the 2008 Hazard Mitigation Plan and do not represent a timeframe for this plan.

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment

Red items are the Mitigation Strategies from the last Plan and are "word-for-word" - Those items that are "Deferred" will become mitigation strategies as part of "Table 9.1: "The Action Plan - Implementation Strategies" in this Plan.

Mitigation Action	Who (Leadership)	When (Timeframe)	How (Funding Source)	Cost (Estimated)	Completed, Deleted, Deferred
Existing Strategies Recommended Improvements					
Emergency Back-Up Power Program: Purchase one or more generator for the Public Works building and other municipal facilities.	Town engineer	1 to 5 years	State Funding / Town Budget	$50,000 per generator (installed)	**Completed & Deferred:** The Public Works facility has generation but the Primary Shelter does not. Deferred to this plan for generator at the Conway Recreation Center. **(Action Item #1)**
School Evacuation Plan: Update all school plans to follow the new state requirement for formal emergency operation plans.	School superintendent	< 1 year	School Budget	Unknown	**Completed & Deferred:** The Conway School EOPs are being updated to include current state terminology and will continue to be updated according to state requirements; projects need completion for all of Conway Schools. (**Action Item #2)**

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
Public Works Mutual Aid: Prepare, agree upon and sign a mutual aid agreement with towns in the region.	Town Engineer / Emergency Management Director	1 to 5 years	None	None	**Deleted:** The Team has determined that this strategy is not currently appropriate for Conway; as the largest town in the region, it is often Conway who supplies public works equipment to its neighbors; verbal agreements are in place and are felt to be adequate.
Automatic External Defibrillators (AED): The Town Safety Committee will evaluate the need for AEDs and potentially purchase additional AEDs to be kept at Town Hall, Town Garage and Town Library.	Town Manager / Safety Committee	< 1 year	Town Budget	Unknown	**Completed & Deleted:** Many AEDs have been purchased and are located in appropriate places around Conway; this is deleted as it is an emergency preparedness issue, not a mitigation strategy.
Capital Improvements Program: Prepare a Capital Improvements Program that would include all facilities, roads & water systems, etc. for a more uniform planning effort.	Board of Selectmen	1 to 5 years	Town Budget	$15,000	**Completed:** Conway does not have a Capital Improvement Plan but does have Capital Improvement Funds which are reviewed annually at budget time; through the Capital Improvement Funds the Town has laid out projected capital improvement needs for the next ten years; the Town feels that these funds constitute its CIP.
Mitigation Strategies					
Swift River Excavation (at West Side Road): Excavate the bed of the swift river to remove gravel and enlarge the opening of the river channel.	Town Engineer	1 to 5 years	Town Budget	$300,000	**Deleted:** Conway does not have the authority to excavate the bed of the Swift River; DES and the Army Corp of Engineers will not permit this project; the Town does not have the authority to implement this strategy.
Modock Hill Road Reconstruction: Reconstruct the road with better drainage system, curbing and pavement to reduce the chances for erosion.	Town Engineer	> 5 years	State + Fed; Town Budget	$600,000	**Deferred:** The reconstruction of Modock Hill Road has not been done due to lack of funding; this mitigation strategy still needs to be done. **(Action Item #3)**

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
**Centrifugal Pumps: Purchase seven centrifugal pumps to pump water out of flooded buildings.	Water Superintendents (Two Districts)	1 to 5 years	Town Budget / State	$40,000 each	**Deleted:** This strategy is deleted as it is an emergency preparedness issue, not a mitigation strategy.
**Communication Interoperability Module: Purchase a communication interoperability module (including self-programmable digital radios) that allows bringing different frequencies together so that all emergency personnel and town officials could easily communicate during an event.	Emergency Management Director	1 to 5 years	FEMA Public Safety Interoperable Communication (PSIC)	$30,000	**Completed:** Communications systems in Conway have been improved since the last hazard mitigation plan; communications equipment for emergency responders and town officials is now interoperable.
Conway Lake Dam Headworks Rebuilding: Rebuild the concrete headworks for the Conway Lake Dam, which is corroding. This would diminish the probability and prevent a dam breach.	Town Engineer	> 5 years	Town Budget	Unknown at this time	**Completed:** The Conway Lake Dam rebuilding project was completed as planned with local funding.
Notification System: Explore different methods of emergency public notification in case of a disaster (sirens, reverse 911, tone for radios, NOAA radios, etc.)	Emergency Management Director	<1 year	Town Budget	$1,000	**Deferred:** The Town has researched several methods of notification and has found that many are not cost effective; deferred to this Plan to continue to explore available alert systems that will provide town-wide and/or neighborhood alerts. **(Action Item # 4)**
Recreation Center Fire Alarm System: Purchase and install a fire alarm system in the recreation center which has been identified as the primary shelter for Conway.	Town Manager	<1 year	Town Budget	$40,000	**Completed:** The Town has purchased and installed a fire alarm system in the Conway Recreation Center; this facility is the designated as the Primary Shelter for the town.

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
**Preparedness training: Continue training for first responders (fire, police and ambulance). Trainings include: mutual aid hazard drills, first aid classes, firefighting, ice and cold water rescue, chain saw safety classes, Homeland 1 Satellite terrorism training, incident command training and mass casualty training.	Emergency Management Director	Ongoing	FEMA grants / Town Budget	Unknown, but low cost.	**Completed & Deferred:** Training of all fire responders is coordinated by the EMD and includes the many aspects of emergency response; training is done through the Conway Fire Department, Ossipee Valley Mutual Aid, Mt. Washington Valley Mutual Aid and the Fire Academy; likewise, Police training is continuous through the Conway Police Department and the Police Academy. **(Action Item #5)**
**Tabletop exercise: Continue to hold annual or bi-annual tabletop exercises following the implementation of the emergency management plan.	Emergency Management Director	Ongoing	FEMA	$5,000	**Deleted:** This strategy is deleted as it is an emergency preparedness issue, not a mitigation strategy; tabletop exercises are done according to a timetable set forth by the EMD.
Join the Community Rating System (CRS) of the NFIP: Consider joining the Community Rating System to improve the community flood management capacities and reduce property owners' insurance rates.	Planning Director	1 to 5 years	No cost	None	**Deleted:** Conway complies with the NFIP but from a practical standpoint finds no merit to participate in the CRS.
**Hazmat Suits: Purchase hazmat suits for first responders to protect them in case of a chemical, biological or fire/high temperature related emergencies.	Emergency Management Director	1 to 5 years	FEMA	$3,000 each; Total (8) = $24,000	**Deleted**: Conway is part of the Carroll County Hazmat Team; this strategy is deleted as it is an emergency preparedness issue, not a mitigation strategy.
Urban/wildland fire interface and flooding: Provide information sessions/trainings for urban/wildland fire interface and flood debris clean-up to all interested residents.	Emergency Management Director & Town Manager	<1 year	Town Budget	Unknown	**Completed & Deferred:** Some information has been provided to residents about flooding and the Wildland Urban Interface (WUI), but more can be done including providing NFIP brochures, Firewise brochures and links on the Town's website. **(Action Items #6 & 7)**

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
**Brochure for Emergency Information: Develop an emergency preparedness brochure to be sent out with tax bills every year. It would include emergency procedures information for residents such as where the shelters are located, what are the evacuation routes, etc.	Emergency Management Director & Town Manager	< 1 year	Town Budget	$2,000	**Completed & Deferred:** Some steps have been taken to inform residents about emergency readiness, but more can be done; deferred to this Plan to refine the emergency information on the Town's website with additional links to other resources. **(Action Item #8)**
**Swift Water Rescue: Conduct swift water rescue training for town emergency personnel.	Emergency Management Director	1 to 5 years	FEMA	Low cost	**Deleted:** This strategy is deleted as it is an emergency preparedness issue, not a mitigation strategy.
Potential Hazards Actions					
Dollof Hill Road at the inlet of Dollof Pond: Reconstruct the crossing and elevate the road with enhanced drainage structures.	Public Works Director	1 to 5 years	Town Budget	$450,000	**Deferred:** The reconstruction of the crossing on Dollof Hill Road has not been done due to lack of funding; this mitigation strategy still needs to be done. **(Action Item #9)**
East side of Saco River at Pump Station no. 2 in North Conway: (1) Install riprap to stabilize the river embankment or (2) relocate the pump station.	North Conway Water Superintendent	> 5 years	Federal, State & Private	$200,000 (1); $800,000 or more (2)	**Deleted:** This strategy is deleted as the Saco River Pump Station #2 was washed away Hurricane Irene.
Route 16 at the outlet of Pequawket Pond: Enlarge the outlet of the dam so that overtopping does not occur.	State of New Hampshire (DES) - State owned dam	> 5 years	State funding	Unknown	**Completed:** This project was completed by the State more than 20 years ago; the Team was not sure why it was part of the last hazard mitigation plan.
Swift River at Conway Scenic Railroad and Kennett Property on west side of railroad tracks: Upgrade the railroad bridge with a larger and taller one to allow the water flow to pass.	Private (Conway Scenic Railroad)	1 to 5 years	Federal & State Funding	$800,000	**Completed:** The Conway Scenic Railroad upgraded the railroad bridge; the Conway Scenic Railroad and the State funded the project.

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
Transvale Acres: Consider long-term acquisition and relocation of structures in Transvale Acres, leaving the land open space in perpetuity.	Board of Selectmen; Planning Director	> 5 years	Several FEMA grant programs could be used for this project (FMA, HMGP, PDM & RFC); Town Budget for march	About $3 Millions	**Completed & Deferred:** Because of the impact of Hurricane Irene on Transvale Acres, the Town has received a hazard mitigation grant and is acquiring approximately 14 properties in Transvale Acres; the Town is pursuing enforcement action against all illegal structures in the floodplain. **Strategy #10**
Route 153 at the outlet of Snake Pond: Elevate the road by changing the bridge with a wider and taller structure.	Public Works Director	> 5 years	Federal, State & Local Funding	Over $3 Million	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.
West Side Road by River Road: Elevate the road by changing the bridge with a wider and taller structure.	State of New Hampshire (DOT) - State road	> 5 years	State funding	Unknown	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.
Saco River upstream and downstream of River Road: Rebuild the state bridge to open the flow of the river and therefore reduce erosion of the riverbanks upstream of the structure.	State of New Hampshire (DOT) - State road	> 5 years	State funding	Unknown	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.
River Road at Saco River: Elevate the road by changing the bridge with a wider and taller structure.	Public Works Director	> 5 years	Federal, State & Local Funding	Over $3 Millions	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.
West Side Road at Moat Brook: Elevate the road by changing the bridge with a wider and taller structure.	Public Works Director	> 5 years	Federal, State & Local Funding	Over $3 Millions	**Deleted:** This strategy was deleted because the cost benefit and the feasibility of the project did not warrant going forward on the strategy.
West Side Road at Swift River: Elevate the road by changing the bridge with a wider and taller structure.	Public Works Director	> 5 years	Federal, State & Local Funding	Over $3 Millions	**Deferred:** This strategy was not completed because it is cost prohibitive; the project still needs to be completed, but studies may prove it to not be cost effective to solve the problem. **Strategy #11**

Table 7.1 - Hazard Mitigation Plan 2008 - Assessment					
Artist Fall road at Kearsarge Brook: Elevate the road by changing the bridge with a wider and taller structure.	Public Works Director	> 5 years	Federal, State & Local Funding	$700,000	**Deferred:** This strategy was not completed because it is cost prohibitive; the project still needs to be completed; Kearsarge Brook often floods Artist Falls Road and has the potential to cutoff many residents from emergency responders. **(Action Item #12)**
Valley West Road: Elevate the road by changing the bridge with a wider and taller structure.	State of New Hampshire (DOT) - State road	> 5 years	Federal, State & Local Funding	Unknown	**Deleted:** The flooding issues on West Side Road in the vicinity of Valley West have not been mitigated due lack funding; the flooding issues at this location should be mitigated by the State; this is a state responsibility and therefore was deleted.
Route 113 between the Maine border and East Conway Road intersection: Elevate the road on stilts so that water does not rise over.	Public Works Director	> 10 years	Federal, State & Local Funding	Several millions of dollars	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.
Saco River at Justamere Road: Study this area to determine which option would be best for mitigation.	Town Engineer	> 5 years	Federal, State & Local Funding	$50,000	**Completed & Deleted:** The mitigation work for Justamere Road was studied, planned and completed; with state & federal money the stumps were cabled together but the mitigation project failed completely.
Saco River upstream, south of Crescent Drive: Study this area to determine which option would be best for mitigation.	Town Engineer	> 5 years	Federal, State & Local Funding	$50,000	**Completed:** A bank stabilization project has been undertaken with private (land owner) and USDA funding and should be completed by the end of winter of 2013.
Saco River by Route 16: Best mitigation action is unknown at this time. A study is needed to evaluate the best alternative.	State of New Hampshire (DOT) - State road & Town Engineer	> 5 years	State Funding	$50,000	**Deleted:** This project does not fall under the authority of the Town of Conway; this is a state responsibility and therefore was deleted.

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 8: New & Potential Mitigation Strategies & STAPLEE

A. Mitigaiton Strategies by Type

The following list of mitigation categories and comprehensive possible strategy ideas was compiled from a number of sources including the USFS, FEMA, other Planners and past hazard mitigation plans. This list was used during a brainstorming session to discuss what issues there may be in Town. Team involvement and the brainstorming sessions proved helpful in bringing new ideas, better relationships and a more in depth knowledge of the community.

Prevention

- Forest fire fuel reduction programs
- Special management regulations
- Fire Protection Codes NFPA 1
- Firewise Landscaping
- Culvert and hydrant maintenance
- Planning and zoning regulations
- Building Codes
- Density controls
- Driveway standards
- Slope development regulations
- Master Plan
- Capital improvement program
- Rural Fire Water Resource Plan
- NFIP Compliance

Public Education and Awareness

- Hazard information centers
- Public education and outreach programs
- Emergency website creation
- “Firewise” training
- NFIP awareness
- Public hazard notification
- Defensible space brochures

Emergency Service Protection

- Critical facilities protection
- Critical infrastructure protection
- Emergency training for Town officials
- Ongoing training for first responders

Property Protection

- Current use or other conservation measures
- Transfer of development rights
- Firewise Landscaping
- Water Drafting Facilities
- High risk notification for homeowners
- Structure elevation
- Real estate disclosures
- Flood proofing
- Building Codes
- Development regulations

Natural Resource Protection

- Best management practices within the forest
- Forest and vegetation management
- Forestry and landscape management
- Wetlands development regulations
- Watershed management
- Erosion Control
- Soil Stabilization
- Open space preservation initiatives

Structural Projects

- Structure acquisition and demolition
- Structure acquisition and relocation
- Bridge replacement
- Dam Removal
- Culvert up-size and/or realignment

B. Potential Mitigation Strategies by Hazard

In order to further promote the concept of mitigation, the Town was provided with a flier that was developed by Mapping and Planning Solutions and used to determine what additional mitigation action items might be appropriate for the Town. The mitigation strategies from that flier are listed on the following two pages; each item from this comprehensive list of possible mitigation strategies was considered by the Planning Team to determine if any of these strategies could be put in place for Conway with special emphasis on new and existing buildings and infrastructure.

Strategies that may apply to more than one hazard	**Type of Project**
Community Outreach and Education	*Public Awareness*
Changes to Zoning Regulations	*Prevention*
Changes to Subdivision Regulations	*Prevention*
Steep Slopes Ordinance	*Prevention*
Density Controls	*Prevention*
Driveway Standards	*Prevention*
Emergency Website Creation	*Public Awareness*
Critical Infrastructure & Key Resources	*Emergency Service Protection*
Emergency Training for Town Officials	*Emergency Service Protection*
High Risk Notification to Homeowners	*Property Protection*
Master Plan Update or Development	*Prevention*
Capital Improvement Plan	*Prevention*

Flood Mitigation Ideas	**Type of Project**
Storm Water Management Ordinances	*Prevention*
Floodplain Ordinances	*Prevention*
Updated Floodplain Mapping	*Prevention*
Watershed Management	*Natural Resource Protection*
Drainage Easements	*Prevention*
Purchase of Easements	*Prevention*
Wetland Protection	*Natural Resource Protection*
Structural Flood Control Measures	*Prevention*
Bridge Replacement	*Structural Project*
Dam Removal	*Structural Project*
NFIP Compliance	*Prevention*
Acquisition, Demolition & Relocation	*Structural Project*
Structure Elevation	*Structural Project*
Flood Proofing	*Property Protection*
Erosion Control	*Natural Resource Protection*
Floodplain/Coastal Zone Management	*Prevention*
Building Codes Adoption or Amendments	*Prevention*
Culvert & Hydrant Maintenance	*Prevention*
Culvert & Drainage Improvements	*Structural Protection*
Transfer of Development Rights	*Property Protection*

Natural Hazard Mitigation Ideas	Type of Project
Landslide	
Slide-Prone Area Ordinance	*Prevention*
Drainage Control Regulations	*Prevention*
Grading Ordinances	*Prevention*
Hillside Development Ordinances	*Prevention*
Open Space Initiatives	*Prevention*
Acquisition, Demolition & Relocation	*Structural Project*
Vegetation Placement and Management	*Natural Resource Protection*
Soil Stabilization	*Natural Resource Protection*
Thunderstorms & Lightning	
Building construction	*Property Protection*
Tornado & Severe Wind	
Construction Standards and Techniques	*Property Protection*
Safe Rooms	*Prevention*
Manufactured Home Tie Downs	*Property Protection*
Building Codes	*Property Protection*
Wildfire	
Building Codes	*Property Protection*
Defensible Space	*Prevention*
Forest fire fuel reduction	*Prevention*
Burning Restriction	*Property Protection*
Water Resource Plan	*Prevention*
Firewise Training & Brochures	*Public Awareness*
Woods Roads Mapping	*Prevention*
Extreme Temperatures	
Warming & Cooling Stations	*Prevention*
Winter Weather Snowstorms	
Snow load design standards	*Property Protection*
Subsidence	
Open Space	*Natural Resource Protection*
Acquisition, Demolition & Relocation	*Structural Project*
Earthquake	
Construction Standards and Techniques	*Property Protection*
Building Codes	*Property Protection*
Bridge Strengthening	*Structural Project*
Infrastructure Hardening	*Structural Project*
Drought	
Water Use Ordinances	*Prevention*

C. STAPLEE Methodology

Table 8.1 reflects the newly identified potential hazard and wildfire/structure fire mitigation action items as well as the results of the STAPLEE Evaluation as explained below. It should also be noted that although some areas are identified as "All Hazards", many of these would apply indirectly to wildfire/structure fire response and capabilities. Many of these potential mitigation action items overlap.

