

## Section 5: Capability Assessment

This section discusses the capability of the Eno-Haw Region to implement hazard mitigation activities. It consists of the following four subsections:

- 5.1 Overview
- 5.2 Conducting the Capability Assessment
- 5.3 Capability Assessment Findings
- 5.4 Conclusions on Local Capability

### 5.1 Overview

The purpose of conducting a *Capability Assessment* is to determine the ability of a local jurisdiction to implement a comprehensive *Mitigation Strategy*, and to identify potential opportunities for establishing or enhancing specific mitigation policies, programs, or projects. As in any planning process, it is important to try to establish which goals and actions are feasible, based on an understanding of the organizational capacity of those agencies or departments tasked with their implementation. A *Capability Assessment* helps to determine which mitigation actions are practical and likely to be implemented over time given a local government's planning and regulatory framework, level of administrative and technical support, amount of fiscal resources, and current political climate.

A *Capability Assessment* has two primary components: (1) an inventory of a local jurisdiction's relevant plans, ordinances, and programs already in place; and (2) an analysis of its capacity to carry them out. Careful examination of local capabilities will detect any existing gaps, shortfalls, or weaknesses with ongoing government activities that could hinder proposed mitigation activities and possibly exacerbate community hazard vulnerability. A *Capability Assessment* also highlights the positive mitigation measures already in place or being implemented at the local government level, which should continue to be supported and enhanced through future mitigation efforts.

The *Capability Assessment* completed for the Eno-Haw Region serves as a critical planning step and an integral part of the foundation for designing an effective *Mitigation Strategy*. Coupled with the *Risk Assessment*, the *Capability Assessment* helps identify and target meaningful mitigation actions for incorporation into the *Mitigation Strategy* portion of the Plan. It not only helps establish the goals for the Region to pursue under this Plan, but also ensures that those goals are realistically achievable under given local conditions.

### 5.2 Conducting the Capability Assessment

In order to facilitate the inventory and analysis of local government capabilities within the Eno-Haw counties, a detailed *Local Capability Assessment Survey* was distributed to members of the Eno-Haw Hazard Mitigation Planning Team (HMPT) at the second planning committee meeting. The survey questionnaire requested information on a variety of "capability indicators" such as existing local plans, policies, programs, or ordinances that contribute to and/or hinder the Region's ability to implement hazard mitigation actions. Other indicators included information related to the Region's fiscal, administrative, and technical capabilities, such as access to local budgetary and personnel resources for mitigation purposes, as well as any existing education and outreach programs that can be used to promote mitigation. Survey respondents were also asked to comment

on the current political climate with respect to hazard mitigation, an important consideration for any local planning or decision making process.

At a minimum, the survey results provide an extensive and consolidated inventory of existing local plans, ordinances, programs, and resources in place or under development, in addition to their overall effect on hazard loss reduction. In completing the survey, local officials were also required to conduct a self assessment of their jurisdiction's specific capabilities. The survey instrument thereby not only helps accurately assess the degree of local capability, but it also serves as a good source of introspection for counties and local jurisdictions that want to improve their capabilities as identified gaps, weaknesses, or conflicts can be recast as opportunities for specific actions to be proposed as part of the *Mitigation Strategy*.

The information provided in response to the survey questionnaire was incorporated into a database for further analysis. A general scoring methodology was then applied to quantify each jurisdiction's overall capability. According to the scoring system, each capability indicator was assigned a point value based on its relevance to hazard mitigation. Additional points were added based on the jurisdiction's self assessment of their own planning and regulatory capability, administrative and technical capability, fiscal capability, education and outreach capability, and political capability.

Using this scoring methodology, a total score and an overall capability rating of "High," "Moderate," or "Limited" could be determined according to the total number of points received. These classifications are designed to provide nothing more than a general assessment of local government capability. In combination with the narrative responses provided by local officials, the results of this *Capability Assessment* provide critical information for developing an effective and meaningful mitigation strategy.

## **5.3 Capability Assessment Findings**

The findings of the *Capability Assessment* are summarized in this Plan to provide insight into the relevant capacity of the Eno-Haw Region to implement hazard mitigation activities. All information is based upon the input provided by local government officials through the *Local Capability Assessment Survey* and during meetings of the HMPT.

### **5.3.1 Planning and Regulatory Capability**

Planning and regulatory capability is based on the implementation of plans, ordinances, and programs that demonstrate a local jurisdiction's commitment to guiding and managing growth, development, and redevelopment in a responsible manner, while maintaining the general welfare of the community. It includes emergency response and mitigation planning, comprehensive land use planning, and transportation planning, in addition to the enforcement of zoning or subdivision ordinances and building codes that regulate how land is developed and structures are built, as well as protecting environmental, historic, and cultural resources in the community. Although some conflicts can arise, these planning initiatives generally present significant opportunities to integrate hazard mitigation principles and practices into the local decision making process.

This assessment is designed to provide a general overview of the key planning and regulatory tools or programs in place or under development for the Eno-Haw Region, along with their potential effect on loss reduction. This information will help identify opportunities to address existing gaps,

weaknesses, or conflicts with other initiatives in addition to integrating the implementation of this Plan with existing planning mechanisms where appropriate.

**Table 5.1** provides a summary of the relevant local plans, ordinances, and programs already in place or under development for the Eno-Haw Region. A checkmark (✓) indicates that the given item is currently in place and being implemented. An asterisk (\*) indicates that the given item is currently being developed for future implementation. Each of these local plans, ordinances, and programs should be considered available mechanisms for incorporating the requirements of the Eno-Haw Regional Hazard Mitigation Plan.

**Table 5.1: Relevant Plans, Ordinances, and Programs**

Jurisdiction	Hazard Mitigation Plan	Comprehensive Land Use Plan	Floodplain Management Plan	Open Space Management Plan	Stormwater Management Plan	Emergency Operations Plan	SARA Title III Plan	Radiological Emergency Plan	Continuity of Operations Plan	Evacuation Plan	Disaster Recovery Plan	Capital Improvements Plan	Economic Development Plan	Historic Preservation Plan	Transportation Plan	Flood Damage Prevention Ordinance	Zoning Ordinance	Subdivision Ordinance	Site Plan Review Requirements	Unified Development Ordinance	Post-Disaster Redevelopment Ordinance	Building Code	Fire Code	Community Wildfire Protection Plan	National Flood Insurance Program	Community Rating System
<b>Alamance County</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
Alamance	✓	✓	✓		✓	✓	*	*	*	*	*	✓	*	✓	*	*	✓	✓	✓	✓		✓	✓		✓	
Burlington	✓	*				✓	✓	*	*	*	✓			✓		✓	✓	✓		*			✓		✓	
Elon	✓	✓	✓	✓	✓	✓	✓	*	✓	✓	✓	*			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	
Graham	✓	✓		✓	✓							*		✓	✓	✓				✓		✓	✓		✓	
Green Level	✓	✓	✓	✓	✓	✓	*	*	*	*	✓	✓	*	*	*	✓	✓	✓	✓	✓	*	✓	✓	✓	✓	✓
Haw River	✓	✓	✓		✓	✓	✓	✓	✓	*	✓	*	*	*		✓	✓	✓	✓	*	*	✓	✓	✓	✓	
Mebane	✓	✓	✓		✓	✓	✓	✓	✓	*	✓	✓	✓	✓		✓	✓	✓	✓	✓	*	✓	✓	✓	✓	
Ossipee	✓	*				✓	✓	*	✓	✓	✓						✓	✓		*		✓	✓	✓		
Swepsonville	✓	✓	✓		✓	✓	✓	✓	✓	*	✓	*	*	*		✓	✓	✓		✓	✓		✓	✓	✓	
<b>Orange County</b>	✓	✓	✓	✓	✓	✓	*	*	*		*	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Carrboro	✓			✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	*
Chapel Hill	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	
Hillsborough	✓	✓	✓		✓	✓	✓		✓	*	*	✓	*	*	✓	✓	✓	✓	✓	✓	*	✓	✓	*	✓	
<b>Durham County</b>	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓		✓	✓
Durham	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓		✓	✓

Source: Local Capability Assessment Survey.

