Developing a

Hazard Mitigation Plan

Northeastern Connecticut

Items to Cover

- ☐ Overview
- ☐ Hazard Mitigation Planning Process
- ☐ Hazard Mitigation Plan Components
- ☐ Planning Timeline
- ☐ Discussion

§ 201.6 Local Mitigation Plans.

The local mitigation plan is the **representation of the jurisdiction's commitment to reduce risks from natural hazards**, serving as a **guide for decision makers** as they commit resources to reducing the effects of natural hazards. **Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding**.

What is a Mitigation Plan and Why?

- A Mitigation Plan is a **community-driven, living document** that communities use to reduce their vulnerability to hazards.

- **Hazard mitigation planning** is the **process** State, local, and tribal governments use to **identify risks and vulnerabilities** associated with natural disasters, and to **develop long-term strategies** for **protecting people and property in future hazard events**.

- The **process** results in a **mitigation plan** that offers a **strategy for breaking the cycle** of disaster damage, reconstruction, and repeated damage, and a framework for developing **feasible and cost-effective mitigation projects**.

Benefits of Mitigation Planning

- ☐ Prioritizing of Hazards
- ☐ Increased Public Awareness of Hazards
- ☐ Reduction of Impact
- ☐ Builds Partnerships
- ☐ Assures Compliance
- ☐ Eligibility for Mitigation Assistance

Hazard Mitigation Assistance

Hazard Mitigation Grant Program - The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under a Presidential major disaster declaration, in the areas of the State requested by the Governor. The amount of HMGP funding available to the Applicant is based upon the estimated total Federal assistance to be provided by FEMA for disaster recovery under the Presidential major disaster declaration.

Pre-Disaster Mitigation Program is designed to assist States, Territories, Indian Tribal governments, and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future disasters.

Flood Mitigation Assistance Program with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

Repetitive Flood Claims Program with the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time.

Severe Repetitive Loss Program with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest savings to the NFIF in the shortest period of time.

Hazard Mitigation Assistance Unified Guidance
Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Flood Mitigation Assistance Program, Repetitive Flood Claims Program, Severe Repetitive Loss Program
June 1, 2010

Hazard Mitigation Plan Requirement for Funding

- ☐ **All sub-applicants** for **PDM, FMA**, and **SRL** mitigation projects must have a **FEMA-approved local mitigation plan** by the application deadline and at the time of obligation of grant funds.

- ☐ The **RFC** program does not currently have a requirement for a local mitigation plan.

- ☐ There is **no local mitigation plan requirement** for any **HMA program for a planning sub-grant.**

- ☐ **HMGP sub- applicants for mitigation projects** must have a FEMA-approved local mitigation plan at the time of obligation of funds. ... FEMA may grant an exception to the local mitigation plan requirement in extraordinary circumstances, when justification is provided.

Hazard Mitigation Assistance Unified Guidance
Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Flood Mitigation Assistance Program, Repetitive Flood Claims Program, Severe Repetitive Loss Program
June 1, 2010, page 19

STATE OF CONNECTICUT DEPARTMENT OF EMERGENCY SERVICES AND PUBLIC PROTECTION

Dannel P. Malloy
Governor

FACT SHEET

HAZARD MITIGATION GRANT PROGRAM (HMGP)

Updated on September 9, 2011

HOMEOWNERS AND BUSINESSES ENCOURAGED TO APPLY FOR MITIGATION FUNDING

As a result of the Presidential Disaster Declaration (FEMA-4023-DR-CT) the state of Connecticut is eligible to receive funding under the Hazard Mitigation Grant Program (HMGP). The HMGP provides 75% Federal matching grants from the Federal Emergency Management Agency (FEMA) for the mitigation (reduction) of damages that result from natural disasters. The goal of Hazard Mitigation is to reduce the amount of Federal and State assistance necessary after a major disaster by mitigating the effects of the disaster to homes and businesses. Hazard Mitigation measures traditionally include structural mitigation (e.g. acquisition or elevation of flood prone homes and businesses), small scale flood control projects and planning that leads to projects. The most frequent and costly disasters in Connecticut are caused by flooding.