The goal of each proposed mitigation action item is the "reduction or prevention of damage from a natural or human-caused event". To determine the effectiveness of each mitigation action item in accomplishing this goal, a set of criteria that was developed by FEMA known as the STAPLEE Method, was applied to each proposed action item.

The STAPLEE method analyzes the **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic and **E**nvironmental aspects of a project and is commonly used by public administration officials and planners for making planning decisions. The following questions were asked about the proposed mitigation action items discussed in Table 8.1.

Social: ..... Is the proposed action item socially acceptable to the community? Is there an equity issue involved that would result in one segment of the community being treated unfairly?

Technical: ..... Will the proposed action item work? Will it create more problems than it solves?

Administrative: ..... Can the community implement the action item? Is there someone to coordinate and lead the effort?

Political: ..... Is the action item politically acceptable? Is there public support both to implement and to maintain the project?

Legal: ..... Is the community authorized to implement the proposed action item? Is there a clear legal basis or precedent for this activity?

Economic: ..... What are the costs and benefits of this action item? Does the cost seem reasonable for the size of the problem and the likely benefits?

Environmental: ..... How will the action item impact the environment? Will it need environmental regulatory approvals?

Each proposed mitigation action item was then evaluated and assigned a score based on the above criteria. Each of the STAPLEE categories was discussed and was awarded the following scores:

Good: 3
Average: 2
Poor: 1

An evaluation chart with total scores for each new action item is shown in Table 8.1.

The STAPLEE methodolgy also detailed the estimated cost of the proposed action item and the type of action item according to the following criteria:

- The Action Item cost was estimated to be:
    - **Low** ($0-$1,000 or staff time only)
    - **Medium** ($1,000-$10,000)
    - **High** ($10,000 or more)

- The "Type" of Action Item was considered to be (see page 75 for more reference):
    - **Prevention**
    - **Public Education & Awareness**
    - **Emergency Service Protection**
    - **Property Protection**
    - **Natural Resource Protection**
    - **Structural Projects**

D. Team's Understanding of Hazard Mitigation Action Items

The Team determined that any strategy designed to reduce personal injury or damage to property that could be done prior to an actual disaster would be listed as a potential mitigation strategy. This decision was made even though not all projects listed in Tables 8.1 and 9.1 (Mitigation Action Plan) are fundable under FEMA pre-mitigation guidelines. The Team determined that this Plan was in large part a management document designed to assist the Board of Selectmen and other town officials in all aspects of managing and tracking potential emergency planning strategies. For instance, the Team was aware that some of these strategies are more properly identified as preparedness or readiness issues. As there is no other established planning mechanisms that recognizes some of these issues, the Team did not want to "lose" any of the ideas discussed during these planning sessions and thought this method was the best way to achieve that objective.

Also, it should be noted that the Town understands that the "Mitigation Action Items" for a town of 200 are not the same as the "Mitigaiton Action Items" for a town of 30,000. In addition, the "Mitigation Action Items" for a town in the middle of predominantly hardword forests, are not the same as the "Mitigation Action Items" for a town on the Jersey Shore. Therefore the Town of Conway has accepted the "Mitigation Action Items" in Tables 8.1 and 9.1 as the complete list of "Mitigation Action Items" for this Town and only this Town and hereby indicates that having carefully considered a comprehesive list of other possible mitigation strategies (see pages 83-85) for this Plan, there are no additional "Mitigation Action Items" to add at this time.

North Conway Fire Station
Photo Credit: June Garneau, MAPS

TABLE 8.1: POTENTIAL MITIGATION STRATEGIES & STAPLEE

- *Strategies are listed in numerical order and indicate if they were derived from prior tables in this Plan, i.e., (Table 7.1). In addition, strategies that were developed for the Community Wildfire Protection Plan are indicated with (CWPP).*

- *Items in green such as (MU14) represent mitigation strategies taken from Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013; see Appendix D for more information.*

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(1) Establish an interactive website for educating the public on hazard mitigation and preparedness measures (MU14) by adding a page to the Town's recently enhanced website that will include such information as emergency contacts, shelter locations, evacuation routes (SW7, WF11 & T3), methods of emergency alerting, 911 compliance, water saving techniques (D9), earthquake risk and mitigation activities that can be taken in residents' homes (EQ7), steps homeowners can take to protect themselves and their properties when extreme temperatures occur (ET1 & ET4), safety measures that can be taken during hail (HA3) and lightning storms (L2), mitigation techniques for property protection and links to available sources; educate homeowners regarding the risks of building in hazard zones and encourage homeowners to install carbon monoxide monitors and alarms (WW5).	Town Wide	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(2) Complete Emergency Operations Plans for all of Conway Schools. **(Tables 6.1 & 7.1)**	Conway Schools	20	3	3	2	3	3	3	3
			Administrative: Staff availability may be limited for both the Town and Schools						
(3) Reconstruct Modock Hill Road with a better drainage system, curbing and pavement to mitigate road erosion (MU13). **(Table 7.1)**	Modock Hill Road	17	3	3	3	2	3	1	2
			Political: The Taxpayers may not want to spend the money ***Economic:*** Budget constraints ***Environmental:*** DES permitting will be required						
(4) Explore and purchase a town-wide emergency notification system such as Code Red, Nixle, etc.; research the new reverse Emergency Notification System (ESN) that is being implemented by the Department of Emergency Communications. **(Tables 6.1 & 7.1)**	Town Wide	20	3	3	3	3	3	2	3
			Economic: Budget constraints						
(5) Provide training for all fire responders on a continuous basis, including new hires, continuing education and refresher courses in order to mitigate the damages that may be caused by a hazardous material event. **(Tables 6.1 & 7.1)**	Town Wide	20	3	3	2	3	3	3	3
			Administrative: It is difficult to get all five Conway Fire Departments coordinated and on the same training schedule						

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(6) Advise the public about the local flood hazard, flood insurance and flood protection measures (F10) by obtaining and keeping on hand a supply of NFIP brochures to have available in the Town Offices; give NFIP materials to homeowners and builders when proposing new development or substantial improvements; encourage property owners to purchase flood insurance (F22), whether or not they are in the flood zone and provide appropriate links to the NFIP and Ready.gov on the Town's website**. (Table 7.1)**	Town Wide	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(7) Obtain and have available "Firewise" brochures to educate homeowners on methods to reduce fire risk around their homes (WF10); provide "Firewise" brochures to those residents seeking burn permits; advise residents of the importance of maintaining defensible space, the safe disposal of yard and household water and the removal of deal or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches and yards. (WF12) **(Table 7.1)**	Town Wide	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(8) Create a more extensive source for emergency preparedness information on the Town's website including such things as shelter locations and evacuation routes; include links to additional resources and www.ready.gov. (MU15) **(Table 7.1)**	Town Wide	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(9) Reconstruct and elevate the crossing on Dollof Hill Road and add enhanced drainage structures to better mitigate the flow of storm water and snowmelt (MU13). **(Table 7.1)**	Dollof Hill Road	17	3	3	3	2	3	1	2
			Political: The Taxpayers may not want to spend the money ***Economic:*** Budget constraints ***Environmental:*** DES permitting will be required						
(10) Complete the purchase and demolition of specified properties in Transvale Acres and continue to enforce floodplain regulations (F12 & MU12). **(Table 7.1)**	Transvale Acres	16	2	3	1	2	3	2	3
			Social: Push back from residents of Transvale Acres ***Administrative:*** A limited amount of staff time can be allotted to this project ***Political:*** The community in general may not want the Town to do this project ***Economic:*** Budget constraints						
(11) Elevate West Side Road at the Swift River by adding with an elevated road bed to mitigate flooding and road erosion (F17, ER5 & MU13). **(Table 7.1)**	West Side Road at Swift River	18	3	3	3	3	3	1	2
			Economic: Budget constraints ***Environmental:*** Approvals needed by DES & Army Corp						
(12) Elevate Artist Falls Road at Kearsarge Brook by replacing the current bridge with a wider and taller structure to mitigate the potential for flooding (MU13). **(Table 7.1)**	Artist Falls Road at Kearsarge Brook	18	3	3	3	3	3	1	2
			Economic: Budget constraints ***Environmental:*** Approvals needed by DES & Army Corp						

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(13) Considering establishing a policy to inspect all residential buildings. **(Table 6.1)**	Town Wide	16	2	3	2	1	3	2	3
			Social: People would feel their ability to do as they please would be compromised ***Administrative:*** Additional staff would have to be hired ***Political:*** Not political acceptable to the citizenry, "Live Free or Die" ***Economic:*** There would be the cost to hire staff						
(14) Review and update the Town's Sprinkler Ordinance (WF2). **(Table 6.1)**	Town Wide	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(15) NIMS & ICS Training for Town Officials in order to have better trained individuals handling disaster events so that the effects of the event can be mitigated. **(Table 6.1)**	Town Wide	20	3	3	2	3	3	3	3
			Administrative: Staff time and the coordination to get this done would be an issue						
(16) Obtain and install a generator at the Conway Recreation Center which is designated as the Primary Shelter.(MU13) **(Table 6.1)**	Conway Recreation Center	15	2	3	3	1	3	1	2
			Social: People may not want their tax dollars used on this ***Political:*** Some will not see the need ***Economic:*** Budget constraints ***Environmental:*** A potential environmental study may be needed from the grantor						
(17) Obtain and install a generator at the Conway Town Hall to protect town records and the continuity of government. (MU13) **(Table 6.1)**	Conway Town Hall	15	2	3	3	1	3	1	2
			Social: People may not want their tax dollars used on this ***Political:*** Some will not see the need ***Economic:*** Budget constraints ***Environmental:*** A potential environmental study may be needed from the grantor						

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(18) Obtain and install a generator at the Redstone Fire Station to insure continued operation and response capabilities and communications. (MU13) **(Table 6.1)**	The Redstone Fire Station	13	2	2	2	1	3	1	2
			Social: People may not want their tax dollars used on this ***Technical:*** There may not have enough land to install a generator ***Administrative:*** Limited staff availability to get this project done ***Political:*** Some will not see the need ***Economic***: Budget constraints ***Environmental:*** A potential environmental study may be needed from the grantor						
(19) Obtain and install a generator at the East Conway Fire Station to insure continued operation and response capabilities and communications. (MU13) **(Table 6.1)**	The East Conway Fire Station	13	2	2	2	1	3	1	2
			Social: People may not want their tax dollars used on this ***Technical:*** There may not have enough land to install a generator ***Administrative:*** Limited staff availability to get this project done ***Political:*** Some will not see the need ***Economic***: Budget constraints ***Environmental:*** A potential environmental study may be needed from the grantor						
(20) Consider establishing an ordinance that would assist in the enforcement of E-911 signage and provide more public outreach to educate and encourage homeowners to insure accurate emergency response. **(Table 6.1)**	Town Wide	20	3	3	3	2	3	3	3
			Political: Some people may not want the number on their house						
(21) Update the Conway Emergency Operations Plan. **(Table 6.1)**	Town Wide	20	3	3	2	3	3	3	3
			Administrative: Limited staff availability						
(22) Increase public awareness and education regarding the fire permitting process to improve compliance (W12). **(Table 6.1)**	Town Wide	20	3	3	2	3	3	3	3
			Administrative: Limited staff availability						
(23) Require and maintain safe access for fire apparatus to wildland-urban interface neighborhoods and properties (WF8) by advising residents who live on private roads of the importance of maintaining their roads for first responders; add to website; add information to the Town's website.	Class VI & Private Roads	21	3	3	3	3	3	3	3
			No Apparent Difficulties						
(24) Review the Town's firefighting water resources, establish a hydrant maintenance program to routinely inspect the functionality of fire hydrants (WF8) and consider locations for dry hydrants and fire breaks in existing developments; contact NCRC&D to develop a Rural Fire Water Resource Plan and include water resource mapping.	Town Wide	20	3	3	2	3	3	3	3
			Administrative: Limited staff availability						

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(25) Contact local storage facilities and advise them to add security measures at their facilities.	Bulk Storage Facilities in Town	20	3	3	2	3	3	3	3
			Administrative: Limited staff availability						
(26) Identify woods roads to assist with fire response and use RSA 231:59A to maintain Class VI and Private Roads for emergency use; take the issue to Town Meeting to obtain funding for basic road maintenance of particular roads as identified by the Fire Chiefs (WF1) **(CWPP)**	Town Wide	15	2	3	2	1	2	2	3
			Social: People do not like government intrusion ***Administrative:*** Limited staff availability ***Political:*** This would be difficult to get passed by the Town **Economic:** Budget question about who would do and pay for the maintenance						
(27) Take actions to reduce fire risk in Birch Hill neighborhood; Firewise, brush clearing, fuel reduction, community-wide fire breaks, secondary egress, road signage and house numbering are all actions that can be taken to reduce the fire risk (WF9). **(CWPP)**	Birch Hill Neighborhood	18	3	3	2	3	2	2	3
			Administrative: Limited staff availability ***Legal:*** Will need private ownership, Forest Service and/or Hale's Location to gain a second egress ***Economic:*** Budget constraints						
(28) Install a pump house and fixed monitors for an on-site pond to improve water supply in the area of White Mountain Oil; create defensible space and a fire break (or breaks) to mitigate the chances of wildfire (WF7 & WF9). **(CWPP)**	White Mt. Oil & Propane in Redstone	19	3	3	3	3	1	3	3
			Legal: White Mountain Oil & Propane must agree to do this as this is private property						
(29) Install 30,000 gallon cistern(s) to improve the water resource capability so that wildfires can be better mitigated; also improve road signage and fuel reduction. (WF6 & WF9) **(CWPP)**	Mountain Vale & Patridge Run	16	3	2	2	3	1	2	3
			Administrative: Limited staff availability ***Technical:*** May need to bring in technical expertise ***Legal:*** The Associations would have to do this ***Economic:*** The town may have to expend public funds to do this						
(30) Improve roads and signage, add more defensible space around structures in the Green Hill Estates area and develop a secondary means of egress and construct a water source such as a fire pond or cistern (WF4 & WF12). **(CWPP)**	Green Hill Estates	16	3	2	2	3	1	2	3
			Administrative: Limited staff availability ***Technical:*** May need to bring in technical expertise ***Legal:*** The Green Hill Estates Association would have to do this ***Economic:*** The town may have to expend public funds to do this						

Mitigation Action Item	Affected Location	STAPLEE Score	S	T	A	P	L	E	E
(31) Improve roads and signage, and more defensible space around structures in the Rock House Mountain area and construct a water source such as a fire pond or cistern (WF4 & WF12). **(CWPP)**	Rock House Mountain	16	3	2	2	3	1	2	3
			Administrative: Limited staff availability ***Technical:*** May need to bring in technical expertise ***Legal:*** The Association would have to do this ***Economic:*** The town may have to expend public funds to do this						
(32) Take actions to reduce fire risk in Dandiview neighborhood; Firewise, brush clearing, fuel reduction, community-wide fire breaks, road signage and house numbering are all actions that can be taken to reduce the fire risk; US-FS fuel reduction program and upgrade Forest Service road for emergency egress (WF9). **(CWPP)**	Dandiview	18	3	3	2	3	2	2	3
			Administrative: Limited staff availability Legal: May need private ownership, FS Location to get a second egress E: Budget						
(33) Create fuel breaks along the developed areas and reduce fuel load in Whittaker Woods; maintain forest management (WF9). **(CWPP)**		20	3	3	3	2	3	3	3
			Political: Some people will not want any tree cutting done in Whittaker Woods						
(34) Create a system to better enforce fire permitting through Public Education and Outreach. **(CWPP)**	Echo Lake State Park	20	3	3	2	3	3	3	3
			Administrative: Limited ability to have staff available who will be there to inform the public and to issue the permits						
(35) Insure that the proper signage, road structure and continuation of water lines follows regulations in the Saco River Run subdivision; provide Public Outreach to provide new homeowners with information on mitigating potential wildfire/structure events. (WF4 & WF12) **(CWPP)**	Saco Run	20	3	2	3	3	3	3	3
			Technical: Technical changes could be required						

Conway Town Hall
Photo Credit: June Garneau

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 9: Implementation Schedule for Prioritized Strategies

A. Priority Methodology

After reviewing the finalized STAPLEE numerical ratings, the Team prepared to develop Table 9.1, The Mitigation Action Plan (Table 9.1). To do this, team members created four categories into which they would place all the potential mitigation action items.

