

SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN

APPENDICES

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Appendix A: Work Plan

Multi-Jurisdictional Hazard Mitigation Plan

Complete a Multi-Jurisdiction Hazard Mitigation Plan for the South Central Region. Ten municipalities will participate in the planning process; these are Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The planning process will adhere to Federal Emergency Management Agency (FEMA) standards. The plan will include possible natural hazards such as flood, wind, earthquake and winter storms.

1. PLANNING PROCESS

- Conduct a Project Kick-Off Meeting within two weeks of project award.
- Develop a Public Outreach Strategy to generate public interest, solicit citizen input, and engage additional partners in the planning process.
- Facilitate the formation of an Advisory Committee and facilitate eight meetings with them.
- Develop a Toolkit for the Public Workshops based on FEMA's Digital Flood Insurance Rate Maps (DFIRMs) that will be incorporated into the public outreach process (minimum 3 public workshops).
- Conduct public outreach to engage a targeted stakeholder group.
- Conduct local stakeholder meeting with each participating municipality
- Provide webpage(s) content to be integrated into SCRCOG website
- Document the planning process to meet FEMA standards.

Deliverables:

1. Project Initiation
2. Develop Public Outreach Strategy
3. Facilitate Advisory Committee Meetings
4. Develop Toolkit for Public Workshops, including DFIRMs
5. Conduct Public Outreach (minimum of three public workshops)
6. Maps/Handouts as necessary
7. Binder Materials (17)
8. Project Webpage Content
9. Document Planning Process

2. HAZARD IDENTIFICATION AND RISK ASSESSMENT

- Conduct a comprehensive natural hazards risk assessment using best available data.
- Collect best available data (most current).
- Identify all potential natural hazards in the region.
- Perform a detailed hazard analysis that includes hazard identification, historical occurrences and an assessment of how community development may impact hazard problems.
- Inventory community assets potentially vulnerable to identified hazards.
- Complete a GIS-based risk assessment for the region with specific information regarding each municipality. Utilize Hazus-MH (Level 2 analysis) and other risk modeling programs with local data sources.

Deliverables:

1. Data Collection and Analysis
2. Hazard Identification
3. Hazard Profiles and Mapping

Work Plan and Schedule



Multi-Jurisdictional Hazard Mitigation Plan

4. Inventory of Community Assets
5. Hazus-MH Level 2 analysis
6. Other risk modeling program analysis
7. Vulnerability Assessment
8. Summarize Findings and Conclusions

CAPABILITY ASSESSMENT

- Review the region's capacity to implement mitigation strategies.

Deliverables:

1. Review Existing Capabilities
2. Summarize Findings and Conclusions

MITIGATION STRATEGY

- Develop goals and objectives with the Advisory Committee for reducing and avoiding losses to identified natural hazards.
- Analyze the mitigation actions and projects.
- Prepare mitigation action plans for each jurisdiction and for the region as a whole.
- Prioritize the mitigation actions, including customized prioritization tool for SCRCOG region.
- Preliminary Benefit-Cost Analysis

Deliverables:

1. Develop Goals and Objectives
2. Analyze Mitigation Actions and Projects
3. Prepare Mitigation Action Plans
4. Complete Mitigation Action Prioritization, including customized prioritization tool for SCRCOG region
5. Preliminary Benefit-Cost Analysis

PLAN MAINTENANCE PROCESS

- Develop plan implementation procedures.
- Develop plan review and update procedures.
- Develop a plan to continue public involvement in the mitigation planning process.

Deliverables:

1. Plan Implementation Procedures
2. Plan Review and Update Procedures
3. Continued Public Involvement Procedures
4. Draft Plan Documents (12 Copies), including digital copy

PLAN ADOPTION AND APPROVAL

- Support SCRCOG with adopting the plan as a region and by each municipality.
- Support SCRCOG with getting the plan approved by the State and FEMA.

Deliverables:

1. Assist SCRCOG with Plan Adoption
2. Assist SCRCOG with Plan Approval
3. Final Plan Documents (15 copies), including digital copy

Appendix B: Outreach Plan

Multi-Jurisdictional Hazard Mitigation Plan

Introduction

The JCC Team recognizes the need for ten of the municipalities in the South Central Region to come together in the development of a multi-hazard mitigation plan. We also recognize these are ten very diverse communities ranging from coastal and inland communities to suburban and rural communities. Beyond the geographic areas, Interstate 95 and Interstate 91 run through these municipalities creating the need to look at challenges posed by major transportation arteries. The Multi-Jurisdiction Hazard Mitigation Plan prepared through this project will ease the burden of keeping these communities safe by identifying and communicating hazard risks, developing actions to reduce or eliminate those risks, and making each justification eligible for FEMA mitigation program funding. In addition, the mitigation planning process will educate key stakeholders within each municipality and strengthen partnerships between these stakeholders and the South Central Regional Council of Governments (SCRCOG).

The Public Outreach Plan will include strategies to:

- Generate public interest in mitigation planning.
- Solicit public input.
- Engage municipal partners.
- Create opportunities for the public and municipalities to be actively involved in the mitigation planning process.

SCRCOG and the JCC Team firmly believe in the benefit of public outreach. The more engaged the public becomes in the planning process the more likely they are to support future mitigation strategies. In addition, participation in mitigation planning often serves as a foundation for additional emergency preparedness and response planning. Implementing the following outreach strategies will allow for coordination and accountability for each of the municipalities participating in the planning process.

Outreach Strategies

The JCC Team will engage targeted stakeholders and involve the public per the outreach strategies throughout the project and in each of the six project tasks.

Advisory Committee

SCRCOG has put together an Advisory Committee for the purpose of representing the ten participating municipalities and for assistance with the planning process. The JCC Team will work with SCRCOG's Project Liaison regarding all logistics surrounding project meetings. All meetings will be documented in accordance with FEMA requirements. The Advisory Committee will participate in two surveys, assist with data collection, organize municipality meetings, assist with regional workshops and review the draft mitigation plan. The Advisory Committee will meet at the SCRCOG offices eight times throughout the project to provide input to the JCC Team throughout all phases of the planning process and to provide feedback on all project deliverables. The general agenda for each meeting is as follows:

Multi-Jurisdictional Hazard Mitigation Plan

1. Project Kick-off Meeting with key SCRCOG staff and pre-identified project leaders.
2. The JCC Team's final Project Work Plan and Public Outreach Strategy is presented and discussed. Project Binders are distributed and Project Website is introduced. The JCC Team will also facilitate some interactive, consensus building exercises with the Advisory Committee to begin hazard identification and data collection efforts, as well as to identify some preliminary goals or objectives for the plan.
3. Review the results of the hazard identification process. Review community assets and essential facilities, and continue data collection effort in support of risk and capability assessments.
4. Review and discuss preliminary findings of Risk Assessment and Capability Assessment.
5. Presentation of final Risk Assessment and Capability Assessment findings. Review and discuss mitigation goals and objectives, and begin analysis of mitigation actions and projects.
6. Development of mitigation action plans for each jurisdiction.
7. Review Draft Plan. Finalize prioritization of mitigation actions and projects, and make key decisions on plan implementation and maintenance process.
8. Review Final Plan and prepare for local plan adoption.

In addition, a Project Binder will be distributed to all Advisory Committee members. The Project Binder will serve to organize all materials distributed at meetings and to keep members of each municipality engaged in this multi-jurisdictional planning effort. The Project Website and the Project Binder each offer a transparent view into the planning process and enable all stakeholders to participate fully.

Municipality Meetings

The JCC Team and SCRCOG leaders will meet with stakeholders in each of the ten municipalities. The idea is to target municipal representatives who can contribute to the mitigation planning process, but these stakeholders may also include local or regional agencies, academia or private industry. The Advisory Committee will recommend stakeholders and assist with meeting logistics. The individual Municipality Meetings will give the planning team an opportunity to gather municipal data and to better represent their unique risks, capabilities and mitigation actions. In addition, presentations may be given to governing bodies regarding the status of the plan and what is included.

Regional Public Workshops

SCRCOG, the Advisory Committee and the JCC Team will host three Regional Public Workshops during the course of the project. These Workshops are designed to educate the community about mitigation planning and gain input to be considered during the drafting stage of the Multi-Jurisdiction Hazard Mitigation Plan. The Project Fact Sheet will be distributed as well as the Public Opinion Survey. In addition, a presentation will be given describing the planning process, the risk assessment results and possible mitigation actions. Ample opportunity will be given for the public to participate in discussion. The SCRCOG and municipalities will distribute other relevant brochures or information materials, as appropriate.

Multi-Jurisdictional Hazard Mitigation Plan

Project Fact Sheet

A double-sided, one page Project Fact Sheet will be developed for the purposes of describing the project and soliciting public involvement. Promoting the Project Website, Public Opinion Survey and Regional Workshops will be a key focus of the Fact Sheet. The Fact Sheet will be available in print and in digital form. It is anticipated that it will be available for download from the SCRCOG website and perhaps from municipal websites. Hard copies will be printed by SCRCOG and distributed in regional and municipal offices, and public buildings such as libraries and town halls.

Municipality Survey

A Municipality Survey will be drafted to assist the JCC Team in gathering information from municipal staff and targeted stakeholders in the development of the Risk Assessment and Capability Assessment. This survey will be distributed at the ten municipality meetings as well as at Advisory Committee meetings.

Public Opinion Survey

A Public Opinion Survey will be drafted to provide an opportunity for individuals throughout the region to share their opinions and participate in the mitigation planning process. The information provided will help the JCC Team better understand what hazards are of most concern and what mitigation actions are of particular interest. The survey gives people who may not attend public workshops an opportunity to participate in the planning process. The survey will be posted online (hosted by SurveyMonkey) and a link will be provided via the Project Website. Hard copies of the survey will also be distributed at all meetings.

Project Website

The SCRCOG's Project Website will serve as a digital "home base" for the project. It will include several pages dedicated to the project. The main project page will describe the project and include a timeline and links to additional resources. It will also feature the Project Fact Sheet. In addition, this page will list opportunities for involvement including the Advisory Committee, Public Workshops, Public Opinion Survey and Draft Plan Review.