A more detailed discussion on the Region’s planning and regulatory capability follows, along with the incorporation of additional information based on the narrative comments provided by local officials in response to the survey questionnaire.

### 5.3.1.1 Emergency Management

Hazard mitigation is widely recognized as one of the four primary phases of emergency management. The three other phases are preparedness, response, and recovery. In reality each phase is interconnected with hazard mitigation, as **Figure 5.1** suggests. Opportunities to reduce potential losses through mitigation practices are most often implemented before a disaster event, such as elevation of flood-prone structures or through the continuous enforcement of policies that prevent and regulate development that is vulnerable to hazards because of its location, design, or other characteristics. Mitigation opportunities can also be identified during immediate preparedness or response activities (such as installing storm shutters in advance of a hurricane), and in many instances during the long-term recovery and redevelopment process following a disaster event.

**Figure 5.1: The Four Phases of Emergency Management**



Planning for each phase is a critical part of a comprehensive emergency management program and a key to the successful implementation of hazard mitigation actions. As a result, the *Local Capability Assessment Survey* asked several questions across a range of emergency management plans in order to assess the Eno-Haw Region’s willingness to plan and their level of technical planning proficiency.

#### **Hazard Mitigation Plan**

A hazard mitigation plan represents a community’s blueprint for how it intends to reduce the impact of natural, and in some cases human-caused, hazards on people and the built environment. The essential elements of a hazard mitigation plan include a risk assessment, capability assessment, and mitigation strategy.

- All of the jurisdictions participating in this regional planning effort have previously been covered by their county’s multi-jurisdictional hazard mitigation plan.

### **Disaster Recovery Plan**

A disaster recovery plan serves to guide the physical, social, environmental, and economic recovery and reconstruction process following a disaster event. In many instances, hazard mitigation principles and practices are incorporated into local disaster recovery plans with the intent of capitalizing on opportunities to break the cycle of repetitive disaster losses. Disaster recovery plans can also lead to the preparation of disaster redevelopment policies and ordinances to be enacted following a hazard event.

- 14 of the participating jurisdictions have a disaster recovery plan either in place or under development. (10 jurisdictions have one in place; 4 have one under development.)

### **Emergency Operations Plan**

An emergency operations plan outlines responsibilities and the means by which resources are deployed during and following an emergency or disaster.

- 14 of the participating jurisdictions have an emergency operations plan in place.

### **Continuity of Operations Plan**

A continuity of operations plan establishes a chain of command, line of succession, and plans for backup or alternate emergency facilities in case of an extreme emergency or disaster event.

- 13 of the participating jurisdictions have a continuity of operations plan either in place or under development. (9 jurisdictions have one in place; 4 have one under development.)

## **5.3.1.2 General Planning**

The implementation of hazard mitigation activities often involves agencies and individuals beyond the emergency management profession. Stakeholders may include local planners, public works officials, economic development specialists, and others. In many instances, concurrent local planning efforts will help to achieve or complement hazard mitigation goals, even though they are not designed as such. Therefore, the *Local Capability Assessment Survey* also asked questions regarding general planning capabilities and the degree to which hazard mitigation is integrated into other ongoing planning efforts in the Eno-Haw Region.

### **Comprehensive/General Plan**

A comprehensive land use plan, or general plan, establishes the overall vision for what a community wants to be and serves as a guide for future governmental decision making. Typically a comprehensive plan contains sections on demographic conditions, land use, transportation elements, and community facilities. Given the broad nature of the plan and its regulatory standing in many communities, the integration of hazard mitigation measures into the comprehensive plan can enhance the likelihood of achieving risk reduction goals, objectives, and actions.

- 14 of the participating jurisdictions have a comprehensive land use plan either in place or under development (12 have one in place; 2 have one under development.)

### **Capital Improvements Plan**

A capital improvements plan guides the scheduling of spending on public improvements. A capital improvements plan can serve as an important mechanism for guiding future development away

from identified hazard areas. Limiting public spending in hazardous areas is one of the most effective long-term mitigation actions available to local governments.

- 13 of the participating jurisdictions have a capital improvements plan in place or under development.

### **Historic Preservation Plan**

A historic preservation plan is intended to preserve historic structures or districts within a community. An often overlooked aspect of the historic preservation plan is the assessment of buildings and sites located in areas subject to natural hazards, and the identification of ways to reduce future damages. This may involve retrofitting or relocation techniques that account for the need to protect buildings that do not meet current building standards, or are within a historic district that cannot easily be relocated out of harm's way.

- 12 of the participating jurisdictions have an historic preservation plan in place or under development.

### **Zoning Ordinance**

Zoning represents the primary means by which land use is controlled by local governments. As part of a community's police power, zoning is used to protect the public health, safety, and welfare of those in a given jurisdiction that maintains zoning authority. A zoning ordinance is the mechanism through which zoning is typically implemented. Since zoning regulations enable municipal governments to limit the type and density of development, a zoning ordinance can serve as a powerful tool when applied in identified hazard areas.

- 13 of the participating jurisdictions have a zoning ordinance in place or under development.

### **Subdivision Ordinance**

A subdivision ordinance is intended to regulate the development of residential, commercial, industrial, or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Subdivision design that accounts for natural hazards can dramatically reduce the exposure of future development.

- 14 of the participating jurisdictions have a subdivision ordinance in place or under development.

### **Building Codes, Permitting, and Inspections**

Building codes regulate construction standards. In many communities, permits and inspections are required for new construction. Decisions regarding the adoption of building codes (that account for hazard risk), the type of permitting process required both before and after a disaster, and the enforcement of inspection protocols all affect the level of hazard risk faced by a community.

- 13 of the participating jurisdictions have building codes in place.

The adoption and enforcement of building codes by local jurisdictions is routinely assessed through the Building Code Effectiveness Grading Schedule (BCEGS) program, developed by the Insurance Services Office, Inc. (ISO). In North Carolina, the North Carolina Department of Insurance assesses the building codes in effect in a particular community and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards. The results of BCEGS assessments are routinely provided to ISO's member private insurance companies, which in turn

may offer ratings credits for new buildings constructed in communities with strong BCEGS classifications. The concept is that communities with well-enforced, up-to-date codes should experience fewer disaster-related losses, and as a result should have lower insurance rates.

In conducting the assessment, ISO collects information related to personnel qualification and continuing education, as well as number of inspections performed per day. This type of information combined with local building codes is used to determine a grade for that jurisdiction. The grades range from 1 to 10, with a BCEGS grade of 1 representing exemplary commitment to building code enforcement, and a grade of 10 indicating less than minimum recognized protection.

### **5.3.1.3 Floodplain Management**

Flooding represents the greatest natural hazard facing the nation. At the same time, the tools available to reduce the impacts associated with flooding are among the most developed when compared to other hazard-specific mitigation techniques. In addition to approaches that cut across hazards such as education, outreach, and the training of local officials, the National Flood Insurance Program (NFIP) contains specific regulatory measures that enable government officials to determine where and how growth occurs relative to flood hazards. Participation in the NFIP is voluntary for local governments; however, program participation is strongly encouraged by FEMA as a first step for implementing and sustaining an effective hazard mitigation program. It is therefore used as part of this *Capability Assessment* as a key indicator for measuring local capability.

In order for a county or municipality to participate in the NFIP, they must adopt a local flood damage prevention ordinance that requires jurisdictions to follow established minimum building standards in the floodplain. These standards require that all new buildings and substantial improvements to existing buildings will be protected from damage by a 100-year flood event, and that new development in the floodplain will not exacerbate existing flood problems or increase damage to other properties.