- **Category 0** was to include those items which being done and will continue to be done in the future.
- **Category 1** was to include those items under the direct control of town officials, within the financial capability of the Town using only town funding, those already being done or planned, and those that could generally be completed within one year.
- **Category 2** was to include those items that the Town did not have sole authority to act upon, those for which funding might be beyond the Town's capability, and those that would generally take between 13—24 months.
- **Category 3** was to include those items that would take a major funding effort, those that the Town had little control over the final decision, and those that would take in excess of 24 months to complete.

Each potential mitigation action item was placed in one of these four categories and then those strategies were prioritized within each category according to cost-benefit, time frame and capability. Actual cost estimates were unavailable during the planning process, although using the STAPLEE process along with the methodology detailed above and a Low-High estimate (see page 68) the Team was able to come up with a general consensus on cost-benefit for each proposed action item.
The Team also considered the following criteria while ranking and prioritizing each action item:

- Does the action reduce damage?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures?
- Does the action keep in mind future development?
- Can the action be implemented quickly?

The prioritization exercise helped the committee seriously evaluate the new hazard mitigation strategies that they had brainstormed throughout the hazard mitigation planning process. While all actions would help improve the Town's hazard and wildfire/structure fire responsiveness capability, funding availability will be a driving factor in determining what and when new mitigation action items are implemented.

B. Who, When, How?

Once this was completed, the Team developed an Action Plan that outlined who is responsible for implementing each action item, as well as when and how the actions will be implemented. The following questions were asked in order to develop a schedule for the identified mitigation strategies.

WHO? Who will lead the implementation efforts? Who will put together funding requests and applications?

WHEN? When will these actions be implemented, and in what order?

HOW? How will the community fund these projects? How will the community implement these projects? What resources will be needed to implement these projects?

In addition to the prioritized mitigation action items, Table 9.1, The Mitigation Action Plan, includes the responsible party (WHO), how the project will be supported (HOW), and what the timeframe is for implementation of the project (WHEN).

Some projects, including most training and education of residents on emergency and evacuation procedures, could be tied into the emergency operation plan and implemented through that planning effort.

C. Table 9.1

Table 9.1 list Mitigation Action Items preceded by Problem Statements that were expressed by the Planning Team. These strategies are listed in order of priority and indicate if they were derived from prior tables in this Plan.

The Estimated Cost was determined using the following criteria:

- Low ($0 - $1,000 or staff time only),
- Medium ($1,000-$10,000)
- High ($10,000 or more*).*

Items in green such as (MU14) represent mitigation strategies taken from Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013; see Appendix D for more information.

Strategies that were developed for the Community Wildfire Protection Plan are indicated with (CWPP).

TABLE 9.1: MITIGATION PLAN ACTION ITEMS

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
0-01	*Problem Statement: Training of all fire responders is coordinated by the EMD and includes the many aspects of emergency response; training is done through the Conway Fire Department, Ossipee Valley Fire Mutual Aid, Mt. Washington Valley Fire Mutual Aid and the Fire Academy; deferred for continued training through 2018.* **Action Item (5)** Provide training for all fire responders on a continuous basis, including new hires, continuing education and refresher courses in order to mitigate the damages that may be caused by a hazardous material event.. **(Tables 6.1 & 7.1)**	All Hazards & Wildfire/Structure Fire	Emergency Management Director	Local	2014-2019 as new there new hires and/or training is needed	Low
0-02	*Problem Statement: Not all Town Officials (those who would respond at the time of an emergency) have been trained in ICS 100 & 200 and NIMS 700.* **Action Item (15)** NIMS & ICS Training for Town Officials in order to have better trained individuals handling disaster events so that the effects of the event can be mitigated. **(Table 6.1)**	All Hazards	Board of Selectmen & EMD	Local	As new staff is hired or elected, 2014-2019	Low
1-01	*Problem Statement: The Town's Emergency Operation Plan was last complete in 2007; the recommended five year update is past-due.* **Action Item (21)** Update the Conway Emergency Operations Plan. **(Table 6.1)**	All Hazards	EMD	Local	08/27/14	Medium
1-02	*Problem Statement: The Conway Schools' EOPs need to be updated to include current terminology and state requirements. The Conway Schools' EOPs need to be updated to include current terminology and state requirements.* **Action Item (2)** Complete Emergency Operations Plans for all of Conway Schools. **(Tables 6.1 & 7.1)**	All Hazards	Superintendent of Schools & Emergency Responders	Local	09/27/14	Low

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
1-03	*Problem Statement: As a result of the damage done by Tropical Storm Irene, the Town has received a hazard mitigation grant to acquire approximately 14 properties in Transvale Acres; enforcement action against all illegal structures in the floodplain needs to continue.* **Action Item (10)** Complete the purchase and demolition of specified properties in Transvale Acres and continue to enforce floodplain regulations (F12 & MU12). **(Table 7.1)**	Flooding	Town Manager & EMD	Local & Grants	09/27/14	High
1-04	*Problem Statement: The Building Inspector inspects commercial and multi-family (3 or more) only; residential properties are not inspected and builders are only advised that they must follow state building code on the building permit; no inspection is required for residential properties.* **Action Item (13)** Considering establishing a policy to inspect all residential buildings. **(Table 6.1)**	All Hazards	Building Inspector & Board of Selectmen	Local	10/28/14	Low
1-05	*Problem Statement: Residents are not aware of emergency procedures or preventative techniques that can be done to protect their lives and property.* **Action Item: (1)** Establish an interactive website for educating the public on hazard mitigation and preparedness measures (MU14) by adding a page to the Town's recently enhanced website that will include such information as emergency contacts, shelter locations, evacuation routes (SW7, WF11 & T3), methods of emergency alerting, 911 compliance, water saving techniques (D9), earthquake risk and mitigation activities that can be taken in residents' homes (EQ7), steps homeowners can take to protect themselves and their properties when extreme temperatures occur (ET1 & ET4), safety measures that can be taken during hail (HA3) and lightning storms (L2), mitigation techniques for property protection and links to available sources; educate homeowners regarding the risks of building in hazard zones and encourage homeowners to install carbon monoxide monitors and alarms (WW5).	All Hazards including: Severe Wind, Drought, Earthquake, Extreme Temperatures, Hail, Lightning, Severe Winter Weather, Tornado & Wildfire	Town Manager	Local	06/27/14	Low

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
1-06	*Problem Statement: Some information has been provided to residents about flooding; but more can be done to inform the citizens of Conway about the risks of building in the floodplain and how to better mitigate for flooding.* **Action Item (6)** Advise the public about the local flood hazard, flood insurance and flood protection measures (F10) by obtaining and keeping on hand a supply of NFIP brochures to have available in the Town Offices; give NFIP materials to homeowners and builders when proposing new development or substantial improvements; encourage property owners to purchase flood insurance (F22), whether or not they are in the flood zone and provide appropriate links to the NFIP and Ready.gov on the Town's website**. (Table 7.1)**	Flooding	Planning Director	Local	07/28/14	Low
1-07	*Problem Statement: Some information has been provided to residents about the Wildland Urban Interface (WUI); but more can be done to inform the citizens of Conway about the risks of to their properties and how to better prepare and mitigate for wildfires.* **Action Item (7)** Obtain and have available "Firewise" brochures to educate homeowners on methods to reduce fire risk around their homes (WF10); provide "Firewise" brochures to those residents seeking burn permits; advise residents of the importance of maintaining defensible space, the safe disposal of yard and household water and the removal of deal or dry leaves, needles, twigs, and combustible materials from roofs, decks, eaves, porches and yards. (WF12) **(Table 7.1)**	Wildfire/Structure Fire	Town Fire Warden	Local	07/28/14	Low
1-08	*Problem Statement: Public compliance with fire permitting regulations needs improvement through public education and outreach.* **Action Item (22)** Increase public awareness and education regarding the fire permitting process to improve compliance (W12). **(Table 6.1)**	Wildfire/Structure Fire	NH Forests & Lands & Fire Warden	Local	08/27/14	Low
1-09	*Problem Statement: Residents may not be aware of the factors that impede emergency response.* **Action Item (23)** Require and maintain safe access for fire apparatus to wildland-urban interface neighborhoods and properties (WF8) by advising residents who live on private roads of the importance of maintaining their roads for first responders; add to website.; add information to the Town's website.	Wildfire & All Hazards	Fire Chiefs	Local	06/27/14	Low

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
1-10	*Problem Statement: There are currently many driveways (approximately 50%) that still do not have the appropriate 911 markers.* **Action Item (20)** Consider establishing an ordinance that would assist in the enforcement of E-911 signage and provide more public outreach to educate and encourage homeowners to insure accurate emergency response. **(Table 6.1)**	All Hazards	Select Board & Planning Board	Local	10/28/14	Low
1-11	*Problem Statement: Conway uses the State Fire Codes as its base and will call upon the State Fire Marshall to assist in inspections if the need arises; however, the Town's sprinkler ordinance needs to be reviewed and updated.* **Action Item (14)** Review and update the Town's Sprinkler Ordinance (WF2). **(Table 6.1)**	Wildfire/Structure Fire	Fire Chiefs & Planning Board	Local	10/10/14	Low
2-01	*Problem Statement: A town-wide emergency notification system does not exist in Co***nway.** **Action Item (4)** Explore and purchase a town-wide emergency notification system such as Code Red, Nixle, etc.; research the new reverse Emergency Notification System (ESN) that is being implemented by the Department of Emergency Communications. **(Tables 6.1 & 7.1)**	All Hazards	Emergency Management Director	Local	03/27/15	Medium
2-02	*Problem Statement: Some steps have been taken to inform residents about emergency readiness, but more can be done to bring mitigation ideas, readiness issues and general emergency preparedness resource information to the public.* **Action Item (8)** Create a more extensive source for emergency preparedness information on the Town's website including such things as shelter locations and evacuation routes; include links to additional resources and www.ready.gov. (MU15) **(Table 7.1)**	All Hazards	Emergency Management Director & Town Manager	Local	06/10/15	Low
2-03	*Problem Statement: Bulk propane storage facilities are located throughout town and are unprotected; these facilities could be targets for terrorists.* **Action Item (25)** Contact local storage facilities and advise them to add security measures at their facilities.	Terrorism & Hazardous Materials Fixed Location	Fire Chiefs	Local	03/27/15	Low

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
2-04	*Problem Statement: There are not enough water sources in town to offer the best fire suppression and those that are available are not be mapped; locations for water resources are limited.* **Action Item (24)** Review the Town's firefighting water resources, establish a hydrant maintenance program to routinely inspect the functionality of fire hydrants (WF8) and consider locations for dry hydrants and fire breaks in existing developments; contact NCRC&D to develop a Rural Fire Water Resource Plan and include water resource mapping.	Wildfire/Structure Fire	Fire Chiefs & EMD	Local & Grants	02/25/16	Low
2-05	*Problem Statement: Emergency backup power is not available at the Redstone Fire Station; this is important for the continuation of response capabilities and for communications.* **Action Item (18)** Obtain and install a generator at the Redstone Fire Station to insure continued operation and response capabilities and communications. (MU13) **(Table 6.1)**	Wildfire/Structure Fire	Redstone Fire Precinct	Local & Grants	12/26/15	High
2-06	*Problem Statement: Emergency backup power is not available at the East Conway Fire Station; this is important for the continuation of response capabilities and for communications.* **Action Item (19)** Obtain and install a generator at the East Conway Fire Station to insure continued operation and response capabilities and communications. (MU13) **(Table 6.1)**	Wildfire/Structure Fire	East Conway Fire Station	Local & Grants	12/26/15	High
2-07	*Problem Statement: The Echo Lake area was ranked as the #7 Wildland Urban Interface Area of Concern; this pine forest is a popular destination for hikers, campers, general foot traffic and campfires; lack of permits for state and federal land is also a concern (Echo Lake State Park).* **Action Item (34)** Create a system to better enforce fire permitting through Public Education and Outreach. **(CWPP)**	Wildfire/Structure	Fire Warden, DRED, North Conway Fire Chief	State	08/02/15	Low
3-01	*Problem Statement: Emergency backup power is not available at the Town's designated Primary Shelter, Conway Recreation.* **Action Item (16)** Obtain and install a generator at the Conway Recreation Center which is designated as the Primary Shelter. (MU13) **(Table 6.1)**	All Hazards	Emergency Management Director	Local & Grants	02/25/18	High

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
3-02	*Problem Statement: Birch Hill was ranked as the #1 Wildland Urban Interface Area of concern; the neighborhood is at a high wildfire risk due to the size of the development, the number of people who live there, the fuel type and south facing slopes, the proximity to the White Mountain National Forest and a maze of roadways that will allow any fire to have a "head start".* **Action Item (27)** Take actions to reduce fire risk in Birch Hill neighborhood; Firewise, brush clearing, fuel reduction, community-wide fire breaks, secondary egress, road signage and house numbering are all actions that can be taken to reduce the fire risk (WF9). **(CWPP)**	Wildfire/Structure Fire	Forest Fire Warden	Local	02/25/17	Medium
3-03	*Problem Statement: West Side Road at Swift River experiences flooding and road erosion; elevate the road.* **Action Item (11)** Elevate West Side Road at the Swift River by adding with an elevated road bed to mitigate flooding and road erosion (F17, ER5 & MU13). **(Table 7.1)**	Flooding & Erosion	Public Works Director	Local & Grants	01/26/19	High
3-04	*Problem Statement: The Mountain Vale and Partridge Run area was ranked as the #3 Wildland Urban Interface Area of Concern (tied with Green Hill Estates); this is a neighborhood of multiple dwellings with no available water sources to fight fires.* **Action Item (29)** Install 30,000 gallon cistern(s) to improve the water resource capability so that wildfires can be better mitigated; also improve road signage and fuel reduction. (WF6 & WF9) **(CWPP)**	Wildfire/Structure Fire	Forest Fire Warden / Redstone Fire Chief	Private & Grants	05/28/19	High
3-05	*Problem Statement: Modock Hill Road erosion continues to take place.* **Action Item (3)** Reconstruct Modock Hill Road with a better drainage system, curbing and pavement to mitigate road erosion (MU13). **(Table 7.1)**	Flooding & Erosion	Public Works Director	Local	06/27/17	High
3-06	*Problem Statement: The reconstruction and drainage enhancements at the crossing on Dollof Hill Road still need to be done.* **Action Item (9)** Reconstruct and elevate the crossing on Dollof Hill Road and add enhanced drainage structures to better mitigate the flow of storm water and snowmelt (MU13). **(Table 7.1)**	Flooding	Public Works Director	Local	04/27/18	High

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
3-07	*Problem Statement: Kearsarge Brook often floods Artist Falls Road; has the potential to flood and cutoff many residents from emergency responders.* **(12)** Elevate Artist Falls Road at Kearsarge Brook by replacing the current bridge with a wider and taller structure to mitigate the potential for flooding (MU13). **(Table 7.1)**	Flooding	Public Works Director	Local	02/25/19	High
3-08	*Problem Statement: White Mountain Oil & Propane was ranked as the #2 Wildland Urban Interface Area of Concern; this facility has 360,000 gallons of propane fuel on site; 3 tanks are located within a close proximity to the forest thus reducing the defensible space to near zero; this proximity of these propane tanks to the forest creates a large risk for wildfires.* **Action Item (28)** Install a pump house and fixed monitors for an on-site pond to improve water supply in the area of White Mountain Oil; create defensible space and a fire break (or breaks) to mitigate the chances of wildfire (WF7 & WF9). **(CWPP)**	Wildfire/Structure Fire & Hazardous Materials Fixed Location	Forest Fire Warden / Redstone Fire Chief	Private	03/26/16	High
3-09	*Problem Statement: The Dandiview neighborhood was ranked as the #5 Wildland Urban Interface Area of Concern; dense development, adjacency to the WMNF, high solar radiation, the fuel type (pine) and poor road markings make this a difficult place to fight and control fires.* **Action Item (32)** Take actions to reduce fire risk in Dandiview neighborhood; Firewise, brush clearing, fuel reduction, community-wide fire breaks, road signage and house numbering are all actions that can be taken to reduce the fire risk; US-FS fuel reduction program and upgrade Forest Service road for emergency egress (WF9). **(CWPP)**	Wildfire/Structure Fire	North Conway Fire Chief, Forest Fire Warden & USFS	Local	02/25/16	Medium

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
3-10	*Problem Statement: The Rock House Mountain area was ranked as the #4 Wildland Urban Interface Area of Concern; this is a dense development of homes built on steep slopes; the private road system is too narrow and not well-marked; vegetation is close to homes creating no defensible space; lack of water sources and the quality of the roads make this a difficult place to fight fires; two access points but roads experience disintegration during rain storms.* **Action Item (31)** Improve roads and signage, and more defensible space around structures in the Rock House Mountain area and construct a water source such as a fire pond or cistern (WF4 & WF12). **(CWPP)**	Wildfire/Structure	Forest Fire Warden / Conway Fire Chief	Private & Grants	05/28/19	High
3-11	*Problem Statement: Green Hill Estates was ranked as the #3 Wildland Urban Interface Area of Concern (tied with Mountain Vale and Partridge Run); narrow and poorly marked roads; one road in and one road out; similar issues to Mountain Vale above; pine forest surrounding buildings with no water resources.* **Action Item (30)** Improve roads and signage, add more defensible space around structures in the Green Hill Estates area and develop a secondary means of egress and construct a water source such as a fire pond or cistern (WF4 & WF12). **(CWPP)**	Wildfire/Structure	Forest Fire Warden / East Conway Fire Chief	Private & Grants	05/28/19	High
3-12	*Problem Statement: When voted on at a Town Meeting, RSA 231: 59A allows the Town to declare "emergency lanes" on Class VI and Private Roads and to do minimum maintenance to keep them accessible to emergency responders; these roads are not identified and woods roads have not been mapped in Conway.* **Action Item (26)** Identify woods roads to assist with fire response and use RSA 231:59A to maintain Class VI and Private Roads for emergency use; take the issue to Town Meeting to obtain funding for basic road maintenance of particular roads as identified by the Fire Chiefs (WF1) **(CWPP)**	Wildfire/Structure Fire	Forest Fire Warden	Local	06/26/16	Medium