SCRCOG and the JCC Team will encourage the Advisory Committee to link to the SCRCOG Project Website from their municipal websites. Also, if the SCRCOG or Advisory Committee members are involved with blogs or other regional websites it is hoped that links can be shared here as well. In terms of driving traffic to the SCRCOG Project Website that will be done at all meetings and via the Project Fact Sheet. In addition, the SCRCOG may drive traffic to the site through search engine optimization work. In addition, project leaders will link to the page in their email footer if deemed appropriate.

It is recommended that the SCRCOG consider developing space on their website for people to join an email list. Collecting names of those interested in certain topics may expand the current list of databases maintained by the SCRCOG for outreach purposes.

Multi-Jurisdictional Hazard Mitigation Plan

Social Media

Social media will not be used specifically for the mitigation planning process. However, if SCRCOG decides to deploy a social media strategy the mitigation plan project will be included.

News Media

SCRCOG and the JCC Team will draft press releases related to the project. Press releases will be sent to all relevant media sources regarding each Public Workshop and opportunity for the public to participate in the planning process. Public notices will be sent to all relevant regional media sources for each Public Workshop and regarding the opportunities to participate in the Public Opinion Survey and review the Draft Plan.

Toolkit for Floodplain Mapping

The JCC Team will design a Toolkit pertaining to FEMA's Digital Flood Insurance Rate Maps (DFIRMs) that will be incorporated into the public outreach. The toolkit will be geared toward property owners through the use of handouts prepared in lay terms, as well as visual aids, to assist in their understanding of the floodplain mapping process, the differences in various flood zones, implications for insurance requirements and premium rates, and the procedures for an appeals process. It is envisioned that the Toolkit will become a component of the Public Workshops held at various stages of plan development. As a final deliverable, the JCC Team will provide the SCRCOG a complete digital version of the toolkit that includes a canned PowerPoint presentation, talking points, custom handouts/maps, and Fact Sheets that are specifically tailored for the South Central Region.

Draft Plan Review

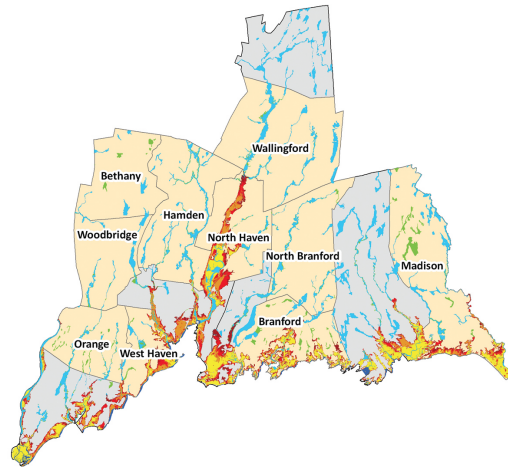
The JCC Team will provide a digital copy of the Draft Plan as well as twelve hard copies. It is anticipated that the hard copies will be distributed to the SCRCOG and to the Advisory Committee. The digital copy will be posted to the SCRCOG website for public comment.

Appendix C: Fact Sheet

South Central Region Multi-Jurisdiction Hazard Mitigation Plan: Fact Sheet

10 Diverse Municipalities, 1 Multi-Jurisdiction Hazard Mitigation Plan

The South Central Regional Council of Governments (SCRCOG) has been awarded a grant from the Connecticut Department of Energy and Environmental Protection to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on their own hazard mitigation plans but have been invited to participate in the development of the Regional Plan. SCRCOG has hired a consulting team led by Jamie Caplan Consulting, LLC with support from AECOM to develop the Plan.



The planning process will adhere to Federal Emergency Management Agency (FEMA) standards and requirements for local hazard mitigation plans. The Plan will address possible natural hazards such as flood, wind, earthquake, and winter storms. The purpose of the Plan is to reduce the Region's vulnerability to natural hazards and provide a comprehensive approach to mitigate any potential inter-jurisdictional hazards. The Hazard Mitigation Plan is a prerequisite for the Region's municipalities to apply for federal and state grants to implement the identified mitigation projects.



The Multi-Jurisdiction Hazard Mitigation Plan prepared through this project will ease the burden of keeping these communities safe and resilient by identifying and communicating hazard risks, developing actions to reduce or eliminate those risks, and making each municipality eligible for FEMA mitigation program funding before and after the next disaster strikes.

Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.

Hazard Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

The planning process is as important as the plan itself. It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters.

Several opportunities exist for the public and municipalities to participate in the planning process:

Advisory Committee: The Committee consists of representatives from participating municipalities and other targeted stakeholders in the Region. The Advisory Committee will meet with SCRCOG staff and the consulting team a minimum of eight times during the planning process. Participation by the Advisory Committee ensures continuous involvement by local staff and stakeholders in the development of the Plan. The Advisory Committee meetings will allow for valuable input from the stakeholders and will keep them apprised of project progress.

Public Opinion Survey: This survey provides an opportunity for everyone in the planning area to share his or her opinions and participate in the mitigation planning process. The information provided will help the Advisory Committee to better understand local concerns and issues as expressed by citizens of the Region, and can lead to mitigation activities that should help lessen the impacts of future disasters. Participation in this survey is voluntary and none of the information provided will be attributed to individuals directly. The survey is located on our website and will only take about 5 minutes to complete.



Municipality Meetings: The consulting team and SCRCOG staff will meet with municipal representatives and other stakeholders in each of the ten participating municipalities to gain information and insights that are unique to each individual jurisdiction. These stakeholders may include local or regional agencies, academia or private industry. These meetings will give the planning team an opportunity to gather municipal data and to better represent the unique risks, capabilities and mitigation actions in each municipality.

For more information:

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<http://www.scrcog.org/regional-hazard-mitigation/html>

Appendix D: Advisory Committee Meetings

Regional Hazard Mitigation Plan

AGENDA

Subject: Regional Hazard Mitigation Kick-Off Meeting; Tuesday, August 14, 2012
1:30 am @ SCRCOG Offices: 127 Washington Avenue, North Haven, CT
06473

1. Purpose of Meeting

- 1.1. Introduce Project and Planning Process
- 1.2. Answer any Potential Questions
- 1.3. Gather Feedback
- 1.4. Determine Next Steps

2. Introductions

3. Hazard Mitigation

- 3.1. Planning Overview
- 3.2. Tasks
- 3.3. Planning Timeline

4. Other Business


- 4.1. Discussion/Q & A
- 4.2. Next Steps

Kick-off Meeting Mitigation Planning Sign-In Sheet

Sign-In Sheet

[illegible]

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SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN

Kick-off Meeting
August 14, 2012

SCRCOG

SCRCOG Mitigation Plan Kick-Off Meeting JAMIE CAPLAN CONSULTING
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CONSULTING TEAM INTRODUCTION



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AGENDA FOR TODAY

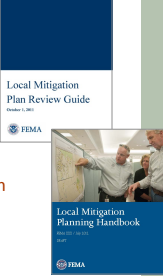
- **Purpose for today's meeting:**
 - Introduce the project and the planning process
 - Answer any questions you may have
 - Gather feedback
 - Determine next steps
- Introductions
- Hazard Mitigation Planning Overview
- Hazard Mitigation Planning Tasks and Planning Timeline
- Discussion and Next Steps

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PROJECT PURPOSE

- FEMA approved mitigation plan – each jurisdiction eligible for mitigation program funding
 - New guidance effective 10/1/12
 - Local Mitigation Plan Review Guide
 - Local Mitigation Planning Handbook
- 10 Diverse Communities – 1 Multi-Jurisdiction Multi-Hazard Mitigation Plan



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WHAT ARE MULTI-HAZARD MITIGATION PLANS?

- **Hazard mitigation** is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.
- **Hazard Mitigation Plans** form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. **The planning process is as important as the plan itself.** It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters.

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MITIGATION EXAMPLES

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness



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DISASTER MITIGATION ACT OF 2000

- Purpose:**
 - Streamline the administration of disaster relief
 - Control the Federal costs of disaster assistance, with an increased emphasis on mitigation planning
 - Authorize a program for pre-disaster mitigation funding
- Amended Federal legislation (Stafford Act) to require hazard mitigation plans as a condition for states and local communities to remain eligible for certain types of non-emergency disaster assistance, including funding for hazard mitigation projects.**
 - FEMA Hazard Mitigation Assistance programs
 - HMGP, PDM, FMA, RFC, SRL

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BENEFITS OF MITIGATION PLANNING

- Identify hazards and prioritize risk reduction efforts
- Increase public awareness of hazards
- Build partnerships between jurisdictions
- Align risk reduction with other community objectives
- Become eligible for State and Federal funding
- Speed recovery following disaster events
- Maximize credit points under the National Flood Insurance Program's Community Rating System (CRS)



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BENEFITS OF MULTI-JURISDICTIONAL MITIGATION PLANNING

- Pool resources
- Engage in comprehensive risk management (hazards don't abide by political boundaries)
- Reduce level of effort by each municipality – achieve economies of scale and avoid duplication of effort
- Promotes consistency throughout the planning area
- Enhances grant funding opportunities
- FEMA and CT encourage the partnership approach

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MITIGATION PLANNING SCOPE OF WORK

Key Project Tasks:

1. Planning Process
2. Hazard Identification and Risk Assessment
3. Capability Assessment
4. Mitigation Strategy
5. Plan Maintenance Process
6. Plan Adoption and Approval

Theme: Municipalities are individual entities with specific characteristics/risks that need to be addressed.