A key service provided by the NFIP is the mapping of identified flood hazard areas. Once completed, the Flood Insurance Rate Maps (FIRMs) are used to assess flood hazard risk, regulate construction practices, and set flood insurance rates. FIRMs are an important source of information to educate residents, government officials, and the private sector about the likelihood of flooding in their community.

**Table 5.2** provides NFIP policy and claim information for each participating jurisdiction in the Eno-Haw Region. The Town of Ossipee is not currently participating in the NFIP because there is very minimal Special Flood Hazard Area (SFHA) identified within its boundary, and there is no development in or near that area.

**Table 5.2: NFIP Policy and Claim Information**

Jurisdiction	Date Joined NFIP	Current Effective Map Date	NFIP Policies In Force	Total Premiums	Insurance In Force	Closed Paid Losses	Total Payments
<b>Alamance County</b>	12/01/81	01/02/08	50	\$73,394	\$13,224,100	29	\$824,802
Alamance	08/15/90	01/02/08	2	\$874	\$700,000	0	\$0
Burlington	04/01/81	01/02/08	145	\$126,096	\$32,199,800	26	\$251,614
Elon	06/05/89	01/02/08	24	\$14,052	\$5,075,300	2	\$12,790
Graham	11/19/80	01/02/08	43	\$25,007	\$8,339,500	8	\$63,753
Green Level	12/22/98	01/02/08	0	\$0	\$0	0	\$0
Haw River	11/05/80	01/02/08	6	\$6,597	\$1,278,100	1	\$60,000
Mebane	11/05/80	01/02/08	44	\$22,905	\$10,948,100	2	\$4,622
Ossipee	-	-	0	\$0	\$0	0	\$0
Swepsonville	12/01/81	01/02/08	3	\$1,467	\$531,400	0	\$0
<i>Subtotal Alamance</i>	-	-	317	\$270,392	\$72,296,300	68	\$1,217,581
<b>Orange County</b>	03/16/81	05/16/08	85	\$38,931	\$22,903,400	8	\$179,620
Carrboro	06/30/76	05/16/08	106	\$56,325	\$27,308,100	7	\$62,338
Chapel Hill	04/17/78	05/16/08	644	\$567,744	\$141,166,700	170	\$7,713,132
Hillsborough	05/15/80	05/16/08	16	\$13,731	\$3,826,500	3	\$9,032
<i>Subtotal Orange</i>	-	-	851	\$676,731	\$195,204,700	188	\$7,964,122
<b>Durham County</b>	02/15/79	05/16/08	223	\$146,331	\$54,636,000	40	\$505,362
Durham	01/03/79	05/16/08	1,129	\$936,955	\$256,244,000	123	\$1,568,822
<i>Subtotal Durham</i>	-	-	1,352	\$1,083,286	\$310,880,000	163	\$2,074,184
<b>TOTAL ENO-HAW</b>	-	-	2,520	\$2,030,409	\$578,381,000	419	\$11,255,887

Source: FEMA NFIP Policy Statistics (10/31/2014).

### Community Rating System

An additional indicator of floodplain management capability is the active participation of local jurisdictions in the Community Rating System (CRS). The CRS is an incentive-based program that encourages counties and municipalities to undertake defined flood mitigation activities that go beyond the minimum requirements of the NFIP, adding extra local measures to provide protection from flooding. All of the 18 creditable CRS mitigation activities are assigned a range of point values. As points are accumulated and reach identified thresholds, communities can apply for an improved CRS class. Class ratings, which range from 10 to 1, are tied to flood insurance premium reductions as shown in **Table 5.3**. As class ratings improve (the lower the number, the better), the percent reduction in flood insurance premiums for NFIP policyholders in that community increases.

**Table 5.3: CRS Premium Discounts, By Class**

CRS Class	Premium Reduction
1	45%
2	40%
3	35%
4	30%
5	25%
6	20%
7	15%
8	10%
9	5%
10	0%

Source: NFIP Community Rating System.

Community participation in the CRS is voluntary. Any community that is in full compliance with the rules and regulations of the NFIP may apply to FEMA for a CRS classification better than class 10. The CRS application process has been greatly simplified over the past several years, based on community comments intended to make the CRS more user friendly, and extensive technical assistance available for communities who request it.

- Orange County, Durham County, and the City of Durham participate in the CRS, each with a class of 8.

### **Floodplain Management Plan**

A floodplain management plan (or a flood mitigation plan) provides a framework for action regarding corrective and preventative measures to reduce flood-related impacts.

- 12 of the participating jurisdictions have a floodplain management plan in place.

### **Open Space Management Plan**

An open space management plan is designed to preserve, protect, and restore largely undeveloped lands in their natural state, and to expand or connect areas in the public domain such as parks, greenways, and other outdoor recreation areas. In many instances open space management practices are consistent with the goals of reducing hazard losses, such as the preservation of wetlands or other flood-prone areas in their natural state in perpetuity.

- 8 of the participating jurisdictions have an open space management plan in place.

### **Stormwater Management Plan**

A stormwater management plan is designed to address flooding associated with stormwater runoff. The stormwater management plan is typically focused on design and construction measures that are intended to reduce the impact of more frequently occurring minor urban flooding.

- 13 of the participating jurisdictions have a stormwater management plan in place.

### 5.3.2 Administrative and Technical Capability

The ability of a local government to develop and implement mitigation projects, policies, and programs is directly tied to its ability to direct staff time and resources for that purpose. Administrative capability can be evaluated by determining how mitigation-related activities are assigned to local departments and if there are adequate personnel resources to complete these activities. The degree of intergovernmental coordination among departments will also affect administrative capability for the implementation and success of proposed mitigation activities.

Technical capability can generally be evaluated by assessing the level of knowledge and technical expertise of local government employees, such as personnel skilled in using geographic information systems (GIS) to analyze and assess community hazard vulnerability. The *Local Capability Assessment Survey* was used to capture information on administrative and technical capability through the identification of available staff and personnel resources.

**Table 5.4** provides a summary of the *Local Capability Assessment Survey* results for the Eno-Haw Region with regard to relevant staff and personnel resources. A checkmark (✓) indicates the presence of a staff member(s) in that jurisdiction with the specified knowledge or skill.

**Table 5.4: Relevant Staff/Personnel Resources**

Jurisdiction	Planners with knowledge of land development and land management practices	Engineers or professionals trained in construction practices related to buildings and/or infrastructure	Planners or engineers with an understanding of natural and/or human-caused hazards	Building Official	Emergency manager	Floodplain manager	Land surveyors	Scientist familiar with the hazards of the community	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in Geographic Information Systems (GIS) and/or HAZUS	Resource development staff or grant writers	Maintenance programs to reduce risk	Warning systems/services	Mutual Aid Agreements
<b>Alamance County</b>	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Alamance	✓					✓				✓		✓	✓	
Burlington	✓		✓		✓	✓			✓	✓			✓	
Elon	✓	✓		✓	✓	✓	✓			✓		✓		✓
Graham	✓	✓		✓		✓	✓			✓	✓	✓		✓
Green Level	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Haw River	✓	✓	✓	✓		✓	✓					✓		✓
Mebane	✓	✓	✓	✓		✓	✓					✓	✓	✓
Ossipee					✓								✓	✓
Swepsonville						✓							✓	✓
<b>Orange County</b>	✓	✓	✓	✓	✓	✓			✓	✓			✓	✓
Carrboro	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Chapel Hill	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hillsborough	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
<b>Durham County</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Durham	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source: Local Capability Assessment Survey.

### 5.3.3 Fiscal Capability

The ability of a local government to take action is often closely associated with the amount of money available to implement policies and projects. This may take the form of outside grant funding awards or locally based revenue and financing. The costs associated with mitigation policy and project implementation vary widely. In some cases, policies are tied primarily to staff time or administrative costs associated with the creation and monitoring of a given program. In other cases, direct expenses are linked to an actual project such as the acquisition of flood-prone houses, which can require a substantial commitment from local, state, and federal funding sources.