The Department of Emergency Services and Public Protection will be sending application packages to all municipal Chief Elected Officials and Emergency Management Directors in early October, 2011. Homeowners and businesses interested in applying for funding should contact their local Chief Elected Official or Emergency Management Director for an Application Package in early October.

The amount of funding available from the HMGP after a disaster is equal to 15% of the Public Assistance Damages caused by any Presidentially Declared Disaster that occurs in Connecticut. HMGP funding is only available as a result of a Presidential Disaster Declaration and DESPP is currently anticipating receiving 6 – 8 million dollars for the HMGP as a result of Tropical Storm Irene. Eligible applicants (state agencies, municipalities and tribal nations) are strongly encouraged to consider applying for HMGP funding to mitigate natural hazards. The deadline for submitting a letter of intent is November 1st, 2011 with a full application due by December 31st, 2011.

HMGP Quick Facts:

- Total Open HMGP Disaster Grants in Connecticut: 5
- Total HMGP Funding for Connecticut: ≈ $ 13.2 Million
- Funding Passed Through to Towns Thus Far: ≈ $ 2.5 Million
- Types of Eligible Projects in Connecticut Include:
  - ⇒ Home and Business Elevation Projects
  - ⇒ Voluntary Home and Business Acquisition Projects
  - ⇒ Stormwater Projects (e.g. Culvert Replacement) that Reduce Flood Damage to Buildings
  - ⇒ Small Scale Flood Control Projects Such as Levees
  - ⇒ Wind Mitigation Projects Such as Shudders or Hurricane Clips to hold down roofs.

HMGP FAQ"s

- Due Date for Letter of Intent: November 1, 2011.
- Federal Funding Available: Approximately 6 – 8 Million
- Amount of Federal Funding: 75% of Project Cost
- Match Required: 25% (Cash / Some In-Kind Services)
- Source of In-Kind Services: Must be Non-Federal
- Management and Administration: 1.89% of Federal Grant
- Eligible Applicants: State, Municipal and Tribal Entities
- Duration of Grant: 3 years
- Administration of Grant by the Department of Emergency Services and Public Protection in coordination with Municipalities and Building Owners.

Connecticut Department of Services and Public Protection, 25 Sigourney St, Hartford, CT 06106

Types of Hazard Events

- **Natural** – **naturally occurring**
  examples: *flood, snowstorm, high winds, tornado, drought*

- **Technological** – refers to incidents that can arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials and assumes that technological emergencies are accidental and that their consequences are unintended.
  examples: *explosion, fire, utility failure*

- **Human-caused** – caused by the purposeful actions of humans
  examples: *terrorism, civil unrest*

What hazards, beyond natural, should the plan address?