Rank	Problem Statement & Mitigation Action Item	Type of Hazard	Responsibility or Oversight	Funding or Support	Timeframe	Est. Cost
3-13	*Problem Statement: Emergency backup power is not available at the Conway Town Hall; this is important for the protection of records, to maintain the continuation of government and to maintain communications.* **Action Item (17)** Obtain and install a generator at the Conway Town Hall to protect town records and the continuity of government. (MU13) **(Table 6.1)**	All Hazards	Town Manager & EMD	Local	03/27/17	High
3-14	*Problem Statement: Whittaker Woods was ranked as the #6 Wildland Urban Interface Area of Concern; this large recreational area which backs up to the Memorial Hospital is a popular recreation site in North Conway Village; forest includes pine and spruce and is adjacent to railroad tracks; there is difficult access and limited water accessibility; impact would be to recreation and have less of an economic impact than a fire in other areas.* **Action Item (33)** Create fuel breaks along the developed areas and reduce fuel load in Whittaker Woods; maintain forest management (WF9). **(CWPP)**	Wildfire/Structure	North Conway Fire Chief, Forest Fire Warden, Town Forester & Select Board	Local	12/26/18	Low
3-15	*Problem Statement: The Saco River Run subdivision was ranked as the #8 Wildland Urban Interface Area of Concern; this approved 150 lot was a well regulated project with town regulations and requirements in place; currently unfinished development that should be monitored to insure compliance with regulations*. **Action Item (35)** Insure that the proper signage, road structure and continuation of water lines follows regulations in the Saco River Run subdivision; provide Public Outreach to provide new homeowners with information on mitigating potential wildfire/structure events. (WF4 & WF12) **(CWPP)**	Wildfire/Structure	Planning Board, Center Conway Fire Chief	Private (Developer)	April 30, 2018 or sooner when developer for phases #2 and #3	High to developer

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 10: Adopting, Monitoring, Evaluating and Updating the Plan

A. Hazard Mitigation Plan Monitoring, Evaluation and Updates

A good mitigation plan must allow for updates where and when necessary, particularly since communities may suffer budget cuts or experience personnel turnover during both the planning and implementation states. A good plan will incorporate periodic monitoring and evaluation mechanisms to allow for review of successes and failures or even just simple updates. The Emergency Management Director is responsible for initiating Plan reviews and will consult with members of the hazard mitigation planning team identified in this plan.

The Conway Hazard Mitigation Plan Update 2014 is considered a work in progress. There are three situations which will prompt revisiting this plan:

- *First, as a minimum, it **will** be **reviewed annually or after any emergency event** to assess whether the existing and suggested mitigation strategies were successful. This review will focus on the assessment of the Plan's effectiveness, accuracy and completeness in monitoring of the implementation strategy. The review will also address recommended improvements to the Plan as contained in the FEMA plan review checklist, and address any weaknesses the Town identified that the Plan did not adequately address.*
- *Second, the Plan will be thoroughly **updated** every **five years.***
- *Third, if the Town adopts any major modifications to its land use planning documents, the jurisdiction will conduct a Plan review and make changes as applicable.*

In keeping with the process of adopting this hazard mitigation plan, the public and stakeholders will have the opportunity for future involvement as they will be invited to participate in any and all future reviews or updates of this Plan. Public notice before any review or update will be given by such means as: *press releases in local papers, posting meeting information on the Town website and at the Town Hall, sending letters to federal, state, and local organizations impacted by the Plan, and posting notices in public places in the Town.* This will ensure that all comments and revisions from the public and stakeholders will be considered. The Emergency Management Director insures that these actions will be done.

Concurrence forms to be used for post-hazard or annual reviews are available in Chapter XI of this plan. The Town is encouraged to use these forms to document any changes and accomplishments since the development of this Plan. Forms are available for years 1-4, with expectation that the five-year annual update will be in process during the fifth year.

B. Integration with Other Plans

This plan will only enhance mitigation if balanced with all other town plans. Conway completed its first Hazard Mitigation Plan in 2008 and has completed most projects from that Plan. The Town was able to integrate these actions into other town activities, plans and mechanisms such as the incorporation of the 2008 Hazard Mitigation Plan with the 2008 Emergency Operations Plan and participation in local emergency mutual aid systems.

Conway will continue to take the necessary steps to incorporate the mitigation strategies and other information contained in this Plan with other town activities, plans and mechanisms, when appropriate. The Town will incorporate elements from this Plan into the following documents:

Master Plan:

Traditionally, Master Plans are updated every 5 to 10 years and detail the use of capital reserves funds and capital improvements within the Town. Conway's Master Plan was updated (2011); following the recommended 10-year plan, Conway will update their Master Plan by 2021. The current Master Plan has integrated concepts from the 2008 Hazard Mitigation Plan and any future updates, will integrate the "action items" from this Plan.

Conway Emergency Operations Plan 2008 (EOP):

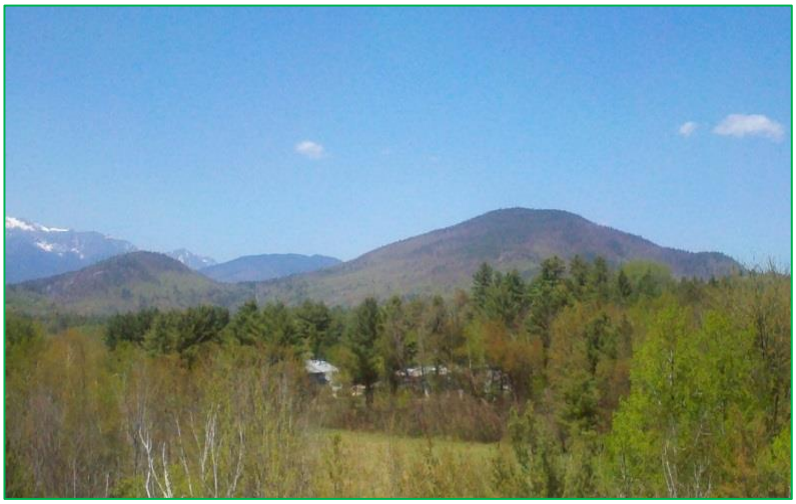
The EOP is designed to allow the Town to respond more effectively to disasters as well as mitigate the risk to people and property; EOPs are generally reviewed after each hazardous event and updated on a five-year basis. The Conway EOP will be ready for a recommended update in 2013. The current EOP includes elements from the last hazard mitigation plan (2008) and any future updates will include elements from this Plan. **(Action Item #13)**

Town Budget:

During the annual budget planning process, specific mitigation actions identified in this Plan that require Town fiscal support will be reviewed for incorporation into the budget.
(Action Items that require funding from the Town)

Capital Reserve Fund / Capital Improvement Plan:

Conway's Capital Reserve Fund program is reviewed periodically as a working document to guide the Town's long term spending. At each annual review of the Capital Reserve Funds, the Town will look at this Plan to incorporate the long terms needs that are identified to keep the community safe from natural and human-caused hazards. In addition, the Town will use elements from this Plan to create a Capital Improvement Plan should they do so in the future.



View from Interval Scenic Rest Stop
Photo Credit: June Garneau, MAPS

Subdivision Regulations & Land Use Ordinances:

As time goes by and the needs of the Town change, these ordinances will be reviewed and updated. In coordination with these actions, the Planning Board will review this Hazard Mitigation Plan and incorporate any changes that help mitigate the susceptibility of the community and its citizens to the dangers of natural or human-caused disasters.

The local governments will modify other plans and actions as necessary to incorporate hazard and/or wildfire/structure fire issues; the Board of Selectmen ensures this process will be followed in the future. In addition, the Town will review and make note of instances when this has been done and include it as part of their annual review of the Plan.

C. Plan Approval & Adoption

This Plan was completed in a series of open meetings beginning on November 13, 2012. The Plan was presented to the Town for review, submitted to FEMA for Conditional Approval *(APA, Approved Pending Adoption)*, formally adopted by the Board of Selectmen and resubmitted to FEMA for Final Approval. Once Final Approval from FEMA was met, copies of the Plan were distributed to the Town, HESM, FEMA, DRED and the USDA-FS; the Plan was then distributed as these entities saw fit. Copies of the Plan remain on file at Mapping and Planning Solutions (MAPS) in both digital and paper format.

(Note: for the purposes of clarity, the above paragraph was written in future tense, noting that these actions have not yet transpired – this line will be deleted when final hard copy is distributed)

The Village of North Conway
Photo Credit: June Garneau, MAPS

THIS PAGE

INTENTIONALLY LEFT

BLANK

Chapter 11: Signed Community Documents and Approval Letters

A. Planning Scope of Work & Agreement

PLANNING SCOPE OF WORK & AGREEMENT

HAZARD MITIGATION PLAN
Date Revised

Parties to the Agreement
The Town of Conway, NH
Mapping and Planning Solutions

Date of the Agreement
November 13, 2012

This Agreement between the Town of Conway (the Town) or its official designee and Mapping and Planning Solutions (MAPS) outlines the Town's desire to engage the services of MAPS to assist in planning and technical services in order to produce the 2013 Hazard Mitigation Plan Update (the Plan). The prior Hazard Mitigation Plan is due to expire on July 16, 2013.

Agreement

This Agreement outlines the responsibilities that will ensure that the Plan is developed in a manner that involves community members and local, federal and state emergency responders and organizations. The Agreement identifies the work to be done by detailing the specific tasks, schedules and finished products that are the result of the planning process.

The goal of this Agreement is that the Plan and planning process be consistent with Town policies and that it accurately reflects the values and individuality of the community. This is accomplished by forming a working relationship between the Town's citizens, the planning team and MAPS.

The Plan created as a result of this Agreement will be presented to the Town for adoption once conditional approval is received from FEMA. When adopted, the Plan provides guidance to the Town, commissions, and departments; adopted plans serve as a guide and do not include any financial commitments by the Town. Additionally, all adopted plans should address mitigation strategies for reducing the risk of natural, man-made, and wildfire disasters on life and property and written so that they may be integrated within other community planning initiatives.

Scope of Work

MAPPING AND PLANNING SOLUTIONS' RESPONSIBILITIES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

- MAPS will collect data that is necessary to complete the Plan and meet the requirements of the FEMA Crosswalk by working with the planning team and taking public input from community members.
- With the assistance of the planning team, MAPS will coordinate and facilitate meetings and provide any materials, handouts and maps necessary to provide a full understanding of each step in the planning process.
- MAPS will assist the Team in the development of goals, objectives and implementation strategies and clearly define the processes needed for future Plan monitoring, educating the public and integrating the Plan with other Town plans and activities.
- MAPS will coordinate and collaborate with other federal, state and local agencies throughout the process.
- MAPS will explain and delineate the community's Wildland Urban Interface (WUI) and, working with the Team, will establish a list of potential hazards and analyze the risk severity of each.

- MAPS will author, edit and prepare the Plan for review by the Team prior to submitting the Plan to FEMA for conditional approval. Upon conditional approval by FEMA, MAPS will assist the planning team as needed with presentation of the Plan to the Town Select Board and/or Planning Board and continue to work with the Town until final approval and distribution of the Plan is complete, unless extraordinary circumstances prevail.

- MAPS shall provide, at its office, all supplies and space necessary to complete the Town's Hazard Mitigation Plan.

- After final approval is received from FEMA, MAPS will provide the Town with one copy of the Plan containing all signed documents, approvals and GIS maps along with a CD containing these same documents in digital form, for distribution by the Town as it sees fit. Additional copies of the Plan will be distributed by MAPS to collaborating agencies including, but not limited to, NH Homeland Security (HSEM) and FEMA.

- MAPS will provide Plan maintenance assistance on an annual basis leading up to the next five-year Plan update at no cost to the Town.

THE TOWN'S RESPONSIBILITIES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

- The Town shall insure that the planning team includes members who are able to support the planning process by identifying available community resources including people who will have access to and can provide pertinent data. The planning team should include, but not be limited to, such community members as the local Emergency Management Director, the Fire and Police Chiefs, representatives from the relative federal and state organizations, other local officials, property owners, and relevant businesses or organizations.

- The Town shall determine a lead contact to work with Mapping and Planning Solutions. This contact shall assist with recruiting participants for planning meetings, including the development of mailing lists when and if necessary, distribution of flyers, and placement of meeting announcements in the community. In addition, this contact shall assist Mapping and Planning Solutions with organizing public meetings to develop the plan and offer assistance to Mapping and Planning Solutions in developing the work program which will produce the Plan.

- The Town shall gain the support of stakeholders for the recommendations found within the Plan.

- The Town shall provide public access for all meetings and provide public notice at the start of the planning process and at the time of adoption, as required by FEMA.

- The proposed Plan shall be submitted to the Town Select Board and/or Planning Board for consideration and adoption.

- After adoption and final approval from FEMA is received, the Town will:
  - *Distribute copies of the Plan as it sees fit throughout the local community.*
  - *Develop a team to monitor and work toward plan implementation.*
  - *Publicize the Plan to the Town and insure community awareness.*
  - *Urge the Planning Board to incorporate priority projects into the community's Capital Improvement Plan (if available).*
  - *Integrate mitigation strategies and priorities from the Plan into other town plans.*

Terms

- **Fees and Payment Schedule**: The contract price is limited to $5,000. The payment procedure is as follows: MAPS will invoice the Town, the Town will forward the MAPS invoice along with an Invoice from the Town on Town letterhead to HSEM, HSEM will pay the Town, and the Town will pay MAPS for each occasion outlined below. No out-of-pocket money is required from the Town.

  - 1. Initial payment upon signing of this contract and receipt of first invoice $2,400
  - 2. Second payment upon Plan submittal to FEMA for Conditional Approval and receipt of second invoice.....$2,400
  - 3. Final payment upon project completion and receipt of final Plan copy and receipt of third invoice $200

  Total Fees.....$5,000

- **Required Matching Funds:** The Town of Conway will be responsible to provide and document any and all resources to be

used to meet the FEMA required matching funds. Matching funds are the responsibility of the Town of Conway, not MAPS. Mapping and Planning Solutions will however assist the Town with attendance tracking by asking meeting attendees to "sign in" at all meetings and to "log" any time spent outside of the meetings working on this project. MAPS will provide the Town with final attendance records in spreadsheet form at project's end for the Town to use in its match fulfillment.

- **Project Period:** This project shall begin upon signing this Agreement by both parties and continue through September 13, 2013, at which time the planning process should be complete. The project period may be extended by mutual written Agreement between the Town and MAPS. The actual project end date is dependent upon timely adoptions and approvals which are outside of the control of Mapping and Planning Solutions and the Town in general.

- **Ownership of Material:** All maps, reports, documents and other materials produced during the project period shall be owned by the Town; each party may keep file copies of any generated work. MAPS shall have the right to use work products collected during the planning process; however, MAPS shall not use any data in such a way as to reveal personal or public information about individuals or groups which could reasonably be considered confidential.

- **Termination:** This Agreement may be terminated if both parties agree in writing. In the event of termination, MAPS shall forward all information prepared to date to the Town. MAPS shall be entitled to recover its costs for any work that was completed.

- **Limit of Liability:** MAPS agrees to perform all work in a diligent and efficient manner according to the terms of this Agreement. MAPS' responsibilities under this Agreement depend upon the cooperation of the Town of Conway. MAPS and its employees, if any, shall not be liable for opinions rendered, advice, or errors resulting from the quality of data that is supplied. Adoption of the Plan by the Town and final approval of the Plan by FEMA, relieve MAPS of content liability.

- **Amendments**: Changes, alterations or additions to this Agreement may be made if agreed to in writing between both the Town of Conway and Mapping and Planning Solutions.

- **Contacts:**

Mapping and Planning Solutions
June Garneau
Mapping and Planning Solutions
P.O. Box 283, 91 Cherry Mountain Place
Twin Mountain, NH 03595-0283
jgarneau@mappingandplanning.com
(603) 846-5720; (603) 991-9664

Town of Conway
Steve Solomon
Fire Chief & EMD
128 West Main Street
Conway, NH 03818
chiefsolomon@conwayfire.org
(603) 447-2681

SIGNATURE BELOW INDICATES ACCEPTANCE OF AND AGREEMENT TO DETAILS OUTLINED IN THIS AGREEMENT

FOR THE TOWN OF CONWAY, NH

Signature

Earl Sires, Town Manager
Printed Name/Title

2/25/13
Date

FOR MAPPING AND PLANNING SOLUTIONS

Signature
June Garneau, Owner

November 12, 2012
Date

Signature is a scanned facsimile; original signatures are on file.