The *Local Capability Assessment Survey* was used to capture information on the Region’s fiscal capability through the identification of locally available financial resources.

**Table 5.5** provides a summary of the results for the Eno-Haw Region with regard to relevant fiscal resources. A checkmark (✓) indicates that the given fiscal resource is locally available for hazard mitigation purposes (including match funds for state and federal mitigation grant funds).

**Table 5.5: Relevant Fiscal Resources**

Jurisdiction	Capital Improvement Programming	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation Bonds	Revenue Bonds	Special Tax Bonds	Other
<b>Alamance County</b>	✓	✓						✓			
Alamance	✓	✓	✓		✓	✓		✓	✓	✓	✓
Burlington											
Elon	✓	✓			✓	✓		✓	✓		
Graham	✓				✓	✓					
Green Level	✓				✓	✓					
Haw River	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Mebane	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Ossipee			✓		✓						
Swepsonville	✓	✓	✓	✓	✓	✓		✓	✓	✓	
<b>Orange County</b>	✓	✓	✓		✓			✓			
Carrboro	✓							✓			
Chapel Hill	✓	✓				✓		✓	✓		
Hillsborough	✓		✓		✓	✓					✓
<b>Durham County</b>	✓				✓	✓			✓		
Durham	✓				✓	✓			✓		

Source: *Local Capability Assessment Survey*.

### 5.3.4 Education and Outreach Capability

This type of local capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Examples include natural disaster or safety related school programs; participation in community programs such as Firewise or StormReady; and activities conducted as part of hazard awareness campaigns such as a Tornado Awareness Month.

**Table 5.6** provides a summary of the results for the Eno-Haw Region with regard to relevant education and outreach resources. A checkmark (✓) indicates that the given resource is locally available for hazard mitigation purposes.

**Table 5.6: Education and Outreach Resources**

Jurisdiction	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Natural disaster or safety related school programs	StormReady certification	Firewise Communities certification	Public-private partnership initiatives addressing disaster-related issues	Other
<b>Alamance County</b>	✓	✓	✓			✓	
Alamance		✓					
Burlington				✓			
Elon		✓	✓				
Graham		✓					
Green Level							
Haw River		✓					
Mebane		✓					
Ossipee							
Sweptonville		✓					
<b>Orange County</b>	✓	✓	✓			✓	
Carrboro	✓	✓	✓			✓	
Chapel Hill	✓	✓	✓			✓	
Hillsborough	✓	✓	✓				
<b>Durham County</b>	✓	✓	✓	✓		✓	
Durham	✓	✓	✓	✓		✓	

Source: Local Capability Assessment Survey.

### 5.3.5 Political Capability

One of the most difficult capabilities to evaluate involves the political will of a jurisdiction to enact meaningful policies and projects designed to reduce the impact of future hazard events. Hazard mitigation may not be a local priority, or may conflict with or be seen as an impediment to other goals of the community, such as growth and economic development. Therefore the local political climate must be considered in designing mitigation strategies, as it could be the most difficult hurdle to overcome in accomplishing their adoption and implementation.

The *Local Capability Assessment Survey* was used to capture information on political capability of the Eno-Haw Region. Survey respondents were asked to identify some general examples of local political capability, such as guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum state or federal requirements (e.g., building codes, floodplain management, etc.). The comments provided by the participating jurisdictions are listed below:

- The Alamance County Local Emergency Planning Committee (LEPC), in conjunction with various businesses and industries, works with our local Board of Directors and Alamance County Commissioners to enact policies/procedures and ordinances that may go beyond State requirements (Chemical Planner position, assessing HazMat fees in the County to businesses who store, manufacture, or produce hazardous chemicals, wastes, etc.).
- The Town of Carrboro has participated in the National Flood Insurance Program (NFIP) for nearly four decades. The Town has an outstanding commitment to development management and environmental protection; regulatory and policy measures exceed minimum state and federal requirements related to use of stream buffers and floodplains, including building construction. Regulations and policies have been framed to maximize the suitability of development in relation to natural constraints, minimize environmental degradation and reduce long-term costs and impacts of development on natural systems and owners of real property. The Town has invested heavily in the establishment and maintenance of base data that allows clear communication between residents, property owners, public officials, and the development community. The Town has pursued grant funds to provide relief in locations where nonconforming development preceded the establishment of more stringent flood protection measures, has requested special flood studies beyond the limits of those required by FEMA, and has carried out its own engineering investigations, outreach, and analyses to identify solutions to existing areas of concern.<sup>1</sup>
- The Town of Chapel Hill has significant political capability to enact policies and programs to reduce community hazards. Examples include considerations in the Unified Development Ordinance to include riparian buffers and storm water collection. In addition the fire prevention takes an aggressive approach in mitigating and preventing hazards.
- Along with the adoption of various planning and zoning ordinances, the Hillsborough Town Commissioners have seen fit to adopt a Fire Prevention Ordinance that includes a Hazardous Materials Control provision and a mandatory Fire Sprinkler provision.

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<sup>1</sup> See <https://carrboro.legistar.com/LegislationDetail.aspx?ID=1492083&GUID=0C706CC1-1998-45D6-8C8C-2A3C1E537E41&Options=ID|Text|&Search=flooding> and <https://carrboro.legistar.com/LegislationDetail.aspx?ID=1903520&GUID=69FDA95E-0247-41A3-8167-A3A4D2C6CA6B&Options=ID|Text|&Search=flooding> for examples.

### 5.3.6 Local Self Assessment

In addition to the inventory and analysis of specific local capabilities, the *Local Capability Assessment Survey* asked counties and local jurisdictions within the Eno-Haw Region to conduct a self assessment of their perceived capability to implement hazard mitigation activities. As part of this process, local officials were encouraged to consider the barriers to implementing proposed mitigation strategies in addition to the mechanisms that could enhance or further such strategies. In response to the survey questionnaire, county officials classified each of the aforementioned capabilities as either “limited,” “moderate,” or “high.”

**Table 5.7** summarizes the results of the self assessment for the Eno-Haw Region.

**Table 5.7: Self Assessment of Capability**

Jurisdiction	Plans, Ordinances, Codes and Programs	Administrative and Technical Capability	Fiscal Capability	Education and Outreach Capability	Political Capability	OVERALL CAPABILITY
<b>Alamance County</b>	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Alamance	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Burlington	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Elon	LIMITED	LIMITED	LIMITED	LIMITED	MODERATE	LIMITED
Graham	MODERATE	MODERATE	LIMITED	MODERATE	MODERATE	MODERATE
Green Level	MODERATE	HIGH	MODERATE	LIMITED	LIMITED	MODERATE
Haw River	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Mebane	LIMITED	LIMITED	LIMITED	LIMITED	LIMITED	LIMITED
Ossipee						
Swepsonville	LIMITED	MODERATE	MODERATE	LIMITED	MODERATE	MODERATE
<b>Orange County</b>	HIGH	HIGH	MODERATE	HIGH	MODERATE	MODERATE
Carrboro	HIGH	HIGH	MODERATE	HIGH	MODERATE	HIGH
Chapel Hill	HIGH	HIGH	MODERATE	HIGH	MODERATE	HIGH
Hillsborough	HIGH	MODERATE	LIMITED	MODERATE	MODERATE	MODERATE
<b>Durham County</b>	HIGH	HIGH	MODERATE	HIGH	MODERATE	MODERATE
Durham	HIGH	HIGH	MODERATE	HIGH	MODERATE	MODERATE

Source: *Local Capability Assessment Survey*.

## 5.4 Conclusions on Local Capability

In order to form meaningful conclusions on the assessment of local capability, a scoring system was designed and applied to the results of the *Local Capability Assessment Survey*. This approach, further described below, assesses the level of capability for each jurisdiction in the Eno-Haw Region. It is important to note that the score received by each participating jurisdiction is not intended to compare one to the other. Rather, the scoring system is intended to assist each jurisdiction to develop mitigation actions that reflect their abilities and help to identify areas that can be improved through the adoption of specific mitigation actions addressing these weaknesses.