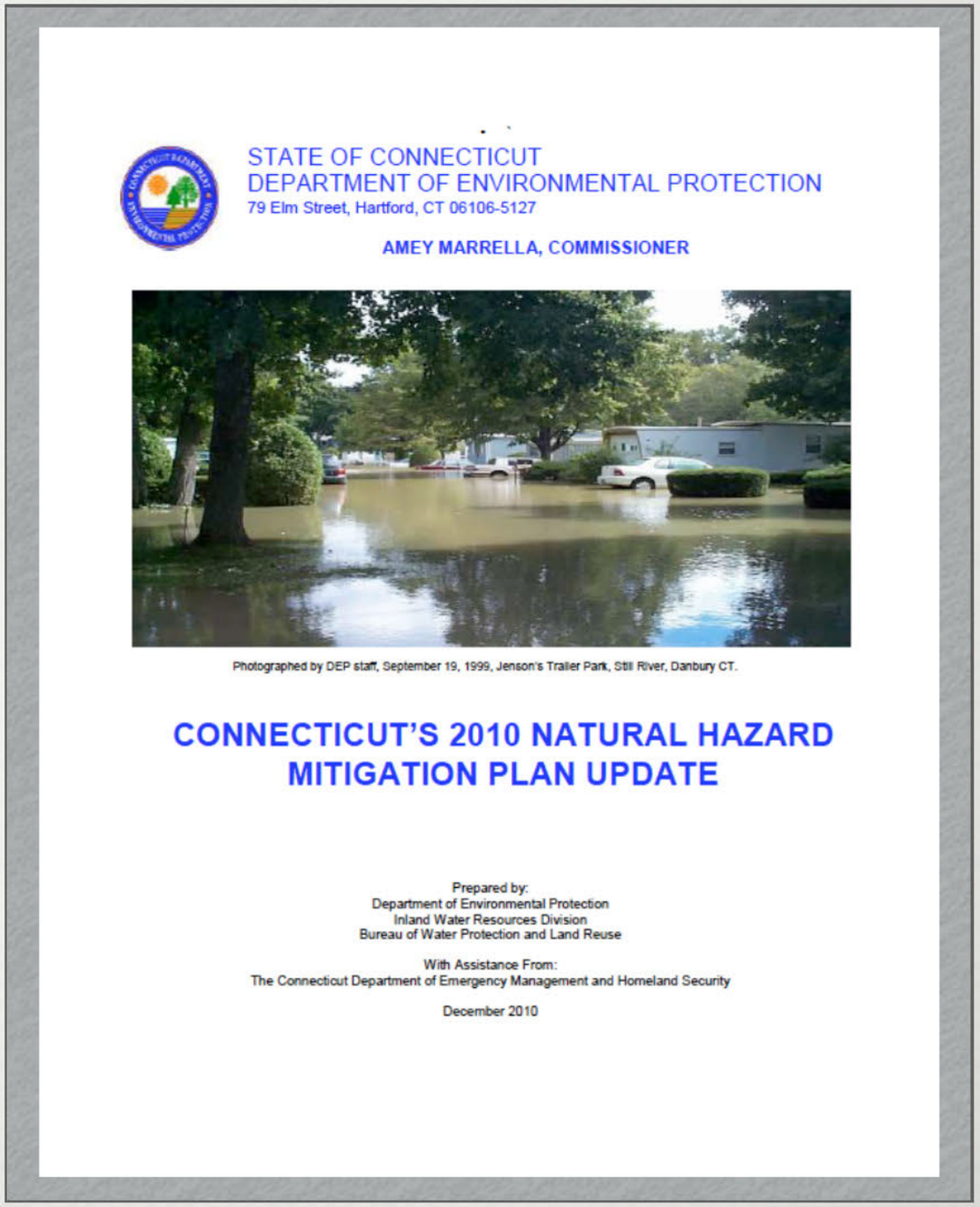
CONNECTICUT'S NATURAL HAZARDS MITIGATION GOALS, STRATEGIES AND ACTIVITIES FOR 2010 – 2013

The State of Connecticut is committed to reducing future damage from natural disasters through mitigation. The mission of Connecticut's Hazard Mitigation Program and this associated Plan is to mitigate the effects of natural hazards by minimizing loss of life and property damage. The State of Connecticut has identified three primary goals to focus its hazards mitigation efforts towards to assist in accomplishing its mission. These three goals are:

1. Promote implementation of sound floodplain management and other natural hazard mitigation principles on a state and local level;

3. Encourage research to support management and planning activities for natural hazard mitigation and State investment policies; and

5. Promote implementation of effective natural hazard mitigation projects on a state and local level.



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 Elm Street, Hartford, CT 06106-5127

AMEY MARRELLA, COMMISSIONER

Photographed by DEP staff, September 19, 1999, Jenson's Trailer Park, Still River, Danbury CT.