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PLANNING PROCESS

- Public Outreach Strategy**
 - Who should participate?
 - How will we involve these people?
 - What do we hope to accomplish?
- Advisory Committee**
 - Representatives from each participating municipality
- Conduct Public Outreach**
 - SCRCOG Website
 - Public Workshops
 - "Toolkit" for Floodplain Mapping
 - Questionnaires
 - Visit and meet with representatives from each municipality
- Document the Planning Process**

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PUBLIC PARTICIPATION – WORKSHOPS AND MUNICIPALITY VISITS

- Municipality Visits with Key Stakeholders**
 - Identify essential facilities
 - Locate possible risk areas
 - Discuss past areas that have been damaged
- Possible Outreach Methods**
 - Municipality meetings
 - Community workshops
 - Interviews/meetings
 - News media
 - Presentations to government bodies or business groups
 - Questionnaires/Surveys
 - SCRCOG website

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ADVISORY COMMITTEE ROLE

- Participate in 8 Advisory Committee meetings
- Coordinate and assist with local workshops
- Identify stakeholders in each municipality, assist with local meetings
- Make decisions on plan process and content
- Submit mitigation action implementation worksheets
- Review draft plan deliverables
- Be a resource to the SCRCOG and contractors



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HAZARD IDENTIFICATION AND RISK ASSESSMENT

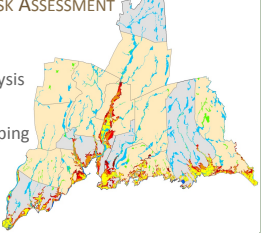
- Focus of Plan is on Natural Hazards

Potential Hazards (SCRCOG)	Connecticut's Natural Hazard Mitigation Plan (2010)
River/Coastal Flooding	Tropical Cyclones (Hurricane & Tropical Storm)
Severe Thunderstorm/Tornado	Winter Storms
Hurricane/Tropical Storm	Flooding
Nor'easter	Ice Jams
Severe Winter Storm	Dam Failures
Ice Jam	Wildland Fires
	Tornadoes
	Drought
	Earthquakes
	Tsunami

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HAZARD IDENTIFICATION AND RISK ASSESSMENT

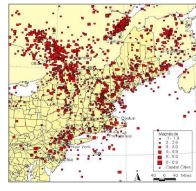
- Key Steps**
 - Data Collection and Analysis
 - Hazard Identification
 - Hazard Profiles and Mapping
 - Location
 - Extent
 - Previous occurrences
 - Probability of future occurrences
 - Inventory of Community Assets
 - Vulnerability Assessment



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RISK ASSESSMENT APPROACH

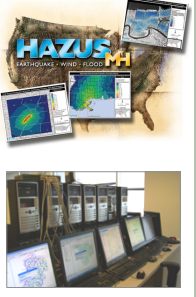
- Quantitative Analysis**
 - Use of best available data and technology
 - Deterministic and probabilistic modeling (Hazus-MH and statistical methods)
- Qualitative Analysis**
 - Local knowledge and stakeholder collaboration
 - Priority Risk Index



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HAZUS-MH – FEMA'S LOSS ESTIMATION METHODOLOGY


- Our Approach:**
 - "Level 2" Analysis - replace FEMA's national default inventory data with best available local data
- Results:**
 - Physical, economic and social impacts will be quantified for the South Central Region as well as each municipal jurisdiction



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DATA "WISH LIST"

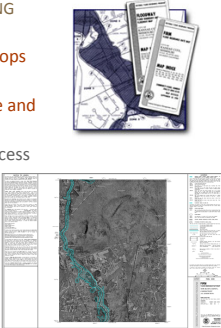
- GIS Data Inventory spreadsheet will be completed in cooperation with SCRCOG and municipalities
- Any other existing plans, studies, reports that can help inform the risk assessment?
 - Emergency operations plans, floodplain management plans, land use plans, etc.
 - Post-disaster assessments, after-action reports, etc.
 - Previous mitigation projects, grant applications, etc.



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"TOOLKIT" FOR FLOODPLAIN MAPPING


- To be produced for public workshops held as part of this project
- To include non-technical guidance and visuals for property owners on:
 - FEMA floodplain mapping process
 - Differences in flood zones
 - Insurance requirements
 - Procedures for appeals, map amendments or revisions



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CAPABILITY ASSESSMENT

- Review the region's capacity to mitigate natural hazards.
- Types of capabilities:
 - Planning and regulatory
 - Administrative and technical staff
 - Financial
 - Education and outreach
- Advisory Committee:** Contribute resources to capability assessment. Review risk assessment and capability assessment. Develop mitigation goals and objectives.



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MITIGATION STRATEGY

- Mitigation Strategy is the long-term blueprint for reducing the potential losses identified in the risk assessment. The strategy describes how the community will accomplish the overall purpose, or mission, of the planning process.
- Develop Goals and Objectives.
- Prioritize mitigation actions for each municipality.
- Use risk assessment to justify as well as identify possible actions.
- Advisory Committee:** Assist with development of mitigation action plans for each municipality.

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CONSISTENCY WITH STATE HAZARD MITIGATION PLAN


- State of CT 2010 Natural Hazard Mitigation Plan Update, Mission to mitigate effects of natural hazards by minimizing loss of life and property damage.
 - Promote implementation of sound floodplain management and other natural hazard mitigation principles on a state and local level;
 - Encourage research to support management and planning activities for natural hazard mitigation and State investment policies; and
 - Promote implementation of effective natural hazard mitigation projects on a state and local level.



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PLAN MAINTENANCE PROCESS

- Develop a plan to update and maintain the mitigation plan on a regular basis.
 - Required to update it every 5 years for State and FEMA review.
- Include a plan to implement the mitigation plan strategy.
- Advisory Committee:** Review Draft Plan. Finalize prioritization of mitigation actions and projects, and make decisions regarding plan implementation and maintenance.



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PLAN ADOPTION AND APPROVAL

- All SCRCOG participating jurisdictions will formally adopt the plan.
- SCRCOG will formally adopt the plan.
- CT Department of Energy and Environmental Protection (CT DEEP) will review and approve the plan.
- FEMA will review and approve the plan.
- Advisory Committee:** Review Final Plan and prepare for local plan adoption.



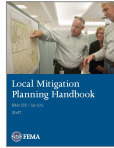
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RESOURCES

- FEMA

- Code of Federal Regulations, Title 44 Part 201.6: Local Mitigation Plans
- *Local Mitigation Plan Review Guide*, October 2011
- *Local Mitigation Planning Handbook*, July 2012 Draft – not released yet
- FEMA Mitigation Planning *How-To Guides*



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NEXT STEPS

- Contract Team

- Finalize Work Plan and Schedule
- Develop Public Outreach Strategy
- Begin data collection & analysis

- SCRCOG

- Assist with data collection
- Webpage

- Advisory Committee

- Assist with data collection
- Identify local stakeholders

- Schedule Next Meeting



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SCRCOG Mitigation Plan Kick-Off Meeting

AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Wednesday, September 12, 2012 @ 1:30 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. Engage All Advisory Committee Members
- 1.2. Distribute Project Binders
- 1.3. Review Work Plan and Gather Input on Public Outreach Strategy, Hazard Identification, and Mitigation Goals

2. Project Work Plan and Schedule

- 2.1. Review Advisory Committee Roles
- 2.2. Discussion / Q&A

3. Public Outreach Strategy

- 3.1. Review Essential Components
- 3.2. Discuss Additional Ideas

4. Hazard Identification

- 4.1. Preliminary Consensus Building Exercise
- 4.2. Data Collection Update

5. Mission Statement, Goals and Objectives

- 5.1. Review Examples from State and Other Cogs
- 5.2. Identify Key Themes for South Central Region


6. Discussion and Next Steps

- 6.1. Survey Participation
- 6.2. Next Meeting

Sign-In Sheet

[illegible]

5/15/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN

Advisory Committee Meeting
September 12, 2012

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AGENDA FOR TODAY

- **Purpose of Meeting**
 - Engage All Advisory Committee Members
 - Distribute Project Binders
 - Review Work Plan and Gather Input on Public Outreach Strategy, Hazard Identification, and Mitigation Goals
- **Project Work Plan and Schedule**
 - Review Advisory Committee Roles
 - Discussion / Q&A
- **Public Outreach Strategy**
 - Review Essential Components
 - Discuss Additional Ideas
- **Hazard Identification**
 - Preliminary Consensus Building Exercise
 - Data Collection Update
- **Mission Statement, Goals and Objectives**
 - Review Examples
 - Identify Key Themes
- **Discussion and Next Steps**
 - Survey Participation
 - Next Meeting

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PROJECT TASKS – REVIEW WORK PLAN AND SCHEDULE

Key Project Tasks:

1. Planning Process
2. Hazard Identification and Risk Assessment
3. Capability Assessment
4. Mitigation Strategy
5. Plan Maintenance Process
6. Plan Adoption and Approval

Theme: Municipalities are individual entities with specific characteristics/risks that need to be addressed.

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ADVISORY COMMITTEE ROLES


- Participate in 8 Advisory Committee meetings
- Coordinate and assist with local workshops
- Identify stakeholders in each municipality, assist with local site visits and meetings (work with Eugene Livshits to schedule meetings for October)
- Make decisions on plan process and content
- Submit mitigation action implementation worksheets
- Review draft plan deliverables
- Be a resource to the SCRCOG and contractors

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PUBLIC OUTREACH STRATEGY

- **Purpose:**
 - Engage public to meet FEMA requirements for mitigation planning
 - Generate public interest, solicit citizen input, engage additional partners in the planning process
 - “Ground-truthing”
 - Consensus building
 - Create multiple opportunities to participate



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OUTREACH STRATEGIES

- Advisory Committee
- Municipality Meetings
- Regional Public Workshops
- Toolkit for Floodplain Management
- Project Fact Sheet
- Municipality Survey
- Public Survey
- SCRCOG Website
- Consider Social Media
- News Media
- Draft Plan Review



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MEETINGS AND PUBLIC WORKSHOPS


- Advisory Committee Meetings
- Municipality Visits with Key Stakeholders
 - Identify essential facilities
 - Locate possible risk areas
 - Discuss past areas that have been damaged
 - Focus on individual municipalities
 - Meetings held in October – start thinking about who should attend and collaborate with Eugene Livshits on logistics!
- Regional Public Workshops



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TOOLKIT AND PROJECT FACT SHEET

- Toolkit for Floodplain Mapping
 - To be produced for public workshops held as part of this project
 - To include non-technical guidance and visuals for property owners on:
 - FEMA floodplain mapping process
 - Differences in flood zones
 - Insurance requirements
 - Procedures for appeals, map amendments or revisions
- Fact Sheet
 - Basic project information
 - Link to the SCRCOG Mitigation Planning webpage
 - Double-sided PDF available for printing or posting on the web.