### Points System for Capability Ranking

Scoring:

**0-24 points = Limited overall capability**  
**25-55 points = Moderate overall capability**  
**56-103 points = High overall capability**

#### I. Planning and Regulatory Capability (Up to 55 points)

**Yes=3 points Under Development or Under County Jurisdiction=1 No=0 points**

- Hazard Mitigation Plan
- Comprehensive Land Use Plan
- Floodplain Management Plan
- Participate in the NFIP
- Participate in CRS Program
- BCEGS Grade of 1 to 5

**Yes=2 points Under Development or County Jurisdiction=1 No=0 points**

- Open Space Management / Parks & Rec. Plan
- Stormwater Management Plan
- Emergency Operations Plan
- SARA Title III
- Radiological Emergency Plan
- Continuity of Operations Plan
- Evacuation Plan
- Disaster Recovery Plan
- Flood Damage Prevention Ordinance
- Post-disaster Redevelopment/Recovery Ordinance
- Community Wildfire Protection Plan
- BCEGS Grade of 6 to 9

**Yes=1 point No=0 points**

- Capital Improvements Plan
- Economic Development Plan
- Historic Preservation Plan
- Transportation Plan
- Zoning Ordinance
- Subdivision Ordinance
- Site Plan Review Requirements
- Unified Development Ordinance
- Building Code
- Fire Code
- Participate in NFIP Program

## II. Administrative and Technical Capability (Up to 18 points)

### Yes=2 points No=0 points

- Planners with knowledge of land development and land management practices
- Engineers or professionals trained in construction practices related to buildings and/or infrastructure
- Planners or engineers with an understanding of natural and/or human-caused hazards
- Emergency manager
- Floodplain manager

### Yes=1 point No=0 points

- Land surveyors
- Scientist familiar with the hazards of the community
- Staff with education or expertise to assess the community's vulnerability to hazards
- Personnel skilled in Geographic Information Systems (GIS) and/or HAZUS
- Resource development staff or grant writers
- Maintenance programs to reduce risk
- Warning systems/services
- Mutual Aid Agreements

## III. Fiscal Capability (Up to 11 points)

### Yes=1 point No=0 points

- Capital Improvement Programming
- Community Development Block Grants
- Special Purpose Taxes
- Gas / Electric Utility Fees
- Water / Sewer Fees
- Stormwater Utility Fees
- Development Impact Fees
- General Obligation Bonds
- Revenue Bonds
- Special Tax Bonds
- Other

## IV. Education and Outreach Capability (Up to 7 points)

### Yes=1 point No=0 points

- Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.
- Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)
- Natural disaster or safety related school programs
- StormReady certification
- Firewise Communities certification
- Public-private partnership initiatives addressing disaster-related issues
- Other

## V. Self-Assessment of Overall Capability (Up to 12 points)

### High=2 points Moderate=1 points Low=0 points (Self-ranked by jurisdiction)

- Technical Capability
- Fiscal Capability
- Administrative Capability
- Education and Outreach Capability
- Political Capability
- Overall Capability

*Note: This methodology is based on best available information. If a jurisdiction did not provide information on one of the above items, a point value of zero (0) was assigned for that item.*

**Table 5.8** shows the results of the *Capability Assessment* using the designed scoring methodology. The capability score is based solely on the information provided by local officials in response to the *Local Capability Assessment Survey*. According to the assessment, the average local capability score for all responding jurisdictions is 59, which falls into the “High” capability ranking.

**Table 5.8: Capability Assessment Results**

Jurisdiction	Overall Capability Score	Overall Capability Rating
<b>Alamance County</b>	69	HIGH
Alamance	58	HIGH
Burlington	40	MODERATE
Elon	54	MODERATE
Graham	41	MODERATE
Green Level	62	HIGH
Haw River	66	HIGH
Mebane	60	HIGH
Ossipee	26	LIMITED
Swepsonville	57	HIGH
<b>Orange County</b>	62	HIGH
Carrboro	63	HIGH
Chapel Hill	77	HIGH
Hillsborough	66	HIGH
<b>Durham County</b>	80	HIGH
Durham	80	HIGH

Source: *Local Capability Assessment Survey*.

As previously discussed, one of the reasons for conducting a *Capability Assessment* is to examine local capabilities to detect any existing gaps or weaknesses within ongoing government activities that could hinder proposed mitigation activities and possibly exacerbate community hazard vulnerability. These gaps or weaknesses have been identified, for each jurisdiction, in the tables found throughout this section. The participating jurisdictions used the *Capability Assessment* as part of the basis for the mitigation actions that are identified in Section 7; therefore, each jurisdiction addresses their ability to expand on and improve their existing capabilities through the identification of their mitigation actions.

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## Section 6: Mitigation Strategy

The *Mitigation Strategy* section provides the blueprint for the participating jurisdictions in the Eno-Haw Region to follow to become less vulnerable to the negative effects of the natural hazards identified and addressed in this Plan. It is based on the general consensus of the Eno-Haw Hazard Mitigation Planning Team (HMPT) and the findings and conclusions of the *Risk Assessment* and *Capability Assessment*. It consists of the following five subsections:

- 6.1 Overview
- 6.2 Mitigation Goals
- 6.3 Identification and Analysis of Mitigation Techniques
- 6.4 Selection of Mitigation Techniques for the Eno-Haw Region
- 6.5 Plan Update Requirement

### 6.1 Overview

The intent of the *Mitigation Strategy* is to provide the Eno-Haw Region with overall goals that will serve as guiding principles for future mitigation policy and project administration, along with an analysis of mitigation techniques deemed available to meet those goals and reduce the impact of identified hazards. It is designed to be comprehensive, strategic, and functional in nature:

- In being comprehensive, the development of the *Mitigation Strategy* included a thorough review of all natural hazards and identifies extensive mitigation measures intended to not only reduce the future impacts of high risk hazards, but also to help the Eno-Haw Region achieve compatible economic, environmental, and social goals.
- In being strategic, the development of the *Mitigation Strategy* ensures that all policies and projects proposed for implementation are consistent with pre-identified, long-term planning goals.
- In being functional, each proposed mitigation action is linked to established priorities and assigned to specific departments or individuals responsible for their implementation with target completion deadlines. When necessary, funding sources are identified that can be used to assist in project implementation.

The first step in designing the *Mitigation Strategy* included the identification of mitigation goals. Mitigation goals represent broad statements that are achieved through the implementation of more specific mitigation actions. These actions include both hazard mitigation policies (such as the regulation of land in known hazard areas through a local ordinance), as well as hazard mitigation projects that seek to address specifically targeted hazard risks (such as the acquisition and relocation of a repetitive loss structure).

The second step involves the identification, consideration, and analysis of available mitigation measures to help achieve the identified mitigation goals. This is a long-term, continuous process sustained through the development and maintenance of this Plan. Alternative mitigation measures will continue to be considered as future mitigation opportunities are identified, as data and technology improve, as mitigation funding becomes available, and as the Plan is maintained over time.

The third and last step in designing the *Mitigation Strategy* is the selection and prioritization of specific mitigation actions for the Eno-Haw Region (found in Section 7: *Mitigation Action Plans*). Each County and participating jurisdiction has its own *Mitigation Action Plan* (MAP) that reflects the needs and concerns of that jurisdiction. The MAP represents an unambiguous and functional plan for action and is considered to be the most essential outcome of the mitigation planning process. A significant amount of time and effort was applied to this step in the process.