CONNECTICUT'S 2010 NATURAL HAZARD MITIGATION PLAN UPDATE

Prepared by:
Department of Environmental Protection
Inland Water Resources Division
Bureau of Water Protection and Land Reuse

With Assistance From:
The Connecticut Department of Emergency Management and Homeland Security

December 2010

Connecticut's Natural Hazard Mitigation Plan Update, Years 2010 - 2013, page 250 - emphasis added

Your Local Environment
News & Information for Municipalities

Vol. 1 Issue 3 October 2011 A Newsletter from the Connecticut Department of Energy & Environmental Protection

In This Issue

Energy
Lead by Example Program
Reuse & Recycling
Mattress Recycling
Clean Air
Boiler MACT Update
Odor School
Water
Expedited Permitting for Irene
Water Discharge Monitoring

Message from the Commissioner

Dear Friends,

Tropical Storm Irene provided a concrete example of the value of a strong and cooperative relationship between DEEP and local governments. At DEEP, we worked to assist local officials with issues ranging from dam safety and flood control to debris management and wastewater treatment facilities. We were also engaged with the utility companies as they worked to restore power and phone service. I know there were concerns raised in the aftermath of the storm about the time it took to restore power in some areas - and that is a topic being studied by the Public Utilities Regulatory Authority as well as a the Storm Irene panel formed by Governor Malloy.

The other big news at DEEP is that we now have in place the management team we need to move our new agency forward. Joining us recently were two new deputy commissioners who will play key leadership roles here. They are Macky

McCleary, who is now serving as deputy on the regulatory side, and Jonathan Schrag, who is our deputy for energy. I hope you will reach out and

The Torrent

Spring 2011
Volume 18, Issue 1

Inside this Issue:

New London County Maps 1
Grandfathering 2
Substantial Damage & ICC 3
Climate Change in CT 4
News Briefs 5
- Snow Disaster Declaration
- Unified Grant Fact Sheet
- Wind Retrofit Guide
- CBRS Fact Sheet
- NFIP Rate Changes
- Levee Accreditation
- Flood Safety Week

Calendar of Events 6

Flood Maps for New London County

Revised flood maps for New London County will become effective on July 18, 2011. The digital Flood Insurance Rate Maps (DFIRMs) from the Federal Emergency Management Agency (FEMA), through its Map Modernization Program, are in a countywide format and overlain onto aerial photographs from 2004. More accurate topographic information and vertical datum (NAVD 1988) was also used to produce these digital flood maps.

In early March, paper copies of the new maps and flood study, along with a CD containing this data in digital format, was sent to the chief elected official in each municipality. This will be the only paper copy the community receives. Communities are encouraged to keep old flood maps for reference.

In mid-January 2011, the CTDEP provided a regulatory review letter to each municipal floodplain administrator in New London County which outlined the required regulation changes that must be completed by the new effective map date in order to meet the minimum federal standards and new state requirements for compensatory storage and equal conveyance. Communities should now initiate the process of updating floodplain regulations to meet this deadline. If these changes are not completed, the community will be suspended from the National Flood Insurance Program (NFIP), meaning flood insurance policies will not be renewed or written in the community. The community will also not be eligible for disaster assistance. A fact sheet on the effects of suspension can be found at: http://www.ct.gov/dep/lib/dep/water_inland/flood_mgmt/nfip_probation_and_suspension.pdf.

New London County municipalities should also encourage residents to view these revised flood maps prior to July 18, 2011. The maps can be viewed on the internet at: http://msc.fema.gov. On the top red bar click on "Product Catalog". Then click on "Future FIRMs". Then choose "Connecticut" as the state and then "New London" as the county. Then choose the applicable town and a list of new maps will appear. Click on the green "View" button. Property owners should be encouraged to purchase flood insurance prior to the new map date for significant future savings if they find their structure will now be located in the floodplain. (See Grandfathering article on page 2)

In the past few years, the following counties have received revised flood insurance rate maps: Middlesex (August 28, 2008), Hartford (September 26, 2008), Fairfield (June 18, 2010), and New Haven (December 17, 2010).

There are currently no plans for revised flood insurance rate maps in Litchfield, Tolland or Windham Counties.