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2 SURVEYS – PUBLIC AND MUNICIPAL STAKEHOLDER

- Public Opinion Survey
 - Opportunity to share opinions and participate in the mitigation planning process
 - Help local and regional officials understand public's hazard concerns and interest and knowledge in mitigation and preparedness
- Municipal Survey
 - Help identify unique hazard risks and areas of concern
 - Share information on local mitigation capabilities
 - Share mitigation goals and actions currently engaged in
- Each is Voluntary!

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NEWS MEDIA

- SCRCOG Website
 - <http://www.scrkog.org/regional-hazard-mitigation.html>
 - Links from municipal sites
- Social Media – consideration
 - Facebook
 - Twitter
 - LinkedIn
 - YouTube
- Regional Media
 - Press releases
 - Public notices



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DRAFT PLAN REVIEW

- Distributed to the Advisory Committee
- Posted on the SCRCOG Mitigation Planning page
- Shared with key stakeholders:
 - Neighboring communities
 - Local and regional agencies involved in hazard mitigation activities
 - Agencies that have the authority to regulate development
 - Businesses, academia and other private and non-profit interests

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HAZARD IDENTIFICATION

- Focus of Plan is on Natural Hazards

Potential Hazards (SCRCOG)	Connecticut's Natural Hazard Mitigation Plan (2010)
River/Coastal Flooding	Tropical Cyclones (Hurricane & Tropical Storm)
Severe Thunderstorm/Tornado	Winter Storms
Hurricane/Tropical Storm	Flooding
Nor'easter	Ice Jams
Severe Winter Storm	Dam Failures
Ice Jam	Wildland Fires
	Tornadoes
Extreme Heat	Drought
Climate Change	Earthquakes
	Tsunami

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HAZARD IDENTIFICATION

- Hazards Recommended for Initial Consideration:

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure	Expansive Soils	
Nor'easter	Drought	Land Subsidence	
Severe Thunderstorm (includes high winds, hail, and lightning)	Flood (includes coastal, riverine and flash flooding). Also includes ice jams and storm surge.	Landslide	
Tornado	Sea Level Rise	Sinkhole	
Severe Winter Storm (includes snow and ice)		Tsunami	

* Climate change may be addressed in terms of its potential effects on the frequency and intensity of natural hazards.



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HAZARD IDENTIFICATION

- “Mayor for a Day” Exercise

- \$20M hazard mitigation grant has just been awarded to your community
- As Mayor, you must first prioritize your hazards for mitigation projects
- At least 50% of funds must be spent on the same hazard

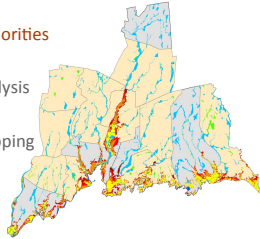


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RISK ASSESSMENT

- Helps establish mitigation priorities
- Key Steps

- ☒ Data Collection and Analysis
- ☒ Hazard Identification
- ☐ Hazard Profiles and Mapping
 - Location
 - Extent
 - Previous occurrences
 - Probability of future occurrences
- ☐ Inventory of Community Assets
- ☐ Vulnerability Assessment



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DATA “WISH LIST”

- GIS Data Inventory spreadsheet is currently being completed in cooperation with SCRCOG and municipalities

- Administrative / Political Boundaries
- Population and Demographics
- Buildings, Infrastructure and Critical Facilities
- Topography, Hydrology and Geology
- Transportation
- Land Use
- Aerial Imagery
- Hazards



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MITIGATION TECHNIQUES

- Prevention**
 - Typically government programs – building codes, floodplain regulations
- Property Protection**
 - Modification of buildings, building elevation, seismic retrofit
- Natural Resource Protection**
 - Protect natural resources, land acquisition, floodplain protection
- Structural Projects**
 - Modify environment with construction, dams, storm sewers, beach nourishment
- Emergency Services**
 - Warning systems, sandbagging, evacuation planning
- Public Education and Awareness**
 - Outreach projects, hazard mapping, real estate disclosure



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MISSION STATEMENT, GOALS AND OBJECTIVES

- **Mitigation Strategy**
 - Long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process.
- **Goals**
 - Long-term outcomes
- **Actions**
 - Specific actions taken to reduce risk to hazards
 - Objectives – can be used to organize actions and are still measurable
- **Action Plan**
 - How the actions will be prioritized and implemented



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STATE OF CONNECTICUT - GOAL

- State of CT 2010 Natural Hazard Mitigation Plan Update, Mission to mitigate effects of natural hazards by minimizing loss of life and property damage.
 - Promote implementation of sound floodplain management and other natural hazard mitigation principles on a state and local level;
 - Encourage research to support management and planning activities for natural hazard mitigation and State investment policies; and
 - Promote implementation of effective natural hazard mitigation projects on a state and local level.

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GOAL: REDUCE LOSSES OF LIFE AND PROPERTY, AND MINIMIZE ECONOMIC CONSEQUENCE OF NATURAL HAZARDS. (CCRPA)

- Objective 1. Update town policies and plans to encourage sound practices.
- Objective 2. Ensure access to critical facilities.
- Objective 3. Improve capacity to deal with hazards by investing in necessary equipment and training.
- Objective 4. Enable residents to better help themselves through preparedness education.
- Objective 5. Continue participation in National Flood Insurance Program.

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EXAMPLE GOAL STATEMENTS

- To reduce the loss of life and property and economic consequences as a result of natural disasters. (New Canaan)
- Reduce the loss of life and property and economic consequences as a result of flooding, high winds, severe winter storms and dam failure. (Norwalk)
- The primary goal of this hazard mitigation plan is to reduce the loss of or damage to life, property, infrastructure, and natural, cultural, and economic resources from natural disasters. This includes the reduction of public and private damage costs. Limiting losses of and damage to life and property will also reduce the social, emotional, and economic disruption associated with a natural disaster. (Guilford & East Haven)

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DEVELOPING, ADOPTING, & IMPLEMENTING PLAN WILL...(GUILFORD & EAST HAVEN)

- Increase access to and awareness of funding sources for hazard mitigation projects.
- Identify mitigation initiatives to be implemented if and when funding becomes available.
- Connect hazard mitigation planning to other community planning efforts.
- Improve the mechanisms for pre-disaster and post-disaster decision making efforts.
- Improve the ability to implement post-disaster recovery projects.
- Enhance and preserve natural resource systems.
- Educate residents and policy makers about natural hazard risk and vulnerability.
- Complement future Community Rating System (CRS) efforts.

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MECKLENBURG COUNTY – LARGE MULTI-JURISDICTION PLAN

- Mecklenburg County and participating municipalities will identify and implement hazard mitigation projects designed to reduce the impact of future hazard events.
- Mecklenburg County and participating municipalities will conduct education and outreach activities intended to better inform people about natural hazards and the steps that can be taken to reduce their impact.
- Mecklenburg County and participating municipalities will conduct training and exercises intended to better prepare government officials to respond to, mitigate against and recover from emergencies and disasters.
- Mecklenburg County and participating municipalities will improve their ability to warn people of impending hazards and disasters.
- Mecklenburg County and participating municipalities will enact planning and policy measures to reduce the impacts of identified hazards.
- Mecklenburg County and participating municipalities will implement traffic control procedures intended to reduce injuries and the loss of life before, during and after emergencies and disasters.


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DISCUSSION AND NEXT STEPS

- Contract Team
 - Finalize Public Outreach Strategy and begin implementation
 - Continue GIS data collection, begin hazards analysis
- SCRCOG
 - Assist with data collection
 - Maintain SCRCOG Webpage
 - Implement Public Outreach Strategy – including surveys
- Advisory Committee
 - Continue assisting SCRCOG with data collection
 - Identify local stakeholders for municipality meetings
 - Distribute survey link
- Schedule Next Meeting
 - October 10, 2012 (1:30-3:30 PM)

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Emergency Management Services

5/15/13



THANK YOU

Jamie Caplan and Darrin Punchard

SCRRCOG

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JAMIE CAPLAN CONSULTING
SPECIALTY MANAGEMENT SERVICES

AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
 Wednesday, October 10, 2012 @ 1:30 PM
 SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. Review Hazard Identification Process
- 1.2. Discuss Community Assets and Essential Facilities
- 1.3. Review Outreach Strategy
- 1.4. Discuss Municipality Meetings

2. Hazard Identification Process

- 2.1. Confirm Hazards Identified
- 2.2. Review and Discuss Priority Risk Index (PRI)
- 2.3. Discuss Community Assets and Essential Facilities
- 2.4. Update on Data Collection Process
- 2.5. Review Next Steps

3. Public Outreach Strategy

- 3.1. Distribute Final Strategy
- 3.2. Public Opinion Survey Distribute and Discuss

4. Municipality Meetings

- 4.1. Risk Assessment “Ground Truthing”
- 4.2. Gather Data for Capability Assessment

5. Discussion and Next Steps


- 5.1. Survey Participation and Municipality Meetings
- 5.2. Next Meeting

10-10-12

Sign-In Sheet

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SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN


Advisory Committee Meeting
October 10, 2012

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MEETING PURPOSE

- Review Hazard Identification Process
- Discuss Community Assets and Essential Facilities
- Review Outreach Strategy
- Discuss Municipality Meetings



Project Timeline

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ADVISORY COMMITTEE WEBPAGE UPDATED

HAZARD MITIGATION ADVISORY COMMITTEE

SCRCOG has organized an Advisory Committee to assist with the development of the South Central Region Hazard Mitigation Plan. The Committee consists of representatives from participating municipalities as well as other stakeholders in the Region. The Advisory Committee will meet with SCRCOG staff and the Consulting Team a minimum of eight times during the planning process. Participation by the Advisory Committee ensures continuous involvement by local staff and stakeholders in the development of the Plan. The Advisory Committee meetings will allow for valuable input from the stakeholders and will keep them apprised of project progress.