The MAP includes a prioritized listing of proposed hazard mitigation actions (policies and projects) for the Eno-Haw counties and incorporated municipalities to complete. Each action has accompanying information, such as the departments or individuals assigned responsibility for implementation, potential funding sources, and an estimated target date for completion. The MAP provides the departments or individuals responsible for implementing mitigation actions with a clear roadmap that also serves as an important tool for monitoring success or progress over time. The cohesive collection of actions listed in the MAP can also serve as an easily understood menu of mitigation policies and projects for those local decision makers who want to quickly review the recommendations and proposed actions of the Eno-Haw Regional Hazard Mitigation Plan.

In preparing each *Mitigation Action Plan* for the Eno-Haw Region, officials considered the overall hazard risk and capability to mitigate the effects of hazards as recorded through the risk and capability assessment process, in addition to meeting the adopted mitigation goals and unique needs of the planning area. Prioritization of the proposed mitigation actions was based on the factors outlined in subsection 6.1.1.

### **6.1.1 Mitigation Action Prioritization**

The priority for each mitigation action was determined by the participating jurisdiction by identifying each action as high, moderate, or low priority. In order to make this decision, local government officials reviewed and considered the findings of the *Risk Assessment* and *Capability Assessment*. Other considerations included each individual mitigation action's effect on overall risk to life and property, its ease of implementation, its degree of political and community support, its general cost-effectiveness, and funding availability (if necessary).

## **6.2 Mitigation Goals**

The primary goal of all local governments is to promote the public health, safety, and welfare of its citizens. In keeping with this standard, the Eno-Haw counties and participating municipalities have developed seven goal statements for local hazard mitigation planning in the Eno-Haw Region. In developing these goals, the previous three county hazard mitigation plans were reviewed to determine areas of consistency. The project consultant reviewed the wide range of strategies from each of the three previous county plans and a determination was made to review and discuss previous goals but to move forward with a newly crafted set of goals to better reflect the current needs and concerns of the Eno-Haw Region as a whole. These regional goals are presented in **Table 6.1**.

These regional goals were developed by the HMPT following the third planning team meeting. Each goal, purposefully broad in nature, serves to establish the parameters that were used to review and update existing mitigation actions and to aid in formulating new ones. The consistent implementation of mitigation actions over time will ensure that these mitigation goals are achieved.

**Table 6.1: Regional Mitigation Goals**

<b>Goal #1</b>	<i>Change, enhance, or adopt plans, ordinances, policies, regulations, and other local tools and mechanisms to better facilitate risk reduction activities and improve overall resiliency.</i>
<b>Goal #2</b>	<i>Enhance local political and financial support for risk reduction activities throughout the Eno-Haw Region.</i>
<b>Goal #3</b>	<i>Improve regular regional communication and foster the creation of more multi-jurisdictional regional planning efforts related to risk reduction and resiliency.</i>
<b>Goal #4</b>	<i>Implement structure and infrastructure projects to improve public safety, property protection, transportation, and other critical and essential functions of the Eno-Haw Region.</i>
<b>Goal #5</b>	<i>Improve operations for severe winter weather and other hazards and emergencies that cause similar disruptions to traffic, release times, power outages, sheltering, and communications.</i>
<b>Goal #6</b>	<i>Increase training, testing, and exercising opportunities related to the regional hazard mitigation plan.</i>
<b>Goal #7</b>	<i>Increase training, education, and awareness of community members related to natural hazards and their potential impacts within the Eno-Haw Region.</i>

### **6.3 Identification and Analysis of Mitigation Techniques**

In formulating the *Mitigation Strategy* for the Eno-Haw Region, a wide range of activities were considered in order to help achieve the established mitigation goals, in addition to addressing any specific hazard concerns. These activities were discussed during the HMPT meetings. In general, all activities considered by the planning team can be classified under one of the following four broad categories of mitigation techniques: local plans and regulations, structure and infrastructure projects, natural systems protection, and education and awareness programs. These are described in detail below.

#### **6.3.1 Local Plans and Regulations**

Mitigation actions that fall under this category include government authorities, policies, or codes that influence the way land and buildings are developed and built. Examples of these types of actions include:

- Comprehensive plans
- Land use ordinances
- Subdivision regulations
- Development review
- NFIP Community Rating System
- Capital improvement programs
- Open space preservation
- Stormwater management regulations and master plans

### **6.3.2 Structure and Infrastructure Projects**

Mitigation actions that fall under this category involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards. Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance (HMA) program. Examples of these types of actions include:

- Acquisitions and elevations of structures in flood-prone areas
- Utility undergrounding
- Structural retrofits
- Floodwalls and retaining walls
- Detention and retention structures
- Culverts
- Safe rooms

### **6.3.3 Natural Systems Protection**

Mitigation actions that fall under this category minimize damage and losses and also preserve or restore the functions of natural systems. Examples of these types of actions include:

- Sediment and erosion control
- Stream corridor restoration
- Forest management
- Conservation easements
- Wetland restoration and preservation

### **6.3.4 Education and Awareness Programs**

Mitigation actions that fall under this category inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions. Examples of these types of actions include:

- Radio or television spots
- Websites with maps and information
- Real estate disclosure
- Presentations to school groups or neighborhood organizations
- Mailings to residents in hazard-prone areas
- StormReady
- Firewise

### **6.3.5 Other Types of Actions**

Participating jurisdictions may wish to include other types of actions in their *Mitigation Action Plans* that do not fit into one of the categories listed above. In some cases, these may not be viewed as pure examples of mitigation, but they may be related in ways that make sense to the local government adopting the actions. Examples of these types of actions include:

- Warning systems
- Communications enhancements
- Emergency response training and exercises
- Evacuation management
- Sandbagging for flood protection
- Installing temporary shutters for immediate wind protection
- Other forms of emergency services

### **6.4 Selection of Mitigation Techniques for the Eno-Haw Region**

To determine the most appropriate mitigation techniques for the jurisdictions in the Eno-Haw Region, the HMPT reviewed and considered the findings of the *Risk Assessment* and *Capability Assessment* to determine the best activities for their respective communities.

Other considerations included the effect of each mitigation action on overall risk to life and property, its ease of implementation, its degree of political and community support, its general cost-effectiveness, and funding availability (if necessary).

### **6.5 Plan Update Requirement**

In keeping with FEMA requirements for plan updates, the mitigation actions identified in the previous Eno-Haw Region county plans were evaluated to determine their current implementation status. Updates on the implementation status of each existing mitigation action are provided as part of the *Mitigation Action Plans* found in Section 7.

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## Section 7: Mitigation Action Plans

The *Mitigation Action Plan* section includes a *Mitigation Action Plan* (MAP) for each participating jurisdiction. As stated in Section 6, each County and participating jurisdiction has its own MAP that reflects the needs and concerns of that jurisdiction. The MAP represents an unambiguous and functional plan for action and is considered to be the most essential outcome of the mitigation planning process.

The participating jurisdictions are listed below in the order that the MAPs are included in this section.

- **Alamance County**
- Village of Alamance
- City of Burlington
- Town of Elon
- City of Graham
- Town of Green Level
- Town of Haw River
- City of Mebane
- Town of Ossipee
- Town of Swepsonville
  
- **Orange County**
- Town of Carrboro
- Town of Chapel Hill
- Town of Hillsborough
  
- **Durham County**
- City of Durham

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# Mitigation Action Plan—Town of Carrboro

The Mitigation Action Plan for the Town of Carrboro is divided into two subsections:

7.1 Status of Previously Adopted Mitigation Actions

7.2 New 2015 Mitigation Actions

## 7.1 Status of Previously Adopted Mitigation Actions

This subsection contains all previously adopted mitigation actions for the Town of Carrboro.