A Publication of the State of Connecticut Department of Environmental Protection
Bureau of Water Protection & Land Reuse
Inland Water Resources Division
Flood Management Program
79 Elm Street, 3rd floor
Hartford, CT 06106-5127
(860) 424-3706
http://www.ct.gov/dep

Editor: Diane Ifkovic
State NFIP Coordinator
diane.ifkovic@ct.gov

Funded by a grant from the Federal Emergency Management Agency (FEMA)

www.fema.gov

STATE AND LOCAL MITIGATION PLANNING
how-to guide

Getting Started

building support for mitigation planning

FEMA

September 2002
FEMA 386-1

building support for migitation planning

GETTING STARTED

STATE AND LOCAL MITIGATION PLANNING
how-to guide

Developing the Mitigation Plan

identifying mitigation actions and implementation strategies

U.S. Department of Homeland Security

FEMA

April 2003
FEMA 386-3

identifying mitigation actions and implementation strategies

DEVELOPING THE MITIGATION PLAN

Using Benefit-Cost Review in Mitigation Planning

State and Local Mitigation Planning
How-To Guide Number Five
FEMA 386-5 *May 2007*

FEMA

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

Developing and Maintaining Emergency Operations Plans

Comprehensive Preparedness Guide (CPG) 101

Version 2.0

November 2010

FEMA

USGS
science for a changing world

100-Year Flood–It's All About Chance

Haven't we already had one this century?

What is a Flood?

A flood is any relatively high streamflow overtopping the natural or artificial banks in any reach of a stream. Floods occur for many reasons, such as long-lasting rainfall over a broad area, locally intense thunderstorm-generated rainfall, or rapid melting of a large snow pack with or without accompanying rainfall. Because floods result from many different circumstances, not all floods are equal in magnitude, duration, or effect. Placing floods in context allows society to address such issues as the risk to life and property, and to study and understand the environmental benefits of floods. Trying to place contextual framework around floods is where such terms as "100-year flood" came into being.

So what is a 100-year flood and how is it determined?

In the 1960's, the United States government decided to use the 1-percent annual exceedance probability (AEP) flood as the basis for the National Flood Insurance Program. The 1-percent AEP flood was thought to be a fair balance between protecting the public and overly stringent regulation. Because the 1-percent AEP flood has a 1 in 100 chance of being equaled or exceeded in any 1 year, and it has an average recurrence interval of 100 years, it often is referred to as the "100-year flood".

Scientists and engineers frequently use statistical probability (chance) to put a context to floods and their occurrence. If the probability of a particular flood magnitude being equaled or exceeded is known, then risk can be assessed. To determine these probabilities all the annual peak streamflow values measured at a streamgage are examined. A streamgage is a location on a river where the height of the water and the quantity of flow (streamflow) are recorded. The U.S. Geological Survey (USGS) operates more than 7,500 streamgages nationwide (see map) that allow for assessment of the probability of floods. Examining all the annual peak streamflow values that occurred at a streamgage with time allows us to estimate the AEP for various flood magnitudes. For example, we can say there is a 1 in 100 chance that next year's flood will equal or exceed the 1-percent AEP flood.

More recently, people talk about larger floods, such as the "500-year flood," as tolerance for risk is reduced and increased protection from flooding is desired. The "500-year flood" corresponds to an AEP of 0.2 percent, which means a flood of that size or greater has a 0.2-percent chance (or 1 in 500 chance) of occurring in a given year.

U.S. Department of the Interior
U.S. Geological Survey

General Information Product 106
April 2010

Are You Ready? An In-depth Guide to Citizen Preparedness

Are You Ready?

An In-depth Guide to Citizen Preparedness

FEMA

IS-22 August 2004

Multi-Jurisdictional Mitigation Planning

State and Local Mitigation Planning
How-To Guide Number Eight
FEMA 386-8 *August 2006*