Photo: Hurricane Isabel, Major West Haven Line. Credit: Rob Beecher/www.visitwesthaven.com

HAZARD MITIGATION COMMITTEE MEETING SCHEDULE

Date	Location	Topic
August 14, 2012	Aurora	Presentation
September 12, 2012	Aurora	Presentation
October 10, 2012	Aurora	Presentation

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HAZARD IDENTIFICATION

- Review hazards for initial consideration
- Review history of hazard occurrences
- Review and discuss Priority Risk Index (PRI)
- Discuss community assets and essential facilities
- Update on data collection process
- Open discussion

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HAZARD IDENTIFICATION

- Hazards for Initial Consideration**

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure	Landslide	
Nor'easter	Drought	Soil Hazards (includes expansion, subsidence, and sinkholes)	
Severe Thunderstorm (includes high winds, hail, and lightning)	Flood (includes coastal, riverine and flash flooding. Also includes ice jams and storm surge)	Tsunami	
Severe Winter Storm (includes snow and ice)	Sea Level Rise		
Tornado			


* Climate change will be addressed in terms of its potential effects on the frequency and intensity of natural hazards.

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HAZARD IDENTIFICATION

- Results of "Mayor for a Day" Exercise**




- Flood \$72
- Hurricane/Tropical Storm \$54
- Severe Thunderstorm/Tornado \$17
- Coastal Erosion \$17
- Severe Winter Storm \$15
- Sea Level Rise \$11
- Extreme Temperatures \$7
- Nor'easter \$2
- Dam Failure \$2
- Landslide \$2
- Earthquake \$1
- Drought \$0
- Soil Hazards \$0
- Tsunami \$0
- Wildfire \$0

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MAJOR DISASTER DECLARATIONS



Date	Description
8/20/1955	Hurricane, Torrential Rain & Floods
6/14/1982	Severe Storms & Flooding
6/18/1984	Severe Storms & Flooding
10/11/1985	Hurricane Gloria
7/18/1989	Severe Storms & Tornadoes
9/16/1991	Hurricane Bob
12/17/1992	Winter Storm & Coastal Flooding
02/02/1996	Blizzard of '96
5/11/2007	Severe Storms and Flooding
3/3/2011	Snowstorm
9/2/2011	Tropical Storm Irene
11/17/2011	Severe Storm

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EMERGENCY DECLARATIONS



Date	Description
2/7/1978	Blizzard & Snowstorms
3/16/1993	Severe Winds & Blizzard, Record Snowfall
3/11/2003	Snow
1/15/2004	Snow
2/17/2005	Snow
9/13/2005	Hurricane Katrina Evacuation
5/2/2006	Snow
8/27/2011	Hurricane Irene
10/31/2011	Severe Storm

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HISTORY OF HAZARD OCCURRENCES



- 453 events listed in NOAA Storm Events Database


Hazard	# of Events	Property Damage	Fatalities	Injuries
Flood	89	\$3,210,000	2	0
Severe Thunderstorm	326	\$1,340,300	2	16
Tornado	15	\$129,825,030	1	87
Winter Storm	20	\$123,000	0	0
Rip Current	2	\$0	2	0
Tropical Storm	1	\$0	1	0
Total	453	\$134,498,330	8	103

- 1989 tornado in Hamden (F4)
 - \$125 million in damages
 - 40 injuries



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HISTORY OF HAZARD OCCURRENCES



- Flood** – most prevalent /frequent hazard in CT
- 49 tropical systems** since 1900
 - 25 hurricanes, 18 tropical storms
- 255 severe winter weather** events since 1950
- 88 tornado** events since 1950
- "Many" dam failures**, mainly resulting from flood events
 - 3,000 dams regulated by DEEP (242 "high" hazard)
- 5 severe droughts** since 1929
- Many small **wildfires** occur each year, burning a total of approximately 1,000 acres per year
- 140 earthquakes** in CT since 1568 (low magnitude)

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PRIORITY RISK INDEX (PRI)



- Helps evaluate and prioritize hazards based on five factors:
 - Location (geographic area affected)
 - Probability of future events
 - Impact (potential casualties, damage or loss)
 - Warning time
 - Duration of event
- Will be used in combination with vulnerability assessment results to identify most significant hazard risks
- Based on best available data, and YOUR input

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COMMUNITY ASSETS

- People**
 - Residential and transient populations
 - Social vulnerability factors (demographics; access and functional needs)
 - Projected population growth = increased vulnerability?
- Economy**
 - Major employers
 - Commercial/industrial centers
 - Primary economic sectors
 - Interdependencies between sectors
 - What drives your community?

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COMMUNITY ASSETS

- **Built environment**
 - Existing structures
 - Critical facilities *
 - Infrastructure *
 - Cultural and historic resources
 - Future development
- **Natural environment**
 - Critical or sensitive areas
 - Features or systems that provide beneficial functions, including protection from hazards
 - Future target areas for conservation, recreation, etc.

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CRITICAL FACILITIES AND INFRASTRUCTURE

FEMA

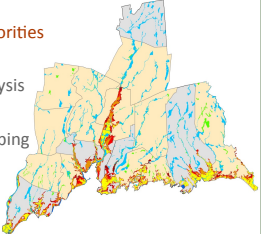
- Provide services essential for life safety and economic viability.
- Must continue to operate during and following a disaster.

Critical Facilities	High Potential Loss Facilities	Infrastructure Systems
Hospitals and medical facilities	Nuclear power plants	Water and wastewater
Police and fire stations	Dams	Power utilities
Emergency operations centers	Military and civil defense installations	Transportation (roads, railways, waterways)
Evacuation shelters	Locations housing hazardous materials	Communication systems/centers
Schools		Energy pipelines and storage
Airports/heliports		

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RISK ASSESSMENT

- Helps establish mitigation priorities
- **Key Steps**
 - ☒ Data Collection and Analysis
 - ☒ Hazard Identification
 - ☐ Hazard Profiles and Mapping
 - Location
 - Extent
 - Previous occurrences
 - Probability of future occurrences
 - ☐ Inventory of Community Assets
 - ☐ Vulnerability Assessment



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RISK ASSESSMENT

- Will be stand-alone section(s) of plan document
- **Options to consider:**
 - Include in main document, or appendix?
 - Summarize all information by hazard, or by each step?
 - Hazard Identification (includes descriptions)
 - Hazard Analysis (includes profiles + mapping)
 - Vulnerability Assessment (includes loss estimates)

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PUBLIC OUTREACH STRATEGY – FALL FOCUS

1. Public Opinion Survey
2. Municipality Meetings

- Municipality Websites
- Municipality Media
- Municipality Meetings
- Flyers or Print Materials

Public Opinion Survey

We Need Your Assistance!

Below is a link to a survey that provides an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand your hazard concerns and can lead to mitigation activities that should help lessen the impacts of future disasters.

[SCRCOG Hazard Mitigation Public Opinion Survey](#)

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PUBLIC PARTICIPATION SURVEY

THE BRANFORD SEVEN

Branford Community Survey Request - Natural Hazards Mitigation Plan
Staff | Posted: Monday, October 1, 2012 12:52 pm

The Town of Branford is participating in the development of a Regional Natural Hazards Mitigation Plan. This plan will be a regional plan but will also be specific to Branford.

There will be public outreach meetings sometime after January 2013, but right now there is a survey available for people to become involved and give their opinions and provide information which will guide the plan.

The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the Town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared.

Please note that on the Town of Branford website there is a link under the "News and Events" section on the right hand side of the front page called Hazard Mitigation Plan. This link will bring you to the South Central Regional Council of Governments website page for the Hazard Mitigation Plan which will provide some information on the plan as well as the link for the survey.

<http://www.scrkog.org/regional-hazard-mitigation.html>

Please take time to complete the survey and contact me if you have any questions or comments regarding the plan. Share this information with friends and colleagues. Thank you,

[The survey can be accessed here.](#)

Janice A. Plaziak, P.E.
Branford Town Engineer

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PUBLIC PARTICIPATION SURVEY IN THE MEDIA
Branford
 October 9, 2012

[Home](#) | [News](#) | [Living](#) | [Sports](#) | [Community](#) | [Multimedia](#) | [Contact Us](#)

Hazard Mitigation Survey Responses Needed
 By Pam Johnson
 Published 10/09/2012 12:00 AM Updated 10/09/2012 12:20 PM



If you were in Branford on Aug. 27, 2011, you know the answer to the following question: Have you ever experienced or been impacted by a disaster?

That's one of several questions in a current on-line survey in which Town Engineer Janice Plazak hopes many residents will participate.

The South Central Regional Council of Governments (SCRCOG) and its municipalities, including Branford, are working together to prepare a multi-jurisdiction Hazard Mitigation Plan. The plan will identify and assess natural hazard risks (flooding, winter storms, hurricanes, etc.) and provide ways to best minimize or manage those risks. Answers and opinions provided by survey results will help build the plan.

The final plan will be a regional plan, but it will also be specific to Branford, said Plazak.

"The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared," said Plazak.

Plazak noted there will be public outreach meetings sometime after January 2013, but right now, "...people can become involved by responding to the survey, where they can give their opinions and provide information to guide the plan."

The survey can be found at <http://www.scrco.org/regional-hazard-mitigation.html>

Pam Johnson There is also a link to the survey through the Town of Branford website, under "News and Events."

Branford hazards created by Tropical Storm Irene in Aug. 2011 included this seawall and beach erosion, with roadway destruction above, on Linden Avenue.