The “2015 Status” field provides a one-word description of the status of the mitigation action. Options for this field are:

- Completed
- Completed/To Be Continued
- Partially Completed/In Progress
- Deferred
- Deleted

The “Narrative Explanation” field provides a brief (two to three sentence) written explanation of the status of the action. As examples:

- If the status is “Completed” or “Completed/To Be Continued,” the narrative explanation includes specific dates or other pertinent details providing documentation of the action’s completion. Where applicable, this also includes any notes describing how successful the action has been.
- If the status is “Partially Completed/In Progress,” the narrative explanation will explain where the project is in terms of completion and if there are any barriers to implementation, such as lack of funding.
- If the status is “Deferred” or “Deleted,” the narrative explanation will explain why the action has not been started or why the jurisdiction desires to abandon the action. An example of the type of response provided here could be, “Altered conditions due to disaster events and recovery priorities have postponed or permanently delayed the implementation of the action.” Any deleted actions will remain in this status update section until the next plan update. At that time, the action will be completely removed from the Plan.

<b>Mitigation Action 1</b>	<b>The Town of Carrboro, as a member of the Orange County Hazard Mitigation Planning Team, will coordinate with Orange County to reevaluate and update its hazard mitigation planning component at least once every five years or sooner as deemed appropriate by the Orange County Planning Director.</b>
Goal: <sup>1</sup>	#1
Category:	Local Plans and Regulations
Hazard(s) Addressed:	All
Lead Agency/Department Responsible:	Orange County; Town of Carrboro
Estimated Cost:	N/A
Potential Funding Sources:	Self-funded
Implementation Schedule:	Every five years—next plan update will be in 2020
Priority (High, Moderate, Low):	High
<b>2015 Status:</b>	<b>Partially Completed/In Progress</b>
<b>Narrative Explanation:</b>	<b>The Town of Carrboro has recently participated not only with Orange County but also with Alamance and Durham counties on the development of the new regional hazard mitigation plan for the three counties.</b>

<b>Mitigation Action 2</b>	<b>The Town of Carrboro intends to submit a Community Rating System (CRS) application to the ISO for a flood insurance rating that will benefit owners of flood-prone properties.</b>
Goal:	#1
Category:	Local Plans and Regulations
Hazard(s) Addressed:	Flood
Lead Agency/Department Responsible:	Town of Carrboro Planning Department
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate
<b>2015 Status:</b>	<b>Deferred</b>
<b>Narrative Explanation:</b>	<b>The Town of Carrboro continues to consider submitting a CRS application. Previous exploration has not presented a clear positive cost/benefit to the community, due to the low number of insured properties and the extensive commitment of the CRS program. The Town remains committed to evaluating the program and benefits, particularly in relation to the updated insurance rate structure and intends to do so as soon as it can be accomplished; likely within the five-year timeframe of this plan update.</b>

<sup>1</sup> The previously adopted mitigation actions for the Town of Carrboro did not originally correlate with the new regional mitigation goals developed as part of the 2015 plan update because the 2015 goals did not exist at the time of the last plan update. However, the new regional goals have been integrated with the previously adopted mitigation actions to bring them into the context of the new regional plan where applicable.

<b>Mitigation Action 3</b>	The Town of Carrboro will continue to monitor ongoing efforts by the State and the US Army Corps of Engineers to complete new floodplain mapping for the planning area. Local staff resources will be needed to implement and encourage the completion of these activities.
Goal:	#1
Category:	Local Plans and Regulations
Hazard(s) Addressed:	Flood
Lead Agency/Department Responsible:	Town of Carrboro Planning Department; Town Engineer; Town of Chapel Hill Engineering Department
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Implementation Schedule:	2015-2016
Priority (High, Moderate, Low):	High
<b>2015 Status:</b>	<b>Partially Completed/In Progress</b>
<b>Narrative Explanation:</b>	<b>Preliminary mapping has been carried out and public comment period completed. New mapping information is expected to be effective within the year (2015-2016).</b>

<b>Mitigation Action 4</b>	The Town of Carrboro needs assistance and support for the development of greenways and parklands dedicated to public use along streams and easements. The Town will seek to secure funding from federal, state, and local sources to implement the Town's greenway system, which will in turn mitigate flood hazards.
Goal:	#1
Category:	Structure and Infrastructure Projects
Hazard(s) Addressed:	Flood
Lead Agency/Department Responsible:	Town of Carrboro Planning Department; Town of Carrboro Recreation Department
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate
<b>2015 Status:</b>	<b>Partially Completed/In Progress</b>
<b>Narrative Explanation:</b>	<b>Design has been completed for two projects adjacent to Special Flood Hazard Areas (SFHAs). Construction is expected to proceed on one project in FY 15-16 and a second project in FY 17. Design and construction of one additional project is anticipated during the plan period (2015-2020).</b>

<b>Mitigation Action 5</b>	The Town of Carrboro requires new developments to install electric, cable and telephone wires underground. The older neighborhoods are served by overhead utilities and services fail when fallen trees and or tree limbs break lines. It would be beneficial to locate these utilities underground since the Town has experienced lengthy power outages during ice storms or major storm events such as Hurricane Fran. Retrofitting above ground utilities by placing them underground is beyond the financial means of the Town and could only be accomplished with resources from the utilities and/or with state and federal assistance.
Goal:	#1
Category:	Structure and Infrastructure Projects
Hazard(s) Addressed:	Hurricanes; Tropical Storms; Thunderstorms; Winter Weather
Lead Agency/Department Responsible:	Town of Carrboro Planning Department; Town of Carrboro Public Works Department; Public Utilities
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate
<b>2015 Status:</b>	<b>Partially Completed/In Progress</b>
<b>Narrative Explanation:</b>	<b>Funding source not yet identified.</b>

## 7.2 New 2015 Mitigation Actions

This subsection contains the new mitigation actions for the Town of Carrboro for the 2015-2020 planning cycle. These actions are in addition to any actions that are ongoing from the previous list of mitigation items.

<b>Mitigation Action 1</b>	<b>Look for opportunities to mitigate repetitive loss structures.</b>
Goal:	#4
Category:	Structure and Infrastructure Projects
Hazard(s) Addressed:	Flood
Lead Agency/Department Responsible:	Town of Carrboro Planning Department, Office of the Carrboro Town Manager
Estimated Cost:	Varies
Potential Funding Sources:	HMA; HMGP; with non-Federal matching funds
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate

<b>Mitigation Action 2</b>	<b>Establish comprehensive framework for plans, policies, and regulations pertaining to land use, generally, and the relationship to natural hazard mitigation.</b>
Goal:	#1
Category:	Local Plans and Regulations
Hazard(s) Addressed:	All
Lead Agency/Department Responsible:	Town of Carrboro Planning Department
Estimated Cost:	Not known
Potential Funding Sources:	Self-funded
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate-High

<b>Mitigation Action 3</b>	<b>Protect and conserve land with environmental and natural hazard mitigation value as open space.</b>
Goal:	#1
Category:	Natural Resource Protection
Hazard(s) Addressed:	Flood, Hurricane, Landslide
Lead Agency/Department Responsible:	Town of Carrboro Planning Department
Estimated Cost:	N/A
Potential Funding Sources:	Self-funded
Implementation Schedule:	2015-2025
Priority (High, Moderate, Low):	High

<b>Mitigation Action 4</b>	<b>Seek funding to retrofit critical facilities and Town-owned facilities for improved resilience to all hazards with the use of the latest building materials and technology. This could include, but is not limited to: wind retrofits, low water consumption fixtures, leak detectors, backup generators, ignition-resistant materials, 320 or 361 compliant safe rooms, lightning protection, hail resistant roofing, and anchoring fixed building equipment.</b>
Goal:	#4
Category:	Structure and Infrastructure Projects
Hazard(s) Addressed:	All
Lead Agency/Department Responsible:	Town of Carrboro Planning Department
Estimated Cost:	To be determined on a case-by-case basis
Potential Funding Sources:	Local; State Grants; UHMA Grants; other federal grants
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate

<b>Mitigation Action 5</b>	<b>Seek funding to install backup generators or quick connect hook ups for mobile generators on any newly constructed county/town critical facilities.</b>
Goal:	#4
Category:	Other Types of Actions
Hazard(s) Addressed:	All
Lead Agency/Department Responsible:	Town of Carrboro Planning Department
Estimated Cost:	To be determined on a case-by-case basis
Potential Funding Sources:	Local; State Grants; UHMA Grants; other federal grants
Implementation Schedule:	2015-2020
Priority (High, Moderate, Low):	Moderate

## Section 8: Plan Maintenance Procedures

The *Plan Maintenance Procedures* section discusses how the *Mitigation Strategy* and *Mitigation Action Plans* will be implemented by participating jurisdictions and how the overall Regional Hazard Mitigation Plan will be evaluated and enhanced over time. This section also discusses how the public will continue to be involved in the hazard mitigation planning process. It consists of the following three subsections:

- 8.1 Implementation
- 8.2 Monitoring, Evaluation, and Enhancement
- 8.3 Continued Public Involvement

### 8.1 Implementation

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in their locally adopted *Mitigation Action Plan* (Section 7). In each *Mitigation Action Plan*, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their own unique mitigation action list as needed without altering the broader focus of the regional Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for the monitoring and implementation of actions belonging to other jurisdictions involved in the planning process.