FEMA

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

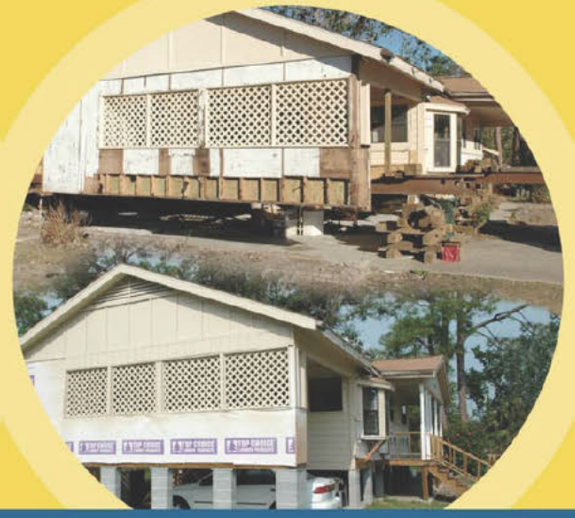
Hazard Mitigation:

Integrating Best Practices into Planning

James C. Schwab, Editor

American Planning Association

Planning Advisory Service
Report Number 560



Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects

State and Local Mitigation Planning How-To Guide

FEMA 386-9 / August 2008

FEMA

STATE AND LOCAL MITIGATION PLANNING
how-to guide

Integrating Manmade Hazards Into Mitigation Planning

FEMA

September 2003
FEMA 386-7
Version 2.0

INTEGRATING MANMADE HAZARDS INTO MITIGATION PLANNING

The ***Planning Process*** is as important as the plan itself.

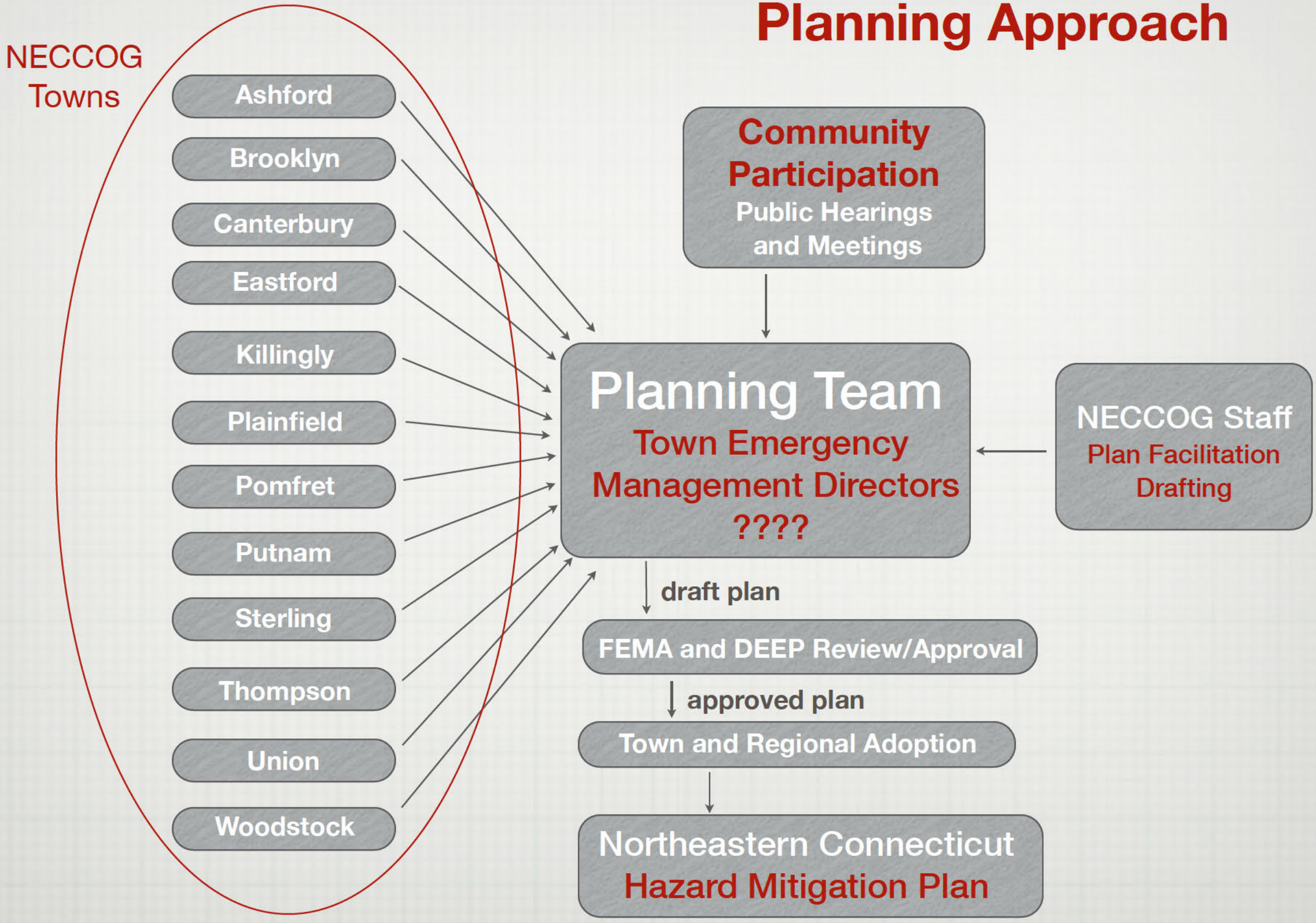
FEMA: Local Multi-Hazard Mitigation Planning Guidance, page 25 (emphasis added)