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MUNICIPALITY MEETINGS

- When and Where?
- Who should participate?
 - City Management
 - Emergency Management
 - Fire Department
 - Floodplain Management
 - GIS
 - Parks and Recreation
 - Planning and Community Development
 - Public Works
 - Stormwater

- Management
 - Transportation
 - City Council Representative
 - Planning Committee
 - School System Representative
 - Chamber of Commerce
 - University Emergency Manager
- Resources to interest stakeholders.

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MUNICIPAL MEETING AGENDA

- Opportunity to contribute local data and "ground truthing"
- Introduction to the mitigation planning process
- Review of identified natural hazards
- Identification of local essential facilities and specific areas of concern with regard to natural hazards
- Discussion of local capabilities including existing authorities, policies, programs and resources that may be used to implement hazard mitigation activities.
- Review of current hazard mitigation actions

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DISCUSSION AND NEXT STEPS

- Public Opinion Survey – make sure you complete it!
- Municipality Meetings – reach out to local stakeholders and schedule meeting.
- Risk Assessment Data – contribute local data sets.
- Next Meeting – December 5, 2012, 1:00pm




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THANK YOU

Jamie Caplan and Darrin Punchard

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AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Wednesday, December 5, 2012 @ 1:00 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. Review Municipality Meetings
- 1.2. Review Hazard Identification and Hazard Analysis
- 1.3. Hurricane Sandy Review

2. Municipality Meetings

- 2.1. Review
- 2.2. Follow-up

3. Hazard Identification and Hazard Analysis

- 3.1. Review Hazard Identification
- 3.2. Review Hazard Analysis
 - 3.2.1. Hazard Profiles and Mapping
 - 3.2.2. Preliminary Priority Risk Index Results
- 3.3. Update on GIS Data Collection
 - 3.3.1. Discuss Community Assets
- 3.4. Discuss Next Steps (Vulnerability Assessment)

4. Hurricane Sandy

- 4.1. How did your municipality fare in terms of damages, response, and now recovery? Any mitigation successes?
- 4.2. Are you aware of mitigation actions that could be implemented to reduce future damages?
- 4.3. Mitigation Funding Introduction

5. Discussion and Next Steps


- 5.1. Public Survey Participation
- 5.2. Next Meeting February 13, 2013

Advisory Committee Meeting
12/5/12

Sign-In Sheet

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5/15/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN


Advisory Committee Meeting
December 5, 2012

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MEETING PURPOSE

- Review Municipality Meetings and Capabilities
- Review Hazard Identification and Hazard Analysis
- Hurricane Sandy Review
- Mitigation Funding



Project Timeline

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MUNICIPAL MEETINGS: COMMON THEMES



- Hazards**
 - Trees
 - Too many along roadways, can block roads and take out power, can block neighborhoods and make travel to schools difficult
 - Flooding
 - Many places experience flooding during heavy rain or high tide
 - Power Outages
- Staffing**
 - Understaffed Town governments pull together in times of disaster
- EOC's in Town Halls, Police Station or Fire Station depending on where generator is located**
- Communicate with residents through Everbridge or Reverse 911**
- Shelter capacity is limited**

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COMMON QUESTIONS FROM MUNICIPAL MEETINGS


- Historical Preservation as it relates to mitigation**
 - FEMA Historic Preservation Program
 - Creative Mitigation www.achp.gov/fema.html
 - Creative mitigation can result in better project and historic preservation outcomes, and has greater public benefit than standard approaches. Examples of creative mitigation include assisting in the development of local historic preservation plans and ordinances, developing educational materials and web sites, purchasing properties containing historic properties, or developing historic property management plans as a supplement to, or even in lieu of, standard mitigation
- Dam Removal Resources**
 - Resources posted on the SCRCOG website
- Generator Funding**
 - Pump stations: Installation of camlocks, transfer switches, and electrical panels to facilitate the connection of portable emergency generators.
 - Hazard Mitigation Funding Under Section 406 of the Stafford Act (public assistance) provides funding for repair and rebuilding of disaster-damaged public facilities...
<http://www.fema.gov/public-assistance-local-state-tribal-and-non-profit/hazard-mitigation-funding-under-section-406-0>

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HAZARD IDENTIFICATION AND HAZARD ANALYSIS

- Review Hazard Identification**
- Review Hazard Analysis**
 - Hazard Profiles and Mapping
 - Preliminary Priority Risk Index (PRI) Results
- Update on GIS Data Collection**
 - Community Assets
- Next Steps**



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PLAN OUTLINE – CHAPTER 4 (NATURAL HAZARD RISK ASSESSMENT)

- Introduction**
- Hazard Identification**
 - Documents process/reasoning for hazards included or excluded
- Hazard Analysis**
 - Complete hazard profiles for 12 hazards:
 - Description
 - Location
 - Extent
 - Previous Occurrences
 - Probability of Future Events
- Community Assets**
- Risk Analysis**
 - Jurisdiction-specific subsections summarizing exposure, loss estimates, etc.

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HAZARD IDENTIFICATION

- Hazards for Initial Consideration

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure	Landslide	
Nor'easter	Drought	Soft Hazards (includes expansion, subsidence, and sinkholes)	
Severe Thunderstorm (includes high winds, hail, and lightning)	Flood (includes coastal, riverine and flash flooding. Also includes ice jams and storm surge)	Tsunami	
Severe Winter Storm (includes snow and ice)	Sea Level Rise		
Tornado			

* Climate change will be addressed in terms of its potential effects on the frequency and intensity of natural hazards.



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HAZARD IDENTIFICATION

- Significant Hazards for Further Analysis (12)

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure		
Severe Thunderstorm	Drought		
Severe Winter Storm/Nor'easter	Flood		
Tornado	Sea Level Rise		



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HAZARD ANALYSIS

- Summary of Major Disaster and Emergency Declarations
- Hazard Profiles
 - Description – Brief descriptions of the hazard, its characteristics, and potential effects
 - Location – Geographic area within the planning area that are susceptible to occurrences of the hazard
 - Extent – Potential strength or magnitude of the hazard
 - Previous Occurrences – Brief summaries of notable occurrences
 - Probability of Future Events – Likelihood of future hazard occurrences in the planning area.

* Includes any anticipated effects of climate change



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PRIORITY RISK INDEX (PRI)

- Helps evaluate and prioritize hazards based on five factors:
 - Location (geographic area affected)
 - Probability of future events
 - Impact (potential casualties, damage or loss)
 - Warning time
 - Duration of event
- Will be used in combination with Risk Analysis results to identify and prioritize hazard risks

Hazard Vulnerability Assessment									
Hazard	Location	Impact	Warning Time	Duration	Probability	Extent	Frequency	Severity	PRI
Extreme Temperatures	Statewide	High	Low	Low	High	Statewide	Annual	High	High
Hurricane/Tropical Storm	Coastal	High	Medium	Low	Medium	Coastal	Annual	High	High
Severe Thunderstorm	Statewide	Medium	Low	Low	Medium	Statewide	Annual	Medium	Medium
Severe Winter Storm/Nor'easter	Coastal	High	Medium	Low	Medium	Coastal	Annual	High	High
Tornado	Statewide	High	Low	Low	Low	Statewide	Annual	High	Medium



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EXTREME TEMPERATURES

- #1 weather-related killer in the U.S.
- Only 1 reported fatality (heat related) in Connecticut since 1995, but none in the planning area
- Highest recorded ambient temperature for the region = 103°F
- Lowest recorded ambient temperature for the region = -24°F

PRI Category	Risk Level
Location	Large
Probability	Likely
Potential Impact	Minor
Warning Time	More than 24 hours
Duration	1 to 7 days

Anticipated effects of climate change:

Increase in the frequency, duration and intensity of extreme heat events; decrease in the frequency of extreme cold events.



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HURRICANE/TROPICAL STORM

- 36 storm tracks within 75 miles since 1851
 - 23 Tropical Storms
 - 7 Category 1 Hurricanes
 - 5 Category 2 Hurricanes
 - 1 Category 3 Hurricane
- Most intense storm to make landfall in CT was 1938 "Long Island Express" with gusts of 130mph, storm surge of 18 ft. and 17" of rain
 - 564 fatalities and 1,700 injuries
 - \$624 million in damages (2012 dollars)
- Annual probability of named storm = 23%

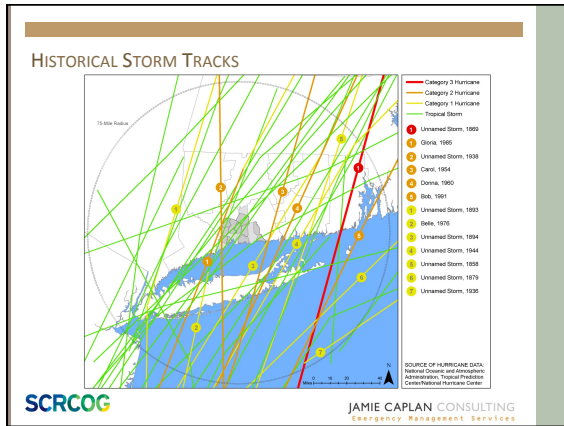
PRI Category	Risk Level
Location	Large
Probability	Likely
Potential Impact	Catastrophic
Warning Time	More than 24 hours
Duration	6 to 24 hours

Anticipated effects of climate change:

Cannot be determined due to insufficient evidence.



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SEVERE THUNDERSTORM

PRI Category	Risk Level
Location	Small
Probability	Highly Likely
Potential Impact	Minor
Warning Time	Less than 6 hours
Duration	Less than 6 hours

- Classified as "severe" when it contains one or more of the following effects:
 - Winds gusting in excess of 50 knots
 - Hail measuring at least 3/4 of an inch
 - A tornado
- 326 events since 1955
 - 2 fatalities, 16 injuries
 - \$1.47 million in damages
- Annual recurrence interval

Anticipated effects of climate change:
Cannot be determined due to insufficient evidence.