In addition to the assignment of a local lead department or agency, an implementation time period or a specific implementation date or window has been assigned to each mitigation action to help assess whether actions are being implemented in a timely fashion. The jurisdictions present within the Eno-Haw Region will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified for proposed actions listed in the *Mitigation Action Plans*.

It will be the responsibility of each participating jurisdiction to determine additional implementation procedures beyond those listed within their *Mitigation Action Plan*. This includes integrating the requirements of the Regional Hazard Mitigation Plan into other local planning documents, processes, or mechanisms such as comprehensive or capital improvement plans, when appropriate. The members of the Hazard Mitigation Planning Team (HMPT) will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Regional Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability in the Eno-Haw Region. Opportunities to integrate the requirements of this Plan into other local planning mechanisms shall continue to be identified through future meetings of the HMPT and through the five-year review process described herein. Although it is recognized that there are many possible benefits to integrating components of this Plan into other local planning mechanisms, the development and maintenance of this stand-alone Regional Hazard Mitigation Plan is deemed by the HMPT to be the most effective and appropriate method to implement local hazard mitigation actions at this time.

## 8.2 Monitoring, Evaluation, and Enhancement

The agency with the overall responsibility for monitoring this Plan is Orange County Emergency Services. Periodic revisions and updates of the Regional Hazard Mitigation Plan are required to ensure that the goals of the Plan are kept current, taking into account potential changes in hazard vulnerability and mitigation priorities. In addition, revisions may be necessary to ensure that the Plan is in full compliance with applicable federal and state regulations. Periodic evaluation of the Plan will also ensure that specific mitigation actions are being reviewed and carried out according to each jurisdiction's individual *Mitigation Action Plan*.

The Eno-Haw HMPT will continue to meet regularly, as determined by Orange County Emergency Services. These regular meetings will take place in the fall of each year so that sufficient time is available to prepare public outreach messages and assess the status of any mitigation actions relevant to the upcoming severe seasonal spring weather and the start of hurricane season. Meetings will also be convened as necessary following any disaster events warranting a reexamination of the mitigation actions being implemented or proposed by the participating jurisdictions.

County and local staff of each participating jurisdiction will also continue to attend training workshops sponsored by the North Carolina Division of Emergency Management or others as appropriate in order to keep up-to-date with any changing guidance or planning requirements and to communicate that information to other representatives of participating jurisdictions.

As part of this monitoring, evaluation, and enhancement process, each participating jurisdiction will be expected to provide an annual status update to Orange County for their respective *Mitigation Action Plans* in order to evaluate the Plan's implementation effectiveness. This will ensure that the Plan is continuously maintained and updated to reflect changing conditions and needs within the Eno-Haw Region. If determined appropriate or as requested, an annual report on the Plan will be developed and presented to local governing bodies of participating jurisdictions in order to report progress on the actions identified in the Plan and to provide information on the latest legislative requirements and/or changes to those requirements.

### **Five (5) Year Plan Review**

The Plan will be reviewed by the HMPT every five years to determine whether there have been any significant changes in the Eno-Haw Region that may, in turn, necessitate changes in the types of mitigation actions proposed. New development in identified hazard areas, increased exposure to hazards, an increase or decrease in capability to address hazards, and changes to federal or state legislation are examples of factors that may affect the necessary content of the Plan.

The plan review provides community officials with an opportunity to evaluate those actions that have been successful and to explore the possibility of documenting potential losses avoided due to the implementation of specific mitigation measures. The plan review also provides the opportunity to address mitigation actions that may not have been successfully implemented as assigned. Orange County Emergency Services will be responsible for reconvening the HMPT and conducting the five-year review.

During the five-year plan review process, the following questions will be considered as criteria for assessing the effectiveness and appropriateness of the Plan:

- Do the goals address current and expected conditions?
- Has the nature or magnitude of risks changed?
- Are the current resources appropriate for implementing the Plan?
- Are there implementation problems, such as technical, political, legal, or coordination issues with other agencies?
- Have the outcomes occurred as expected?
- Did the jurisdictions, agencies, and other partners participate in the plan implementation process as proposed?

Following the five-year review, any revisions deemed necessary will be summarized and implemented according to the reporting procedures outlined herein. Upon completion of the review and update/amendment process, the Eno-Haw Regional Hazard Mitigation Plan will be submitted to the State Hazard Mitigation Officer at the North Carolina Division of Emergency Management for final review and approval in coordination with the Federal Emergency Management Agency.

### **Disaster Declaration**

Following a disaster declaration, the Plan will be revised as necessary to reflect lessons learned, or to address specific issues and circumstances arising from the event. It will be the responsibility of Orange County Emergency Services to reconvene the HMPT and ensure the appropriate stakeholders are invited to participate in the plan revision and update process following declared disaster events.

### **Reporting Procedures**

The results of the five-year review will be summarized by the HMPT in the relevant sections of the updated plan. This includes: a comprehensive description of the plan update process including an evaluation of plan effectiveness (Section 2); any updates to the planning area profile (Section 3); any notable revisions or updates to the risk assessment (Section 4) or capability assessment (Section 5); updated mitigation goals and consideration of mitigation action alternatives (Section 6); status updates on previously adopted mitigation action plans (including the identification of reasons for delays or obstacles to their implementation) as well as the identification of newly proposed mitigation actions (Section 7); and revisions or updates to plan maintenance procedures (Section 8).

Any necessary revisions or changes to the countywide Plan elements must follow the monitoring, evaluation, and enhancement procedures outlined herein. For changes and updates to the individual *Mitigation Action Plans*, appropriate local designees will assign responsibility for the completion of the task.

## 8.3 Continued Public Involvement

Public participation is an integral component of the mitigation planning process and will continue to be essential as this Plan evolves and is updated over time.

The most appropriate and meaningful opportunities for the general public to be involved in the maintenance and implementation of the Eno-Haw Regional Hazard Mitigation Plan is during the five-year plan review process as described earlier in this section. As demonstrated in Section 2: *Planning Process*, the participating jurisdictions of the Eno-Haw Region have been diligent and successful in gaining widespread public involvement during the five-year plan review process through multiple methods. While the five-year plan review process represents the greatest opportunity for such involvement, other efforts to involve the public in the maintenance, evaluation, and revision process will continue to be made as necessary. These efforts may include:

- Advertising meetings of the HMPT in local newspapers, public bulletin boards, and/or City and County office buildings;
- Designating willing and voluntary citizens and private sector representatives as official members of the HMPT;
- Working with children through school programs and other appropriate venues in an effort to engage parents and other adults;
- Utilizing local media to update the public of any maintenance and/or periodic review activities taking place;
- Utilizing City and County websites to advertise any maintenance and/or periodic review activities taking place;
- Keeping copies of the Plan in public libraries; and
- Posting any Annual Reports on the Plan to City and County websites.