Regional Hazard Mitigation Planning

Towns have the option of preparing a multi-jurisdictional or regional hazard mitigation plan. Towns can benefit in several ways using this approach:

- ☐ Enables comprehensive approaches to mitigation of hazards - *hazards are not bound by political boundaries*
- ☐ Allows economies of scale - leveraging individual capabilities and sharing costs and resources
- ☐ Avoids duplication of efforts

Planning Approach



Process must be **inclusive**

1. An **opportunity for the public to comment on the plan** [must be provided] during the drafting stage and prior to plan approval;

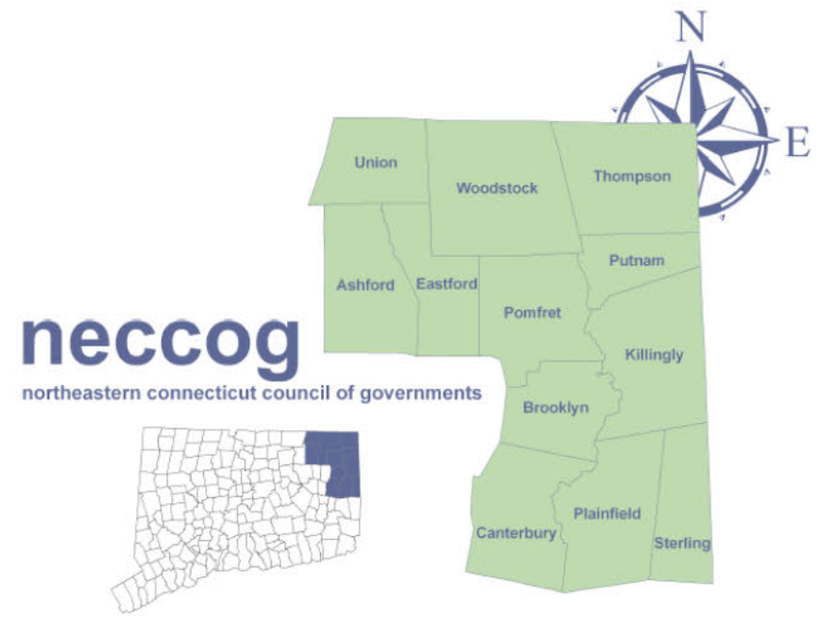
2. An **opportunity** [must be provided] **for neighboring jurisdictions**, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and,

3. **Review and incorporation**, if appropriate, of existing plans, studies, reports, and technical information.