B. Conditional Approval Letter from FEMA

Conway, NH Approval Pending Adoption

Hilliard, Marilyn <Marilyn.Hilliard@fema.dhs.gov>

Sent: Fri 5/16/2014 5:23 PM
To: chiefsolomon@conwayfire.org; jgarneau@mappingandplanning.com
Cc: Peck, Elizabeth; Moore, Parker; NH MIT Plans; Ndikum-Nyada, Brigitte; Johnson, Nan; Lavallee, Denise

Congratulations!

FEMA Region I has completed its review of the Conway, NH Multi-Hazard Mitigation Plan and found it approvable pending adoption. With this approval, the jurisdiction meets the local mitigation planning requirements under 44 CFR 201 **pending FEMA's receipt of the adoption documentation and an electronic copy of the final plan**. These items should be provided to your state's mitigation planning point of contact who will ensure they are forwarded to FEMA. Acceptable electronic formats include Word or PDF files and must be submitted to us via email at ***fema-r1-mitigationplans@fema.dhs.gov***. Upon FEMA's receipt of these documents, a formal letter of approval will be issued, along with the final FEMA Checklist and Assessment.

The FEMA letter of formal approval will confirm the jurisdiction's eligibility to apply for Mitigation grants administered by FEMA and identify related issues affecting eligibility, if any. If the plan is not adopted within one calendar year of FEMA's Approval Pending Adoption, the jurisdiction must update the entire plan and resubmit it for FEMA review. If you have questions or wish to discuss this determination further, please contact me at marilyn.hilliard@fema.gov or 617-956-7536.

Thank you for submitting Conway's Multi-Hazard Mitigation Plan and congratulations again on your successful community planning efforts.

marilyn.hilliard@fema.dhs.gov
Mitigation Division, FEMA Region I
99 High St., 6th fl., Boston, MA 02110
617-956-7536 phone
617-956-7574 fax

C. Signed Certificate of Adoption

CERTIFICATE OF ADOPTION

Conway, NH
BOARD OF SELECTMEN
A RESOLUTION ADOPTING THE TOWN OF CONWAY, HAZARD MITIGATION PLAN UPDATE 2014

WHEREAS, the Town of Conway has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of those natural hazards profiled in this plan, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Conway has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update 2014 under the requirements of 44 CFR 201.6; and

WHEREAS, public and committee meetings were held between November 13, 2012 and June 4, 2013 regarding the development and review of the Hazard Mitigation Plan Update 2014 and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedure for the Town of Conway; and

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

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

RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Conway;
2. The respective officials identified in the mitigation strategy of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution;
4. An annual report on the progress of the implementation elements of the Plan shall be presented to the Board of Selectmen by the Emergency Management Director.

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of the Town of Conway on this day, _____, 2014

_____ _____

Chair of the Board of Selectmen Printed Name

Signature is a scanned facsimile; original signatures are on file.

D. Final Approval Letter from FEMA

PAGE LEFT INTENTIONALLY BLANK FOR INSERTION OF FINAL APPROVAL LETTER FROM FEMA WHEN RECEIVED.

Signature is a scanned facsimile; original signatures are on file.

E. CWPP Approval Letter from DRED

Conway, NH
A Resolution Approving the
Conway Hazard Mitigation Plan Update 2014
As a Community Wildfire Protection Plan

Several public meetings and committee meetings were held between November 13, 2012 and June 4, 2013, regarding the development and review of the Conway Hazard Mitigation Plan Update 2014. The Conway Hazard Mitigation Plan Update 2014 contains potential future projects to mitigate hazard and wildfire/structure fire damage in the Town of Conway.

The Fire Chief along with the Select Board and EMD desire that this Plan and be accepted by the Department of Resources and Economic Development (DRED) as a Community Wildfire Protection Plan, having adhered to the requirements of said Plan.

The Select Board, EMD and the Conway Fire Chief approve the Conway Hazard Mitigation Plan Update 2014 and understand that with approval by DRED, this Plan will also serve as a Community Wildfire Protection Plan.

For the Town of Conway

APPROVED and SIGNED this day, _____, 2014.

_____
Chairman Select Board

_____
Emergency Management Director

_____
Fire Chief

For the Department of Resources and Economic Development

APPROVED and SIGNED this day, _____, 2014.

_____
Forest Ranger – NH Division of Forest and Lands, DRED

APPROVED and SIGNED this day, _____, 2014.

_____
Director – NH Division of Forest and Lands, DRED

Signature is a scanned facsimile; original signatures are on file

THIS PAGE

INTENTIONALLY LEFT

BLANK

F. Annual Review or Post Hazard Concurrence Forms

YEAR ONE

Check all that apply

☐ Annual Review & Concurrence - **Year One**: _____ (Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

The Town of Conway, NH shall execute this page annually by the members of the Town's governing body and the Town's designated Emergency Management Director after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Hall, sending letters to federal, state, and local organizations impacted by the Plan, and posting notices in public places in the Town.

Conway Hazard Mitigation Plan Update 2014

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Select Board Chair

Changes and notes regarding the 2014 Hazard Mitigation Plan

_____

_____

_____

_____

_____

Please use reverse side for additional notes ➡

Additional Notes – Year One:

YEAR TWO

Check all that apply

☐ Annual Review & Concurrence - **Year Two**: _____ (Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

The Town of Conway, NH shall execute this page annually by the members of the Town's governing body and the Town's designated Emergency Management Director after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Hall, sending letters to federal, state, and local organizations impacted by the Plan, and posting notices in public places in the Town.

Conway Hazard Mitigation Plan Update 2014

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Select Board Chair

Changes and notes regarding the 2014 Hazard Mitigation Plan

_____

_____

_____

_____

_____

Please use reverse side for additional notes 

Additional Notes – Year Two:

YEAR THREE

Check all that apply

☐ Annual Review & Concurrence - **Year Three**: _____ (Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

The Town of Conway, NH shall execute this page annually by the members of the Town's governing body and the Town's designated Emergency Management Director after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Hall, sending letters to federal, state, and local organizations impacted by the Plan, and posting notices in public places in the Town.

Conway Hazard Mitigation Plan Update 2014

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Select Board Chair

Changes and notes regarding the 2014 Hazard Mitigation Plan

_____

_____

_____

_____

_____

Please use reverse side for additional notes 

Additional Notes – Year Three:

YEAR FOUR

Check all that apply

☐ Annual Review & Concurrence - **Year Four**: _____ (Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

☐ Annual Review & Concurrence – Post Hazardous Event: _____ (Event/Date)

The Town of Conway, NH shall execute this page annually by the members of the Town's governing body and the Town's designated Emergency Management Director after inviting the public to attend any and all hearings that pertain to this annual and/or post hazard review and/or update by means such as press releases in local papers, posting meeting information on the Town website and at the Town Hall, sending letters to federal, state, and local organizations impacted by the Plan, and posting notices in public places in the Town.

Conway Hazard Mitigation Plan Update 2014

REVIEWED AND APPROVED

DATE: _____

SIGNATURE: _____

PRINTED NAME: _____

Emergency Management Director

CONCURRENCE OF APPROVAL

SIGNATURE: _____

PRINTED NAME: _____

Select Board Chair

Changes and notes regarding the 2014 Hazard Mitigation Plan

_____

_____

_____

_____

_____

Please use reverse side for additional notes 

Additional Notes – Year Four:

Chapter 12: Appendices

- APPENDIX A: BIBLIOGRAPHY
- APPENDIX B: TECHNICAL AND FINANCIAL ASSISTANCE FOR HAZARD MITIGATION
    - *Hazard Mitigation Grant Program (HMGP)*
    - *Pre-Disaster Mitigation (PDM)*
    - *Flood Mitigation Assistance (FMA)*
    - *Repetitive Flood Claims (RFC)*
    - *Severe Repetitive Loss (SRL)*
- APPENDIX C: PRESIDENTIAL DISASTER & EMERGENCY DECLARATIONS
- APPENDIX D: POTENTIAL MITIGATION IDEAS
- APPENDIX E: ACRONYMS
- APPENDIX F: MAP DOCUMENTS
    - *Map 1 – Base Risk Analysis*
    - *Map 2 – Wildland Urban Interface (WUI)*
    - *Map 3 – Emergency Response Facilities (ERFs) & Evacuation Routes*
    - *Map 4– Non-Emergency Response Facilities (NERFs) & Facilities & People to Protect (FPP)*
    - *Map 5 – FEMA Flood Zone & Past Hazards*
    - *Map 6 – North Conway Village*
    - *Map 7 – Conway Village*
    - *Map 8 – Center Conway Village*

THIS PAGE

INTENTIONALLY LEFT

BLANK

Appendix A: Bibliography

Documents

- **Local All Hazards Mitigation Planning Guide**, FEMA, January 2013
- **Local Mitigation Planning Handbook,** FEMA, March 2013
- **Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards**, FEMA, January 2013
- **Conway Subdivision Regulations; Flood Ordinance Section**
- **All Hazards Mitigation Plans**
    - Conway Hazard Mitigation Plan, 2008
    - Littleton All Hazards Mitigation Plan, 2012
    - Sandwich Hazard Mitigation Plan, 2013
    - Salem Hazard Mitigation Plan, 2012
- **NH State Multi-Hazard Mitigation Plan**, 2013
    - *http://www.nh.gov/safety/divisions/hsem/HazardMitigation/documents/hazard-mitigation-plan.pdf*
- **NH Division of Forests and Lands Quarterly Update**
    - *http://www.nhdfl.org/fire-control-and-law-enforcement/fire-statistics.aspx*
- **Disaster Mitigation Act (DMA) of 2000,** Section 101, b1 & b2 and Section 322a
    - *http://www.fema.gov/library/viewRecord.do?id=1935*
- **Economic & Labor Market Information Bureau**, NH Employment Security, 2012;Community Response for Conway, Received, 8/13/12; *http://www.nh.gov/nhes/elmi/htmlprofiles/*
- **Photos:** Photos taken by June Garneau unless otherwise noted.

Additional Websites

- US Forest Service; *http://www.fs.fed.us*
- US Fire Administration; *http://www.usfa.dhs.gov/*
- US Department of Agriculture Wildfire Programs: *http://www.wildfireprograms.usda.gov/*
- Firewise; *http://www.firewise.org/*
- NH Homeland Security & Emergency Management; *http://www.nh.gov/safety/divisions/hsem/*
- US Geological Society; http://water.usgs.gov/ogw/subsidence.html
- Department Environmental Services; *http://des.nh.gov/organization/divisions/water/dam/drought/documents/historical.pdf*
- The Disaster Center (NH); http://www.disastercenter.com/newhamp/tornado.html
- Floodsmart, about the NFIP; *http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp*
- NOAA, National Weather Service; *http://www.nws.noaa.gov/glossary/index.php?letter=w*
- NOAA, Storm Prediction Center; *http://www.spc.noaa.gov/faq/tornado/beaufort.html*
- NOAA, Index/Heat Disorders; http://www.srh.noaa.gov/ssd/html/heatwv.htm
- National Weather Service; http://www.nws.noaa.gov/om/windchill/
- Center for Disease Control; http://www.bt.cdc.gov/disasters/winter/guide.asp f
- FEMA; *http://www.fema.gov/hazard/hazmat/index.shtm*
- Slate; http://www.slate.com/id/2092969/
- Home Pro Inspections; How Radon Enters a House; *www.homeprocanada.ca/radon/HP_radon.htm*
- NH Office of Energy and Planning; http://www.nh.gov/oep/planning/programs/fmp/join-nfip.htm
- Code of Federal Regulations; Title 14, Aeronautics and Space; Part 1, Definitions and Abbreviations; http://ecfr.gpoaccess.gov
- Federal Aviation Administration; http://faa.custhelp.com
- US Legal, Inc.; http://definitions.uslegal.com/v/violent-crimes/

Appendix B: Technical and Financial Assistance for Hazard Mitigation

FEMA's Hazard Mitigation Assistance (HMA) grant programs provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages. Currently, FEMA administers the following HMA grant programs[36]:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Repetitive Flood Claims (RFC)
- Severe Repetitive Loss (SRL)

FEMA's HMA grants are provided to eligible Applicants (States/Tribes/Territories) that, in turn, provide sub-grants to local governments and communities. The Applicant selects and prioritizes subapplications developed and submitted to them by subapplicants. These subapplications are submitted to FEMA for consideration of funding. Prospective subapplicants should consult the office designated as their Applicant for further information regarding specific program and application requirements. Contact information for the FEMA Regional Offices and State Hazard Mitigation Officers is available on the FEMA website, www.fema.gov.

Table 2: Eligible Subapplicants

	HMGP	PDM	FMA	RFC	SRL
State agencies	√	√	√	√	√
Tribal governments	√	√	√	√	√
Local governments/communities	√	√	√	√	√
Private non-profit organizations (PNPs)	√				

Eligibility Chart taken from the FY 2010 Hazard Mitigation Assistance (HMA) Unified Guidance[37]

HMA Grant Programs

The HMA grant programs provide funding opportunities for pre- and post-disaster mitigation. While the statutory origins of the programs differ, all share the common goal of reducing the risk of loss of life and property due to Natural Hazards. Brief descriptions of the HMA grant programs can be found below. For more information on the individual programs, or to see information related to a specific Fiscal Year, please click on one of the program links.

A. Hazard Mitigation Grant Program (HMGP)

HMGP assists in implementing long-term hazard mitigation measures following Presidential disaster declarations. Funding is available to implement projects in accordance with State, Tribal, and local priorities.

[36] Information in Appendix B is taken from the following website and links to specific programs unless otherwise noted; http://www.fema.gov/government/grant/hma/index.shtm

[37] FY 2010 Hazard Mitigation Assistance (HMA) Unified Guidance; http://www.fema.gov/library/viewRecord.do?id=3649

What is the Hazard Mitigation Grant Program?

The Hazard Mitigation Grant Program (HMGP) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Authorized under Section 404 of the Stafford Act and administered by FEMA, HMGP was created to reduce the loss of life and property due to natural disasters. The program enables mitigation measures to be implemented during the immediate recovery from a disaster.

Who is eligible to apply?

Hazard Mitigation Grant Program funding is only available to applicants that reside within a presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

Individual homeowners and businesses may not apply directly to the program; however a community may apply on their behalf.

How are potential projects selected and identified?

The State's administrative plan governs how projects are selected for funding. However, proposed projects must meet certain minimum criteria. These criteria are designed to ensure that the most cost-effective and appropriate projects are selected for funding. Both the law and the regulations require that the projects are part of an overall mitigation strategy for the disaster area.

The State prioritizes and selects project applications developed and submitted by local jurisdictions. The State forwards applications consistent with State mitigation planning objectives to FEMA for eligibility review. Funding for this grant program is limited and States and local communities must make difficult decisions as to the most effective use of grant funds.

For more information on the **Hazard Mitigation Grant Program (HMGP),** go to:
http://www.fema.gov/government/grant/hmgp/index.shtm

B. Pre-Disaster Mitigation (PDM)

PDM provides funds on an annual basis for hazard mitigation planning and the implementation of mitigation projects prior to a disaster. The goal of the PDM program is to reduce overall risk to the population and structures, while at the same time, also reducing reliance on Federal funding from actual disaster declarations.

Program Overview

The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event.

Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.

C. Flood Mitigation Assistance (FMA)

FMA provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program.

Program Overview

The FMA program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 (42 U.S.C. 4101) with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

FEMA provides FMA funds to assist States and communities implement measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program.

Types of FMA Grants

Three types of FMA grants are available to States and communities:

- **Planning Grants** to prepare Flood Mitigation Plans. Only NFIP-participating communities with approved Flood Mitigation Plans can apply for FMA Project grants
- **Project Grants** to implement measures to reduce flood losses, such as elevation, acquisition, or relocation of NFIP-insured structures. States are encouraged to prioritize FMA funds for applications that include repetitive loss properties; these include structures with 2 or more losses each with a claim of at least $1,000 within any ten-year period since 1978.
- **Technical Assistance Grants** for the State to help administer the FMA program and activities. Up to ten percent (10%) of Project grants may be awarded to States for Technical Assistance Grants

D. Repetitive Flood Claims (RFC)

RFC provides funds on an annual basis to reduce the risk of flood damage to individual properties insured under the NFIP that have had one or more claim payments for flood damages. RFC provides up to 100% federal funding for projects in communities that meet the reduced capacity requirements.

Program Overview

The Repetitive Flood Claims (RFC) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108–264), which amended the National Flood Insurance Act (NFIA) of 1968 (42 U.S.C. 4001, et al).

Up to $10 million is available annually for FEMA to provide RFC funds to assist States and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).

Federal / Non-Federal Cost Share

FEMA may contribute up to 100 percent of the total amount approved under the RFC grant award to implement approved activities, if the Applicant has demonstrated that the proposed activities cannot be funded under the Flood Mitigation Assistance (FMA) program.

E. Severe Repetitive Loss (SRL)

SRL provides funds on an annual basis to reduce the risk of flood damage to residential structures insured under the NFIP that are qualified as severe repetitive loss structures. SRL provides up to 90% federal funding for eligible projects.

Program Overview

The Severe Repetitive Loss (SRL) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which amended the National Flood Insurance Act of 1968 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program (NFIP).

Definition

The definition of severe repetitive loss as applied to this program was established in section 1361A of the National Flood Insurance Act, as amended (NFIA), 42 U.S.C. 4102a. An SRL property is defined as a **residential property** that is covered under an NFIP flood insurance policy and:

(a) That has at least four NFIP claim payments (including building and contents) over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or

(b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than 10 days apart.

Purpose

To reduce or eliminate claims under the NFIP through project activities that will result in the greatest savings to the National Flood Insurance Fund (NFIF).