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SEVERE WINTER STORM/NOR'EASTER

PRI Category	Risk Level
Location	Large
Probability	Highly Likely
Potential Impact	Critical
Warning Time	More than 24 hours
Duration	1 to 7 days

- 21 historical events since 1996
 - No recorded fatalities
 - \$2.3 million in damages
 - Heavy snowpack has resulted in multiple roof collapses
 - Major impacts to electric utilities, transportation, and communications networks
 - Coastal flooding associated with Nor'easters
- Annual recurrence interval

Anticipated effects of climate change:
Shorter winters with fewer cold days and more precipitation (but less precipitation falling as snow and more as rain). Will result in reduced snowpack, earlier breakup of winter ice on lakes and rivers, and earlier spring snowmelt resulting in earlier peak river flows.

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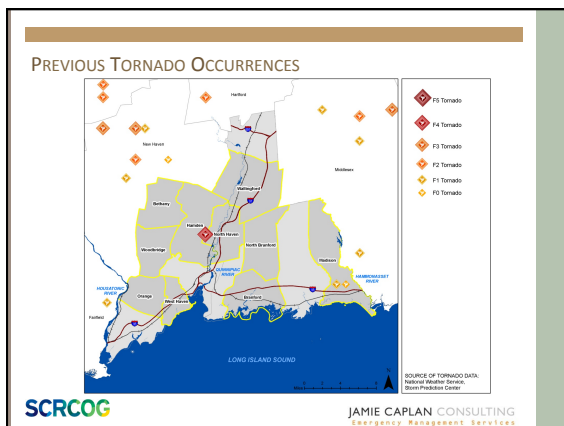
TORNADO

PRI Category	Risk Level
Location	Small
Probability	Occasional
Potential Impact	Catastrophic
Warning Time	Less than 6 hours
Duration	Less than 6 hours

- 13 tornado events in New Haven County since 1955
 - 1 fatality, 87 injuries
 - \$375 million in property damages
- July 31, 2009 – EF-1 tornado in Madison
- July 10, 1989 – F4 tornado in Hamden
- Estimated annual probability = 5%

Anticipated effects of climate change:
Cannot be determined due to insufficient evidence.

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COASTAL EROSION

PRI Category	Risk Level
Location	Small
Probability	Highly Likely
Potential Impact	Limited*
Warning Time	More than 24 hours
Duration	More than 1 week

- Most shoreline areas in Branford, Madison and West Haven are susceptible to the occurrence of long-term and storm-induced coastal erosion
- According to CT DEEP, no spatial data on erosion rates or erosion hazard areas available – will need to rely on input from local input from municipalities
- Left unmitigated, erosion significantly increases vulnerability to coastal flooding

Anticipated effects of climate change:
Climate change and sea level rise will result in an increase in the extent of coastal erosion.

* Assumes existing mitigation practices continue to prevent or minimize potential impact to people, property and critical facilities.

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DAM FAILURE

- No history of any damages, fatalities or injuries associated with dam failure in the planning area
- 1 recorded failure event (Disbrow Pond in Bethany, 2007)
- 267 state-regulated dams within the South Central Region, and another 56 within 1 mile
 - 32 with high hazard potential (Class C)
 - 44 with significant hazard potential (Class B)

Anticipated effects of climate change:

Will not increase the probability of dam failure events, though projections for increased heavy rainfall events should continue to be considered in the regulation of dam repair and/or construction.

PRI Category	Risk Level
Location	Small
Probability	Unlikely
Potential Impact	Critical
Warning Time	Less than 6 hours
Duration	6 to 24 hours

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CLASSIFICATION OF HAZARD POTENTIAL FOR CONNECTICUT DAMS

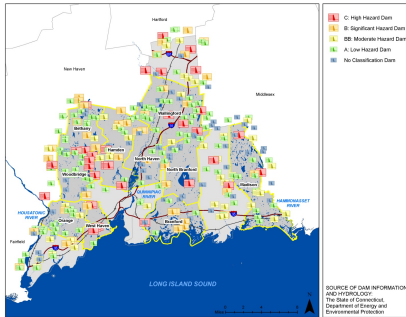
Class	Hazard Potential	Description of Impacts (if dam were to fail)
AA	Negligible	No measurable damage to roadways; no measurable damage to land and structures; negligible economic loss.
A	Low	Damage to agricultural land; damage to unimproved roadways; minimal economic loss.
BB	Moderate	Damage to normally unoccupied storage structures; damage to low volume roadways; moderate economic loss.
B	Significant	Possible loss of life; minor damage to habitable structures, residences, hospitals, convalescent homes, schools, etc.; damage to or interruption of the use of service of utilities; damage to primary roadways and railroads; significant economic loss.
C	High	Probable loss of life; major damage to habitable structures, residences, hospitals, convalescent homes, schools, etc.; damage to main highways; great economic loss.

Source: State of Connecticut, Department of Energy and Environmental Protection

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STATE REGULATED DAMS



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DROUGHT

- 19 periods of severe to extreme drought in the region since 1895
- Most severe droughts occurred in 1910-1911, 1929-1932, 1965-1967
- Most recent severe drought occurred in 2002
- Impacts mostly related to social, economic and environmental concerns
 - Have led to increased numbers and sizes of wildfires across the region
- Annual probability of severe to extreme drought = 8.5% (6.2% for coastal areas)

Anticipated effects of climate change:

Increase in the frequency, duration and intensity of droughts.

PRI Category	Risk Level
Location	Large
Probability	Occasional
Potential Impact	Minor
Warning Time	More than 24 hours
Duration	More than 1 week

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FLOOD

Classified by 3 types:

- Riverine Flood
- Coastal Flood
- Urban Flood

- \$26 million in *insured* flood losses under NFIP since late 1970s
 - Nearly 2,500 claims
 - Average claim payment = approx. \$10,500

Anticipated effects of climate change:

Increase in the extent and frequency of storm surge and coastal flooding. Severe urban flooding due to more precipitation and heavy downpours is also likely to occur more frequently.

PRI Category	Risk Level (Riverine)	Risk Level (Coastal)	Risk Level (Urban)
Location	Moderate	Moderate	Small
Probability	Occasional	Likely	Highly Likely
Potential Impact	Catastrophic	Catastrophic	Minor
Warning Time	More than 24 hours	More than 24 hours	Less than 6 hours
Duration	1 to 7 days	6 to 24 hours	Less than 6 hours

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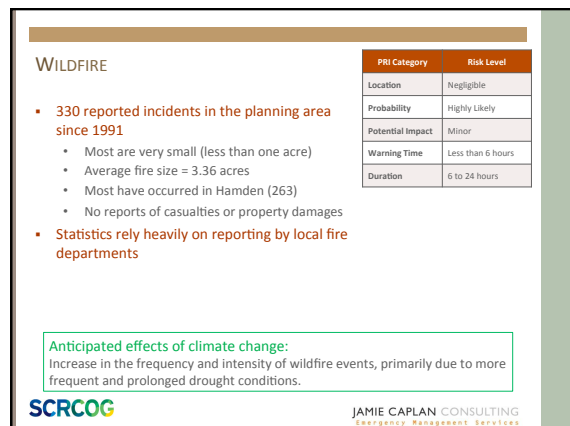
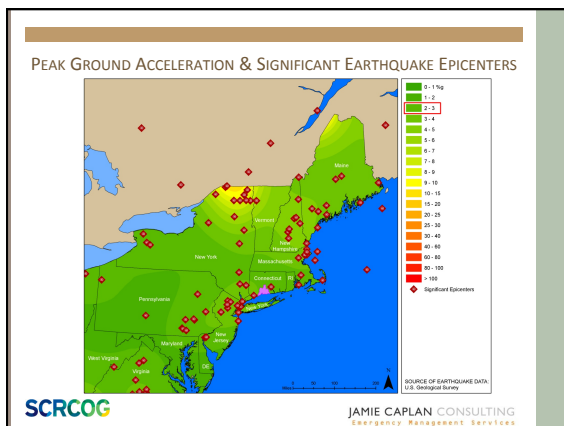
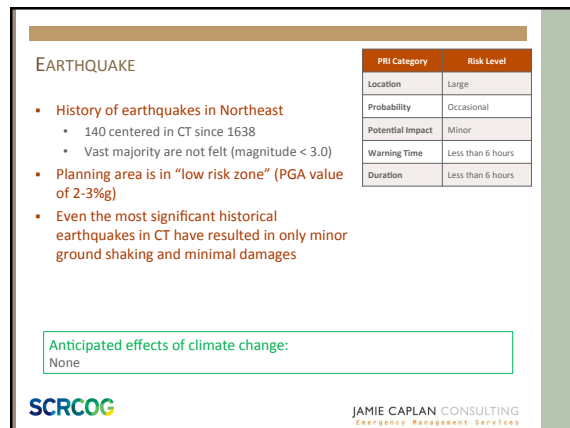
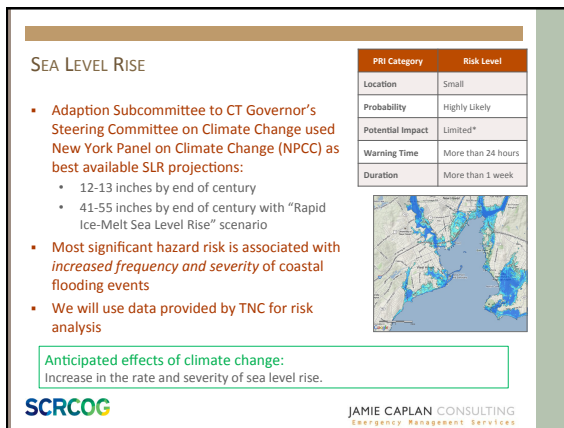
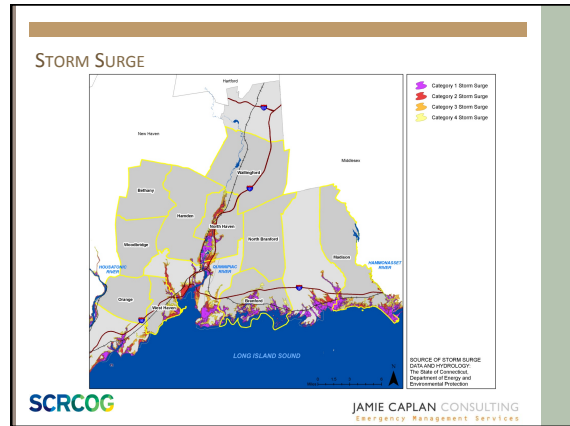
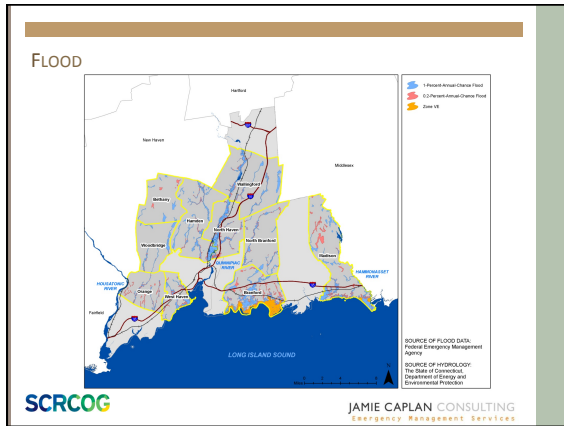
NFIP STATISTICS ON FLOOD LOSSES AND CLAIMS PAYMENTS