4. [The plan shall document] the **planning process** used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Public Participation

- ☐ **Full Compliance with FOIA**
- ☐ **Committed to Open access, effective communication - leading to knowledgeable, informed stakeholders**
- ☐ **Regional stakeholders engaged early and continuously in a collaborative inclusive accessible planning process**
- ☐ **Title VI/Environmental Justice**



neccog

northeastern connecticut council of governments

Public Participation Policy

Adopted September 2011

Mitigation Plan - Plan Content

Planning Process

- Documentation
- Planning Partners

Regional Setting

- Demographics
- Environmental and Natural Resources

Risk Assessment

- Identifying Hazards
- Profiling Hazards
- Assessing Vulnerability

Mitigation Strategy

- Goals, Objectives, and Actions
- National Flood Insurance Program Implementation

Plan Maintenance

- Metrics
- Update Process

Documentation of the **planning process** used to develop the plan, including **how it was prepared, who was involved in the process, and how the public was involved**.

§ 201.6 Local Mitigation Plans

The **Risk Assessment** shall include:

1. A **description of the type, location, and extent of all natural hazards** that can affect the jurisdiction. The plan shall include information on **previous occurrences** of hazard events and on the **probability of future hazard events**.

2. A description of the **jurisdiction's vulnerability** to the hazards ... This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

   - The **types and numbers of existing and future buildings, infrastructure, and critical facilities** located in the identified hazard areas;

   - An **estimate of the potential dollar losses** to vulnerable structures and a description of the methodology used to prepare the estimate;

   - Providing a **general description of land uses and development trends** within the community so that mitigation options can be considered in **future land use decisions**.

3. For multi-jurisdictional plans, the risk assessment section **must assess each jurisdiction's risks where they vary from the risks facing the entire planning area**.

---

§ 201.6(2) Local Mitigation Plans

Mitigation Strategy ... provides the jurisdiction's **blueprint** for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

1. A **description of mitigation goals** to **reduce or avoid long-term vulnerabilities** to the identified hazards.

2. A section that identifies and analyzes a **comprehensive range of specific mitigation actions and projects** being considered to reduce the effects of each hazard, with particular **emphasis on new and existing buildings and infrastructure**.

3. An **action plan** describing how the actions identified [above] will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a **cost benefit review** of the proposed projects and their associated costs.

4. For multi-jurisdictional plans, there must be **identifiable action items** specific to the jurisdiction requesting FEMA approval or credit of the plan.

---

§ 201.6C(3) Local Mitigation Plans

A **Plan Maintenance** process that includes:

1. A section describing the **method and schedule** of **monitoring, evaluating,** and **updating** the mitigation plan within a **five-year cycle**.

3. A **process** by which local governments **incorporate the requirements of the mitigation plan** into other planning mechanisms such as **comprehensive** or **capital improvement plans**, when appropriate.

3. Discussion on **how the community will continue public participation** in the plan maintenance process.

---

§ 201.6C(4) Local Mitigation Plans

The **goals of the National Flood Insurance Program** (NFIP) are to provide flood insurance to property owners, to encourage flood loss reduction activities by communities, and to save taxpayers' money. The CRS is a part of the NFIP and provides both incentives and tools to further these goals.

The goals of the CRS are to recognize, encourage, and reward, by the use of flood insurance premium adjustments, community and state activities beyond the minimum required by the NFIP that

- Reduce flood damage to insurable property,
- Strengthen and support the insurance aspects of the NFIP, and
- Encourage a comprehensive approach to floodplain management.

To be covered by a flood insurance policy, a property must be in a community that participates in the NFIP. **To qualify for the program, a community adopts and enforces a floodplain management ordinance to regulate development in flood hazard areas. The basic objective of the ordinance is to ensure that such development will not aggravate existing flooding conditions and that new buildings will be protected from flood damage.** Today, over 19,000 communities participate in the NFIP.

OMB No. 1660-0022
Expires: August 31, 2010

National Flood Insurance Program
Community Rating System

Coordinator's Manual

FIA-15/2007

FEMA

Planning Process Research Elements
June 2011

Kick-Off Meeting
November 15, 2011

Risk Assessment
January 2012

Mitigation Solutions Workshop(s)
March 2012

Mitigation Strategy
April 2012

Draft Mitigation Plan
May 2012

Public Hearing(s)
June 2012

Forward Plan to DEEP and FEMA
June 2012

Distribute to Towns for Adoption
Fall 2012

Timeline

questions/discussion

thank you