Federal / Non-Federal cost share

75 / 25 %; up to 90 % Federal cost-share funding for projects approved in States, Territories, and Federally-recognized Indian tribes with FEMA-approved Standard or Enhanced Mitigation Plans or Indian tribal plans that include a strategy for mitigating existing and future SRL properties.

Appendix C: NH Presidential Disaster & Emergency Declarations

NH Presidential Disaster Declarations (DR) since 1953				
Number	**Description**	**Date of Event**	**Counties**	**Description**
DR-4139	Severe Storms, Flooding	July 9-10, 2013	Cheshire, Sullivan & Grafton	**Presidential Emergency Declaration DR-4139:** Severe storms, flooding, and landslides during the period of June 26 to July 3, 2013 in Cheshire, Sullivan and southern Grafton Counties.
DR-4105	Severe Winter Storm	February 8, 2013	All Ten NH Counties	**Presidential Emergency Declaration DR-4105:** Nemo; heavy snow in February 2013.
DR-4095	Hurricane Sandy	October 26-November 8, 2012	Belknap, Carroll, Coos, Grafton & Sullivan	**Presidential Disaster Declaration DR-4095:** The declaration covers damage to property from the storm that spawned heavy rains, high winds, high tides and flooding over the period of October 26-November 8, 2012.
DR-4065	Severe Storm & Flooding	May 29-31, 2012	Cheshire	**Presidential Disaster Declaration DR-4065:** Severe Storm and Flood Event May 29-31, 2012 Cheshire County.
DR-4049	Severe Storm & Snowstorm	October 29-30, 2011	Hillsborough & Rockingham	**Presidential Disaster Declaration DR-4049:** Severe Storm and Snowstorm Event October 29-30, 2011 Hillsborough and Rockingham Counties.
DR-4026	Tropical Storm Irene	August 26-September 6, 2011	Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan	**Presidential Disaster Declaration DR-4026:** Tropical Storm Irene Aug 26th- Sept 6, 2011 Carroll, Coos, Grafton, Merrimack, Belknap, Strafford, & Sullivan Counties.
DR-4006	Severe Storms & Flooding	May 26-30, 2011	Coos & Grafton County	**Presidential Disaster Declaration DR-4006:** May Flooding Event, May 26th-30th 2011 Coos & Grafton County. (aka: Memorial Day Weekend Storm)
DR-1913	Severe Storms & Flooding	March 14-31, 2010	Hillsborough & Rockingham	**Presidential Disaster Declaration DR-1913:** Flooding to two NH counties including Hillsborough and Rockingham counties.
DR-1892	Severe Winter Storm, Rain & Flooding	February 23 - March 3, 2010	Grafton, Hillsborough, Merrimack, Rockingham, Strafford & Sullivan	**Presidential Disaster Declaration: DR-1892:** Flood and wind damage to most southern NH including six counties; 330,000 homes without power; more than $2 million obligated by June 2010.
DR-1812	Severe Winter Storm & Ice Storm	December 11-23, 2008	All Ten NH Counties	**Presidential Declaration DR-1812:** Damaging ice storms to entire state including all ten NH counties; fallen trees and large scale power outages; five months after December's ice storm pummeled the region, nearly $15 million in federal aid had been obligated by May 2009.
DR-1799	Severe Storms & Flooding	September 6-7, 2008	Hillsborough	**Presidential Declaration: DR-1799:** Severe storms and flooding beginning on September 6-7, 2008.
DR-1787	Severe Storms & Flooding	July 24-August 14, 2008	Belknap, Carroll & Grafton & Coos	**Presidential Declaration DR-1787:** Severe storms, tornado, and flooding on July 24, 2008.
DR-1782	Severe Storms, Tornado, & Flooding	July 24, 2008	Belknap, Carroll, Merrimack, Strafford & Rockingham	**Presidential Declaration DR-1782:** Tornado damage to several NH counties.

NH Presidential Disaster Declarations (DR) since 1953				
DR-1695	Nor'easter, Severe Storms & Flooding	April 15-23, 2007	All Ten NH Counties	**Presidential Disaster Declaration DR-1695:** Flood damages; FEMA & SBA obligated more than $27.9 million in disaster aid following the April nor'easter. (aka: Tax Day Storm)
DR-1643	Severe Storms & Flooding	May 12-23, 2006	Belknap, Carroll, Grafton, Hillsborough, Merrimack, Rockingham & Strafford	**Presidential Disaster Declaration DR-1643:** Flooding in most of southern NH, May 12-23, 2006. (aka: Mother's Day Storm)
DR-1610	Severe Storms & Flooding	October 7-18, 2005	Belknap, Cheshire, Grafton, Hillsborough, Merrimack & Sullivan	**Presidential Disaster Declaration DR-1610:** To date, state and federal disaster assistance has reached more than $3 million to help residents and business owners in New Hampshire recover from losses resulting from the severe storms and flooding in October.
DR-1489	Severe Storms & Flooding	July 21-August 18, 2003	Cheshire & Sullivan	**Presidential Disaster Declaration DR-1489:** Floods stemming from persistent rainfall and severe storms that caused damage to public property occurring over the period of July 21 through August 18, 2003.
DR-1305	Tropical Storm Floyd	September 16-18,1999	Belknap, Cheshire & Grafton	**Presidential Disaster Declaration DR-1305:** The declaration covers damage to public property from the storm that spawned heavy rains, high winds and flooding over the period of September 16-18.
DR-1231	Severe Storms & Flooding	June 12-July 2, 1998	NA	**Presidential Disaster Declaration DR-1231:**
DR-1199	Ice Storms	January 7-25, 1998	NA	**Presidential Disaster Declaration DR-1199:**
DR-1144	Severe Storms/Flooding	October 20-23, 1996	NA	**Presidential Disaster Declaration DR-1144:**
DR-1077	Storms/Floods	October 20-November 15, 1995	NA	**Presidential Disaster Declaration DR-1077:**
DR-923	Severe Coastal Storm	October 30-31, 1991	NA	**Presidential Disaster Declaration DR-923:**
DR-917	Hurricane Bob, Severe Storm	August 18-20, 1991	NA	**Presidential Disaster Declaration DR-917:**
DR-876	Flooding, Severe Storm	August 7-11, 1990	NA	**Presidential Disaster Declaration DR-876:**
DR-789	Severe Storms & Flooding	March 30-April 11, 1987	NA	**Presidential Disaster Declaration DR-789**
DR-771	Severe Storms & Flooding	July 29-August 10, 1986	NA	**Presidential Disaster Declaration DR-771:**
DR-549	High Winds, Tidal Surge, Coastal Flooding & Snow	February 16, 1978	NA	**Presidential Disaster Declaration DR-549:** Blizzard of 1978
DR-411	Heavy Rains, Flooding	January 21, 1974	NA	**Presidential Disaster Declaration DR-411:**
DR-399	Severe Storms & Flooding	July 11, 1973	NA	**Presidential Disaster Declaration DR-399:**
DR-327	Coastal Storms	March 18, 1972	NA	**Presidential Disaster Declaration DR-327:**
DR-11	Forest Fire	July 2, 1953	NA	**Presidential Disaster Declaration DR-11:**

Emergency Declarations (EM) since 1953				
Number	**Description**	**Date of Event**	**Counties**	**Description**
EM-3360	Hurricane Sandy	October 26-31, 2012	All Ten	**Presidential Emergency Declaration EM-3360:** Hurricane Sandy came ashore in NJ and brought high winds, power outages and heavy rain to NH- All ten counties in the State of New Hampshire.
EM-3344	Severe Snow Storm	October 29-30, 2011	All Ten	**Presidential Emergency Declaration EM-3344:** Severe storm during the period of October 29-30, 2011; all ten counties in the State of New Hampshire. (aka: Snowtober)
EM-3333	Hurricane Irene	August 26-September 6, 2011	All Ten	**Presidential Emergency Declaration EM-3333:** Emergency Declaration for Tropical Storm Irene for in all ten counties.
EM-3297	Severe Winter Storm	December 11, 2008	All Ten	**Presidential Emergency Declaration EM-3297:** Severe winter storm beginning on December 11, 2008.
EM-3258	Hurricane Katrina Evacuation	August 29-October 1, 2005	All Ten	**Presidential Emergency Declaration EM-3258:** Assistance to evacuees from the area struck by Hurricane Katrina and to provide emergency assistance to those areas beginning on August 29, 2005, and continuing; The President's action makes Federal funding available to the State and all 10 counties of the State of New Hampshire.
EM-3211	Snow	March 11-12, 2005	Carroll, Cheshire, Hillsborough, Rockingham & Sullivan	**Presidential Emergency Declaration EM-3211**: March snowstorm; more than $2 million has been approved to help pay for costs of the snow removal; Total aid for the March storm is **$2,112,182.01** (Carroll: $73,964.57; Cheshire: $118,902.51; Hillsborough: $710,836; Rockingham: $445,888.99; Sullivan: $65,088.53; State of NH: $697,501.41)
EM-3208	Snow	February 10-11, 2005	Carroll, Cheshire, Coos, Grafton & Sullivan	**Presidential Emergency Declaration EM-3208:** FEMA had obligated more than $1 million by March 2005 to help pay for costs of the heavy snow and high winds; Total aid for the February storm is **$1,121,727.20** (Carroll: $91,832.72; Cheshire: $11,0021.18; Coos: $11,6508.10; Grafton: $213,539.52; Sullivan: $68,288.90; State of NH: $521,536.78) **EM 3208-002:**The Federal Emergency Management Agency (FEMA) has obligated more than $6.5 million to reimburse state and local governments in New Hampshire for costs incurred in three snow storms that hit the state earlier this year, according to disaster recovery officials. Total aid for all three storms is $6,892,023.87 (January: $3,658,114.66; February: $1,121,727.20; March: $2,113,182.01)
EM-3207	Snow	January, 22-23, 2005	Belknap, Carroll, Cheshire, Grafton, Hillsborough, Rockingham, Merrimack, Strafford & Sullivan	**Presidential Emergency Declaration EM-3207:** JANUARY STORM DAMAGE: More than $3.5 million has been approved to help pay for costs of the heavy snow and high winds; Total aid for the January storm is **$3,658,114.66** (Belknap: $125,668.09; Carroll: $52,864.23; Cheshire: $134,830.95; Grafton: $137,118.71; Hillsborough: $848,606.68; Merrimack: $315,936.55; Rockingham: $679,628.10; Strafford: $207,198.96; Sullivan: $48,835.80; State of NH: $1,107,426.59)

Emergency Declarations (EM) since 1953				
EM-3193	Snow	December 6-7, 2003	Belknap, Carroll, Cheshire, Coos, Grafton, Hillsborough, Merrimack & Sullivan	**Presidential Emergency Declaration EM-3193:** The declaration covers jurisdictions with record and near-record snowfall that occurred over the period of December 6-7, 2003
EM-3177	Snowstorm	February 17-18, 2003	Cheshire, Hillsborough, Merrimack, Rockingham & Strafford	**Presidential Emergency Declaration EM-3177:** Declaration covers jurisdictions with record and near-record snowfall from the snowstorm that occurred February 17-18, 2003
EM-3166	Snowstorm	March 5-7, 2001	Cheshire, Coos, Grafton, Hillsborough, Merrimack, & Strafford	**Presidential Emergency Declaration EM-3166:** Declaration covers jurisdictions with record and near-record snowfall from the late winter storm that occurred March 2001
EM-3101	High Winds & Record Snowfall	March 13-17, 1994	NA	**Presidential Emergency Declaration EM-3101:**
EM-3073	Flooding	March 15, 1979	NA	**Presidential Emergency Declaration EM-3073:**

Source:
Disaster Declarations for New Hampshire
http://www.fema.gov/disasters/grid/state-tribal-government/33?field_disaster_type_term_tid_1=All

Appendix D: Potential Mitigation Ideas[38]

Drought

D1 ..... Assess Vulnerability to Drought Risk
D2 ..... Monitoring Drought Conditions
D3 ..... Monitor Water Supply
D4 ..... Plan for Drought
D5 ..... Require Water Conservation During Drought Conditions
D6 ..... Prevent Overgrazing
D7 ..... Retrofit Water Supply Systems
D8 ..... Enhance Landscaping & Design Measures
D9 ..... Educate Residents on Water Saving Techniques
D10 .... Educate Farmers on Soil & Water Conservation Practices
D11 .... Purchase Crop Insurance

Earthquake

EQ1.... Adopt & Enforce Building Codes
EQ2.... Incorporate Earthquake Mitigation into Local Planning
EQ3.... Map & Assess Community Vulnerability to Seismic Hazards
EQ4.... Conduct Inspections of Building Safety
EQ5.... Protect Critical Facilities & Infrastructure
EQ6.... Implement Structural Mitigation Techniques
EQ7.... Increase Earthquake Risk Awareness
EQ8.... Conduct Outreach to Builders, Architects, Engineers, and Inspectors
EQ9.... Provide Information on Structural & Non-Structural Retrofitting

Erosion

ER1.... Map & Assess Vulnerability to Erosion
ER2.... Manage Development in Erosion Hazard Areas
ER3.... Promote or Require Site & Building Design Standards to Minimize Erosion Risk
ER4.... Remove Existing Buildings & Infrastructure from Erosion Hazard Areas
ER5.... Stabilize Erosion Hazard Areas
ER6.... Increase Awareness of Erosion Hazards

Extreme Temperatures

ET1 .... Reduce Urban Heat Island Effect
ET2 .... Increase Awareness of Extreme Temperature Risk & Safety
ET3 .... Assist Vulnerable Populations
ET4 .... Educate Property Owners about Freezing Pipes

Hailstorm

HA1 .... Locate Safe Rooms to Minimize Damage
HA2 .... Protect Buildings from Hail Damage
HA3 .... Increase Hail Risk Awareness

Landslide

LS1..... Map & Assess Vulnerability to Landslides
LS2..... Manage Development in Landslide Hazard Areas
LS3..... Prevent Impacts to Roadways
LS4 .... Remove Existing Buildings & Infrastructure from Landslide

Lightning

L1..... Protect Critical Facilities
L2..... Conduct Lightning Awareness Programs

Flood

FT1 .... Incorporate Flood Mitigation in Local Planning
FT2 .... Form Partnerships to Support Floodplain Management
FT3 .... Limit or Restrict Development in Floodplain Areas
FT4 .... Adopt & Enforce Building Colds and Development Standards
FT5 .... Improve Stormwater Management Planning
FT6 .... Adopt Policies to Reduce Stormwater Runoff
FT7 .... Improve Flood Risk Assessment
FT8 .... Join or Improve Compliance with NFIP
FT9 .... Manage the Floodplain Beyond Minimum Requirements
FT10 .. Participate in the CRS
FT11 .. Establish Local Funding Mechanism for Flood Mitigation
FT12 .. Remove Existing Structures from Flood Hazard Areas
FT13 .. Improve Stormwater Drainage System Capacity
FT14 .. Conduct Regular Maintenance for Drainage Systems & Flood Control Structures
FT15 .. Elevate of Retrofit Structures & Utilities
FT16 .. Floodproof Residential & Non-Residential Structures
FT17 .. Protect Infrastructure
FT18 .. Protect Critical Facilities
FT19 .. Construct Flood Control Measures
FT20 .. Protect & Restore Natural Flood Mitigation Features
FT21 .. Preserve Floodplains as Open Space
FT22 .. Increase Awareness of Flood Risk & Safety
FT23 .. Educate Property Owners about Flood Mitigation Techniques

Severe Wind

SW1... Adopt & Enforce Building Codes
SW2... Promote or Require Site & Building Design Standards to Minimize Wind Damage
SW3... Assess Vulnerability to Severe Wind
SW4... Protect Power Lines & Infrastructure
SW5... Retrofit Residential Buildings
SW6... Retrofit Public Buildings & Critical Facilities
SW7... Increase Severe Wind Awareness

Severe Winter Weather

WW1.. Adopt & Enforce Building Codes
WW2.. Protect Buildings & Infrastructure
WW3.. Protect Power Lines
WW4.. Reduce Impacts to Roadways
WW5.. Conduct Winter Weather Risk Awareness Activities
WW6.. Assist Vulnerable Populations

Tornado

T1 ..... Encourage Construction of Safe Rooms
T2 ..... Require Wind-Resistant Building Techniques
T2 ..... Conduct Tornado Awareness Activities

[38] Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, FEMA, January 2013

Wildfire

WF1 ... Map & Assess Vulnerability to Wildfire
WF2 ... Incorporate Wildfire Mitigation in the Comprehensive Plan
WF3 ... Reduce Risk through Land Use Planning
WF4 ... Develop a Wildland Urban Interface Code
WF5 ... Require or Encourage Fire-Resistant Construction Techniques
WF6 ... Retrofit At-Risk Structure with Ignition-Resistant Materials
WF7 ... Create Defensible Space Around Structures & Infrastructure
WF8 ... Conduct Maintenance to Reduce Risk
WF9 ... Implement a Fuels Management Program
WF10 . Participate in the Firewise Program
WF11 . Increase Wildfire Awareness
WF12 . Educate Property Owners about Wildfire Mitigation Techniques

Multi-Hazards

MU1 ... Assess Community Risk
MU2 ... Map Community Risk
MU3 ... Prevent Development in Hazard Areas
MU4 ... Adopt Regulations in Hazard Areas
MU5 ... Limit Density in Hazard Areas
MU6 ... Integrate Mitigation into Local Planning
MU7 ... Strengthen Land Use Regulations
MU8 ... Adopt & Enforce Building Codes
MU9 ... Create Local Mechanisms for Hazard Mitigation
MU10 . Incentivize Hazard Mitigation
MU11 . Monitor Mitigation Plan Implementation
MU12 . Protect Structures
MU13 . Protect Infrastructure & Critical Facilities
MU14 . Increase Hazard Education & Risk Awareness
MU15 . Improve Household Disaster Preparedness
MU16 . Promote Private Mitigation Efforts

Appendix E: Acronyms

Hazard Mitigation Planning
List of Acronyms

BFE .....Base Flood Elevation
BOCA.....Building Officials and Code Administrators International
CIKR .....Critical Infrastructure & Key Resources
CIP .....Capital Improvements Program
CWPP .....Community Wildfire Protection Plan
DRED.....Department of Resources & Economic Development
EMD .....Emergency Management Director
EMS .....Emergency Medical Services
EOC .....Emergency Operations Center
ERF.....Emergency Response Facility
FEMA .....Federal Emergency Management Agency
FIRM .....Flood Insurance Rate Map
FPP .....Facilities & Populations to Protect
GIS.....Geographic Information System
HFRA .....Healthy Forest Restoration Act
HMGP .....Hazard Mitigation Grant Program
HSEM.....Homeland Security & Emergency Management (NH)
ICS .....Incident Command System
LEOP .....Local Emergency Operations Plan
MOU.....Memorandum of Understanding
NCRC&D.....North Country Resource Conservation & Development Council
MAPS.....Mapping and Planning Solutions
NERF .....Non-Emergency Response Facility
NFIP.....National Flood Insurance Program
NGVD.....National Geodetic Vertical Datum of 1929
NHDOT .....NH Department of Transportation
NIMS .....National Incident Management System
PR .....Potential Resources
SPNHF.....Society for the Protection of New Hampshire Forests
USDA .....US Department of Agriculture
USDA-FS .....USDA-Forest Service
USGS.....United States Geological Society
WMNF.....White Mountain National Forest
WUI .....Wildland Urban Interface

Appendix F: Map Documents

The following 11" x 17" maps are included in hard copy plans:

Map 1 – Base Risk Analysis

Map 2 – Wildland Urban Interface (WUI)

Map 3 – Emergency Response Facilities (ERFs) & Evacuation Routes

Map 4 – Non-Emergency Response Facilities (NERFs) & Facilities & People to Protect (FPP)

Map 5 – FEMA Flood Zone & Past Hazards

Map 6 – North Conway Village

Map 7 – Conway Village

Map 8 – Center Conway Village

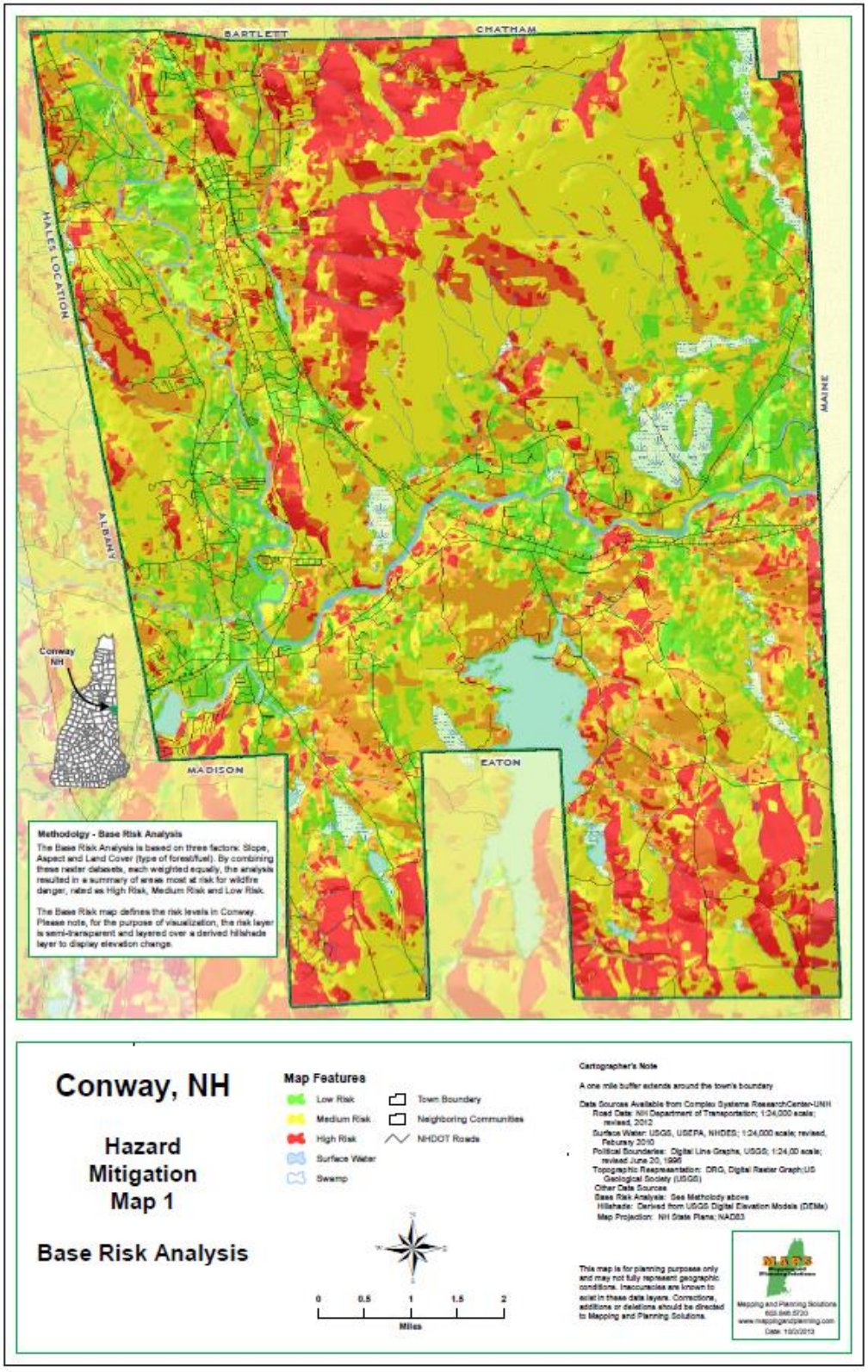
THIS PAGE

INTENTIONALLY LEFT

BLANK

A. MAP 1 – BASE RISK ANALYSIS

To be replaced with 11" x 17" map in final hard copy.



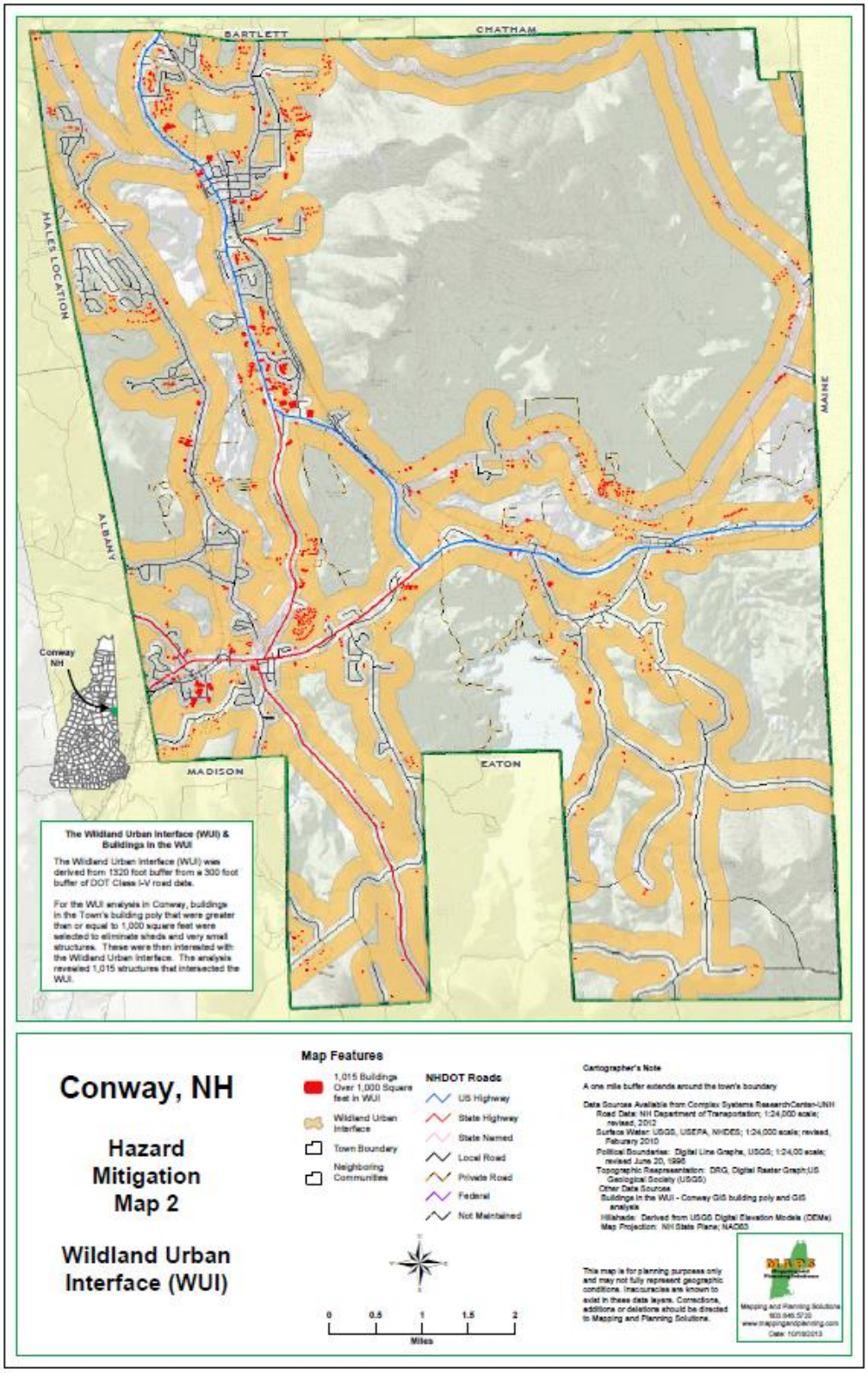
THIS PAGE

INTENTIONALLY LEFT

BLANK

B. MAP 2 – WILDLAND URBAN INTERFACE (WUI)

To be replaced with 11" x 17" map in final hard copy.



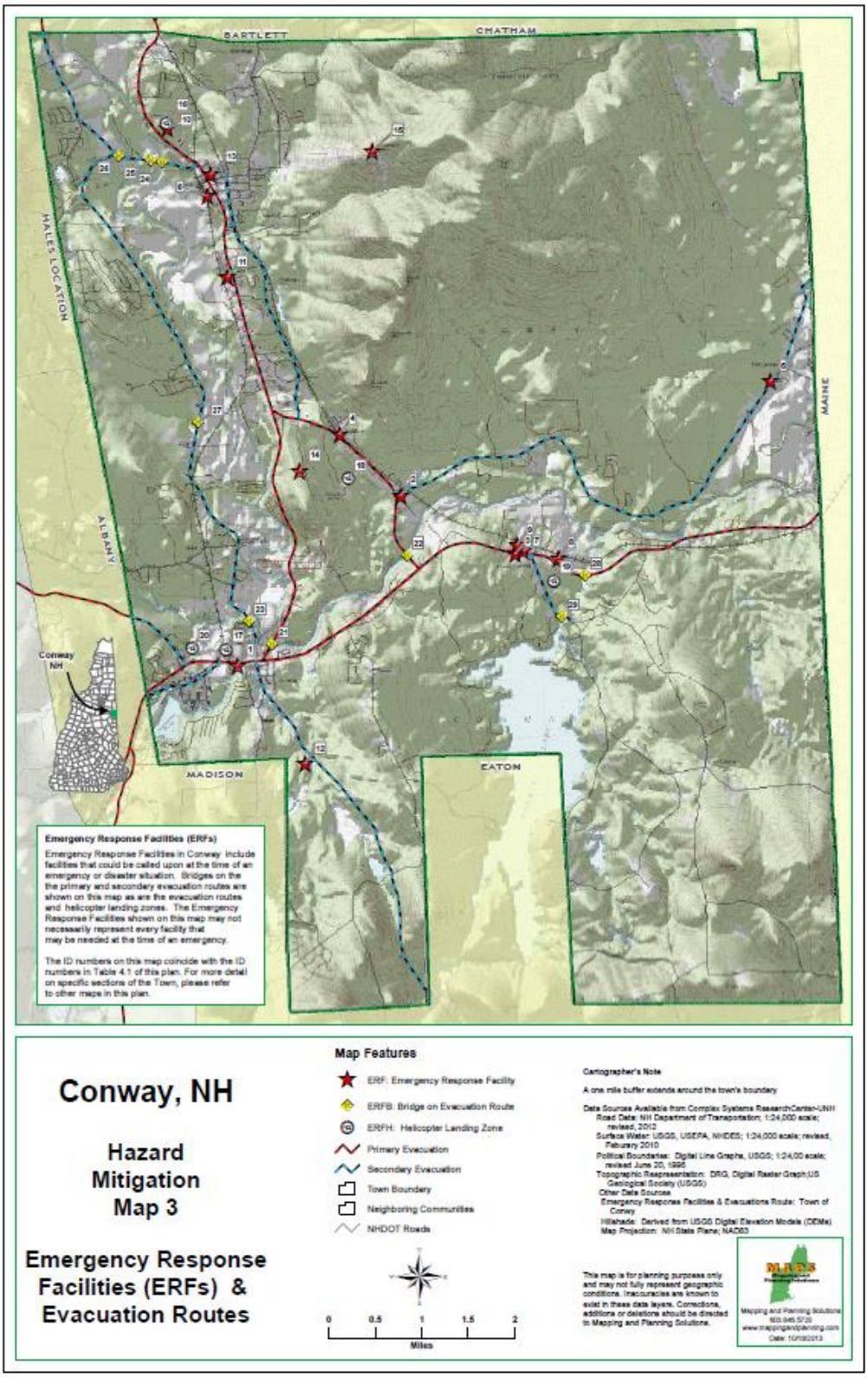
THIS PAGE

INTENTIONALLY LEFT

BLANK

C. MAP 3 – EMERGENCY RESPONSE FACILITIES (ERFS)

To be replaced with 11" x 17" map in final hard copy.



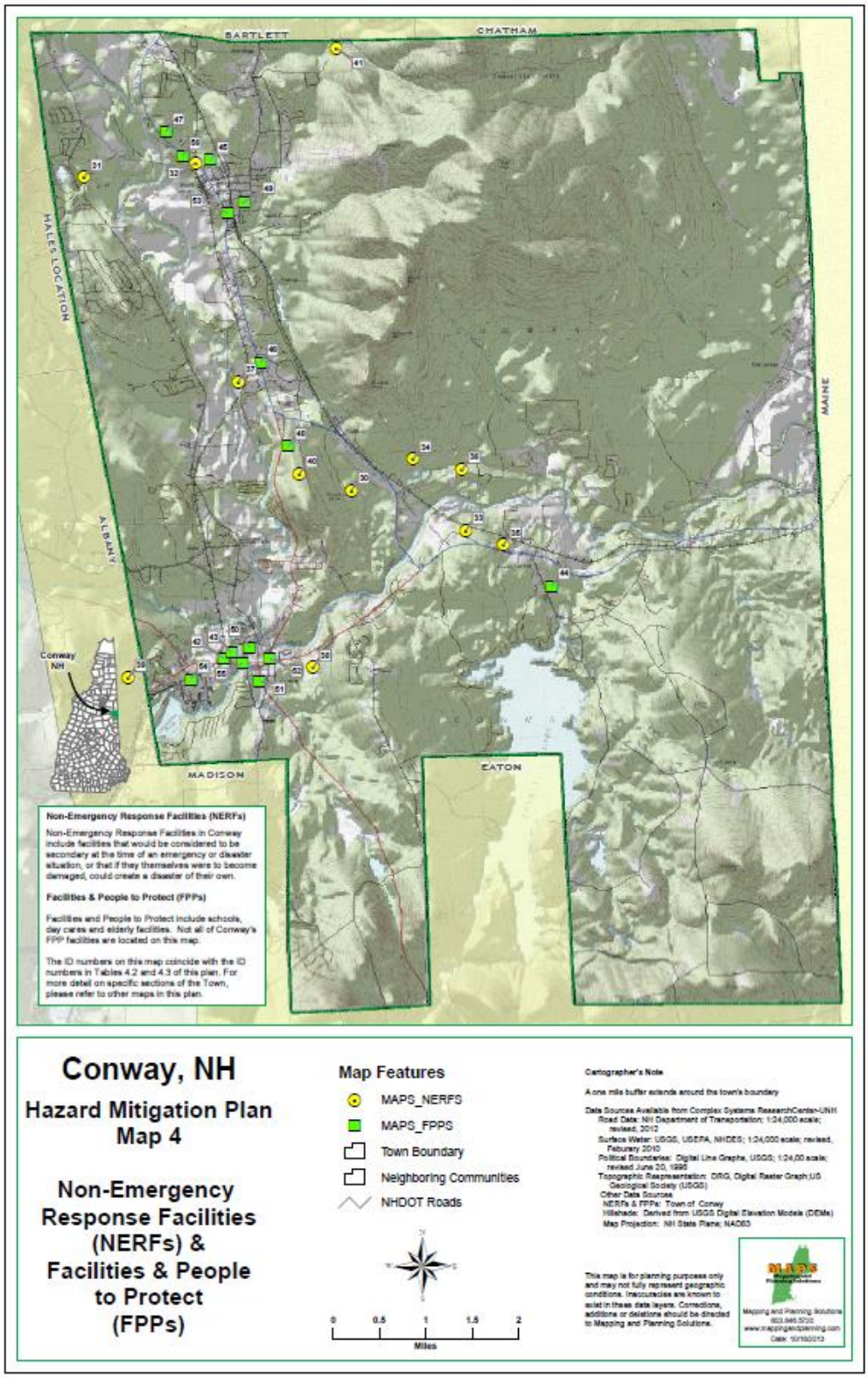
THIS PAGE

INTENTIONALLY LEFT

BLANK

D. MAP 4 – NON-EMERGENCY RESPONSE FACILITIES & FACILITIES & PEOPLE TO PROTECT

To be replaced with 11" x 17" map in final hard copy.



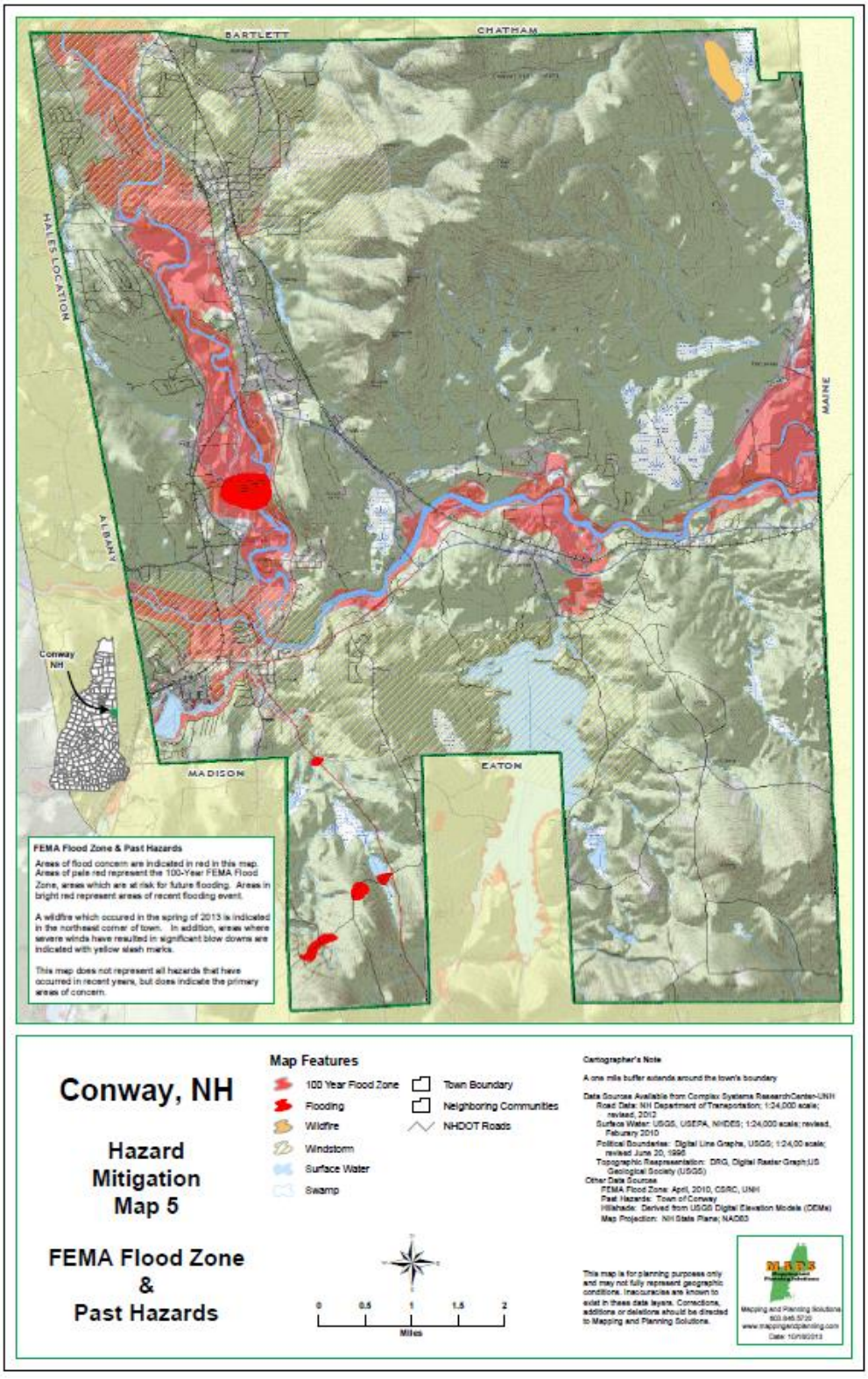
THIS PAGE

INTENTIONALLY LEFT

BLANK

E. MAP 5 – FEMA FLOOD ZONE & PAST HAZARDS

To be replaced with 11" x 17" map in final hard copy.



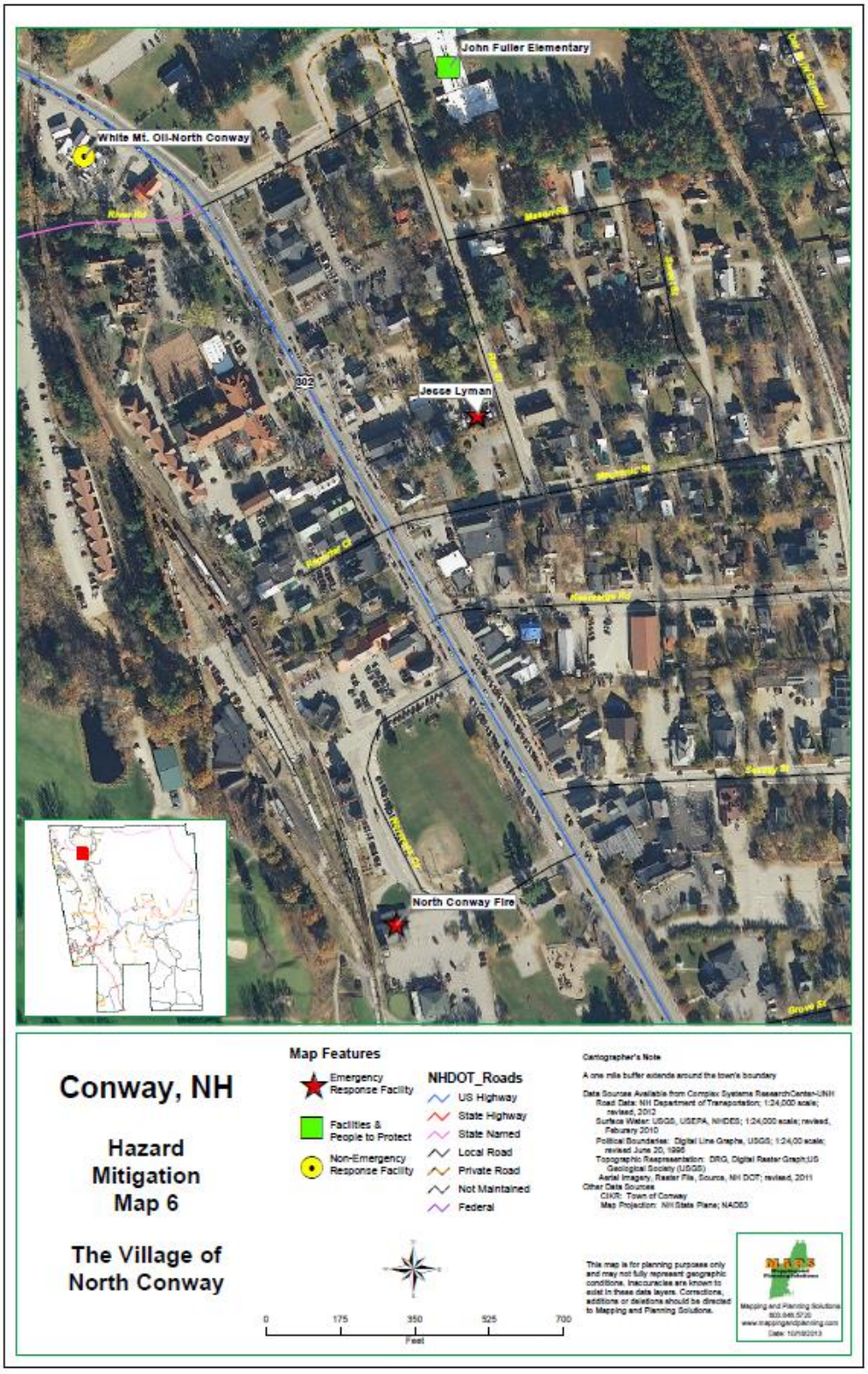
THIS PAGE

INTENTIONALLY LEFT

BLANK

F. MAP 6 – NORTH CONWAY VILLAGE

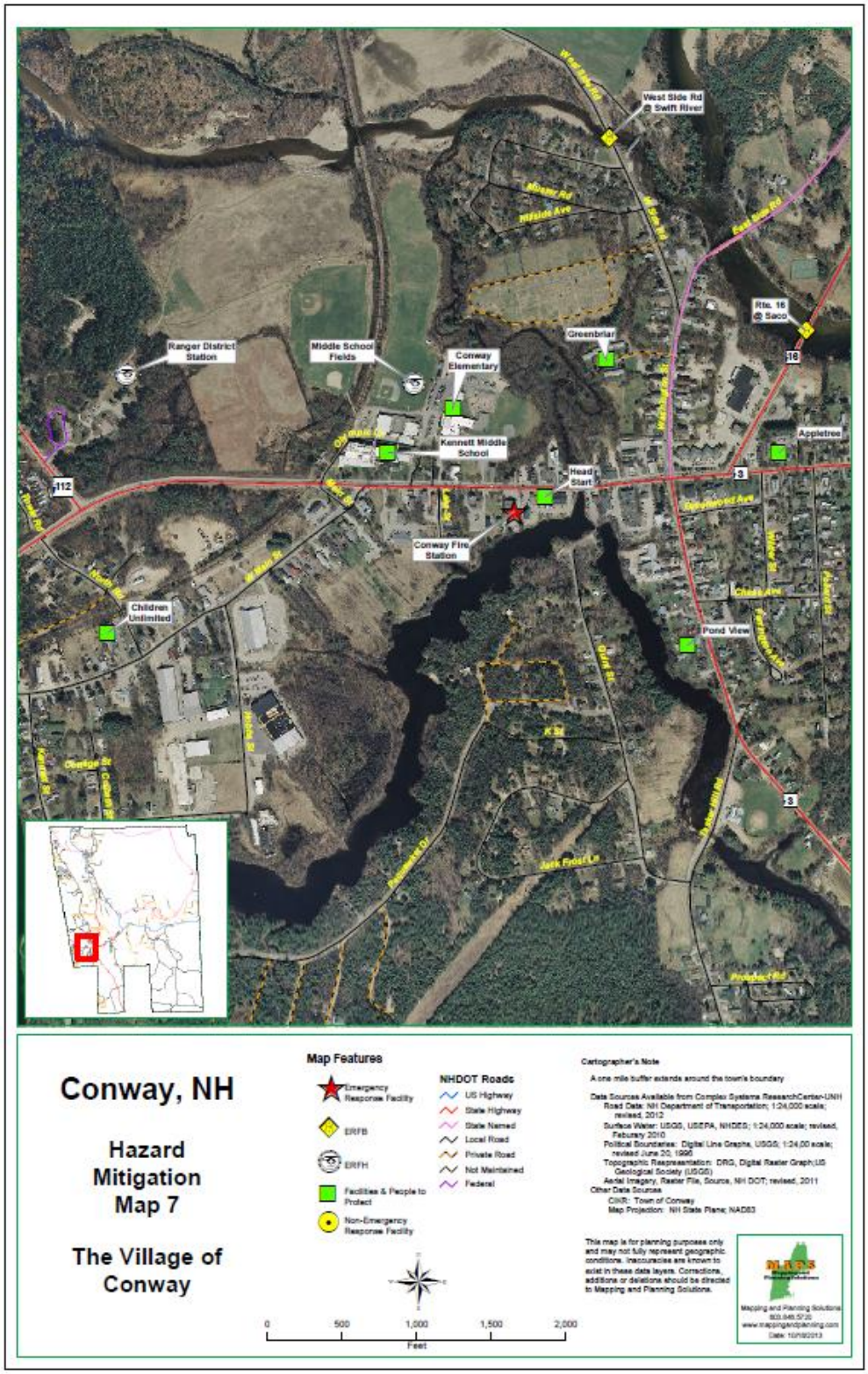
To be replaced with 11" x 17" map in final hard copy.



THIS PAGE INTENTIONALLY LEFT BLANK

G. MAP 7 – CONWAY VILLAGE

To be replaced with 11" x 17" map in final hard copy.



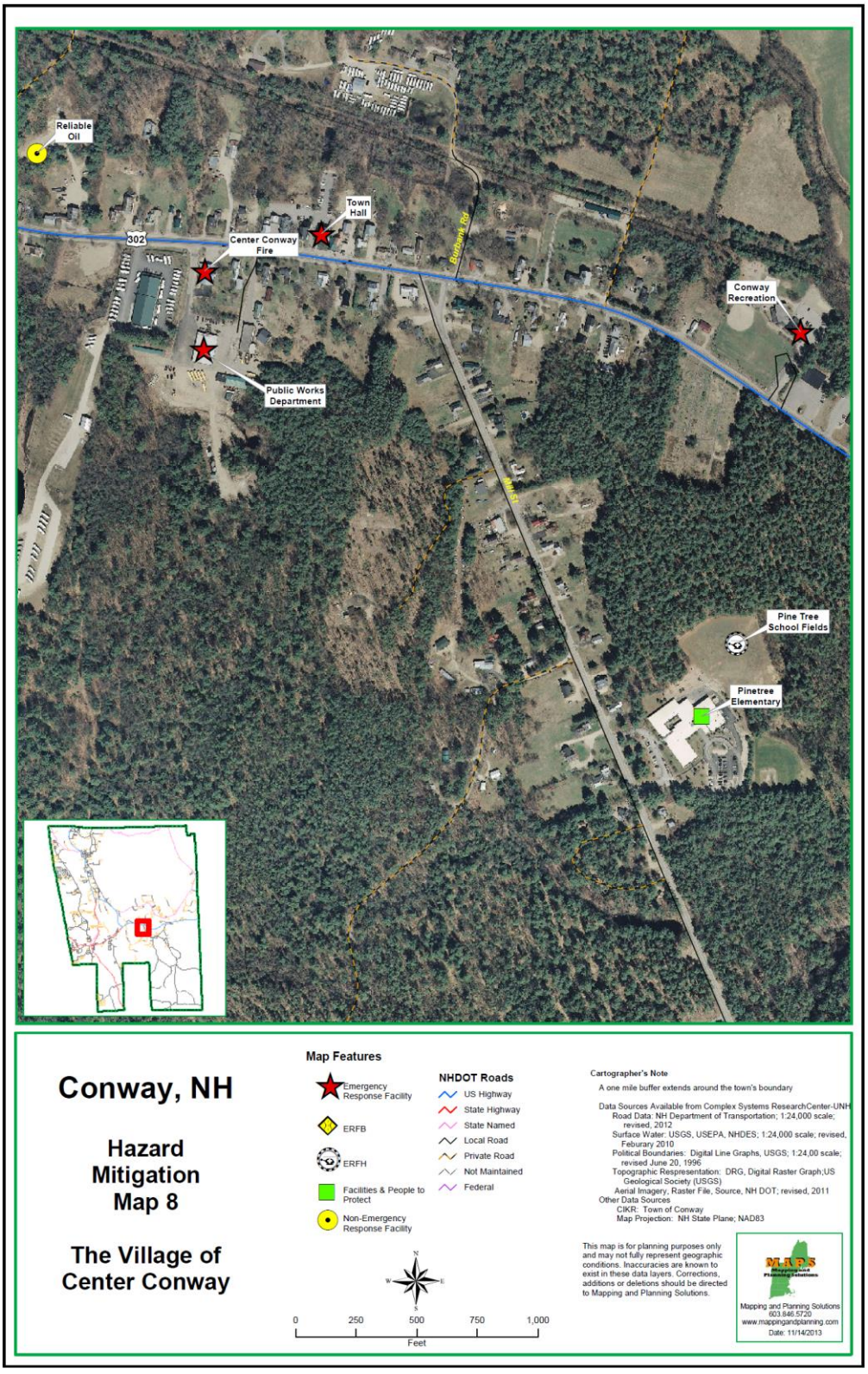
THIS PAGE

INTENTIONALLY LEFT

BLANK

H. MAP 8 – CENTER CONWAY VILLAGE

To be replaced with 11” x 17” map in final hard copy



THIS PAGE

INTENTIONALLY LEFT

BLANK

THIS PAGE

INTENTIONALLY LEFT

BLANK

The Conway Scenic Railroad, North Conway, NH
Photo Credit: June Garneau

The Town of Conway

Stephen Solomon
Conway Fire Chief & EMD
128 West Main Street
Conway, NH 03818
chiefsolomon@conwayfire.org
603-447-2681

Mapping and Planning Solutions

June Garneau
Owner/Planner
P.O. Box 283
Twin Mountain, NH 03595
jgarneau@mappingandplanning.com
603-846-5720