Jurisdiction	NFIP Entry Date	Total Flood Losses	Total Claims Payments
Bethany	08/23/1977	3	\$7,226
Branford	12/15/1977	526	\$7,011,132
Hamden	06/15/1979	536	\$3,331,391
Madison	09/15/1978	470	\$8,207,421
North Branford	07/03/1978	68	\$457,504
North Haven	09/17/1980	150	\$1,547,692
Orange	03/18/1980	130	\$1,244,981
Wallingford	09/15/1978	124	\$888,218
West Haven	01/17/1979	387	\$2,805,162
Woodbridge	03/16/1981	67	\$509,909
Total		2,461	\$26,010,636

Source: FEMA

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STATISTICS ON WILDFIRE OCCURRENCES

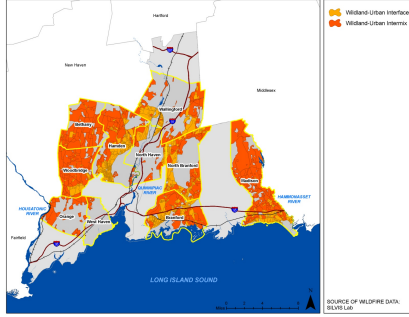
Jurisdiction	Number of Fires	Total Acres Burned	Average Fire Size (Acres)
Bethany	13	116.45	8.96
Branford	21	76.00	3.62
Hamden	263	482.28	1.83
Madison	8	101.50	12.69
North Branford	1	0.10	0.10
North Haven	6	19.70	3.28
Orange	9	23.00	2.56
Wallingford	6	1.10	0.18
West Haven	1	0.20	0.20
Woodbridge	2	0.30	0.15
Total	330	820.63	(Average) 3.36

Source: State of Connecticut, Department of Energy and Environmental Protection



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WILDFIRE URBAN INTERFACE/INTERMIX AREAS



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PRELIMINARY PRI RESULTS

HAZARD	CATEGORY/DEGREE OF RISK				
	LOCATION	PROBABILITY	POTENTIAL IMPACT*	WARNING TIME	DURATION
Extreme Temperatures	Large	Likely	Minor	More than 24 hours	1 to 7 days
Hurricane/Tropical Storm	Large	Likely	Catastrophic	More than 24 hours	6 to 24 hours
Severe Thunderstorm	Small	Highly Likely	Minor	Less than 6 hours	Less than 6 hours
Severe Winter Storm/ Nor'easter	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days
Tornado	Small	Occasional	Catastrophic	Less than 6 hours	Less than 6 hours
Coastal Erosion	Small	Highly Likely	Limited	More than 24 hours	More than 1 week
Dam Failure	Small	Unlikely	Critical	Less than 6 hours	6 to 24 hours
Drought	Large	Occasional	Minor	More than 24 hours	More than 1 week
Flood (3 Types):					
Riverine Flood	Moderate	Occasional	Catastrophic	More than 24 hours	1 to 7 days
Coastal Flood	Moderate	Likely	Catastrophic	More than 24 hours	6 to 24 hours
Urban Flood	Small	Highly Likely	Minor	Less than 6 hours	Less than 6 hours
Sea Level Rise	Small	Highly Likely	Limited	More than 24 hours	More than 1 week
Earthquake	Large	Occasional	Minor	Less than 6 hours	Less than 6 hours
Wildfire	Negligible	Highly Likely	Minor	Less than 6 hours	6 to 24 hours



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PRELIMINARY PRI RESULTS

HAZARD	PRI Value
Severe Winter Storm/Nor'easter	3.3
Hurricane/Tropical Storm	3.2
Coastal Flood	3.0
Riverine Flood	2.8
Tornado	2.7
Coastal Erosion	2.7
Sea Level Rise	2.7
Extreme Temperatures	2.4
Severe Thunderstorm	2.4
Urban Flood	2.4
Wildfire	2.3
Dam Failure	2.2
Drought	2.2
Earthquake	2.2



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UPDATE ON LOCAL GIS DATA COLLECTION

- Parcel data – collected for all towns
 - Attribute information still coming in
- Building footprint data – collected for Branford, Hamden, North Branford, West Haven, and Woodbridge
- Additional data on community assets collected via “GIS Data Wish List”
 - Existing gaps will be filled using FEMA’s Hazus-MH national inventory dataset



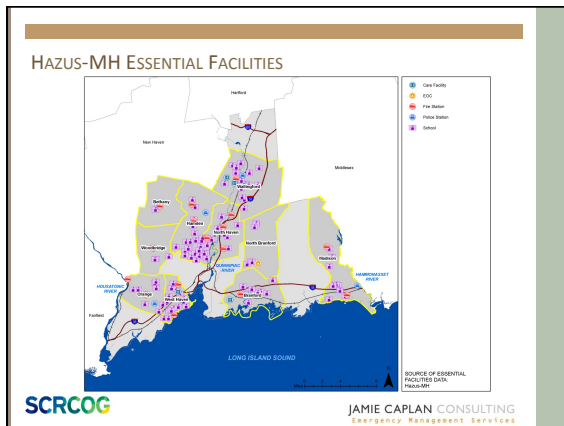
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LOCAL GIS DATA INVENTORY

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NEXT STEPS

- **End Data Collection Phase**
- **Conduct Vulnerability Assessment (jurisdiction-specific)**
 - Exposure analysis
 - Potential impacts (inc. Hazus-MH loss estimation)
 - Risk summary
 - Key findings and conclusions

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HURRICANE SANDY

- How did your municipality fare in terms of damages, response, and recovery?
- Any mitigation successes?
- Are you aware of mitigation actions that could be implemented to reduce future damages?

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FUNDING POST DISASTER

- **Public Assistance and Individual Assistance available from FEMA**
 - Provides money and services to people in Presidentially declared disaster area.
 - As of Monday, December 3, 2012 in CT
 - Total Individual Assistance (IA)
 - Applications Approved: 2,260
 - Total Individual & Households Program
 - Dollars Approved* \$9,127,851.14
 - Total Housing Assistance
 - Dollars Approved* \$8,655,256.27
 - Total Other Needs Assistance
 - Dollars Approved* \$472,594.87
 - Includes emergency protective measures and debris removal

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HAZARD MITIGATION GRANT PROGRAM FUNDING

- **HMGP is 15% of the total amount approved for Public Assistance and Individual Assistance**
 - This amount is set approximately 6 months after disaster strikes
 - Securing funding is a lengthy process – SCRCOG mitigation plan should be done in time
- **FEMA's hazard mitigation grant programs are not intended as a source of funding for repair, replacement or deferred maintenance activities, but are designed to assist sub-applicants in developing long-term, cost-effective improvements that will reduce or eliminate risk/damage to people and property from the effects of natural hazards.**

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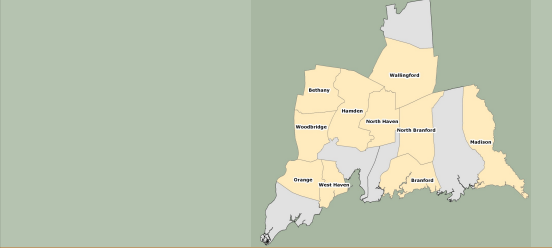
DISCUSSION AND NEXT STEPS

- **Public Opinion Survey – Last big push for participation.**
 - Survey comes down mid-January
- Next Meeting :
February 13, 2013 at 1:00pm

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THANK YOU

Jamie Caplan and Darrin Punchard

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darrin.punchard@aecom.com

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SPECIALTY MANAGEMENT SERVICES

AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Wednesday, February 13, 2013 @ 1:00 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. FEMA Flood Mapping Presentation
- 1.2. FEMA Hazard Mitigation Assistance Presentation
- 1.3. Risk Assessment Final Review
- 1.4. Capability Assessment Review
- 1.5. Introduction to Mitigation Actions

2. FEMA R1 Flood Mapping Presentation

- 2.1. Mike Goetz, FEMA R1

3. Risk Assessment Final Review

- 3.1. Community Assets
- 3.2. Risk Analysis

4. Capability Assessment Review

- 4.1. Public Survey Results
- 4.2. Capability Assessment Questionnaires

5. Discussion and Next Steps

- 5.1. Public Workshops – Locations and Dates
- 5.2. Mitigation Plan Goals and Objectives
- 5.3. Next Meeting April 10, 2013

Advisory Committee Meeting

2/13/13

Sign-In Sheet

Name	Municipality/Organization	Title
Clara Hurlburt	Town of Bethany	Dep. EMD
ADAM Wheelchel	The Nature Conservancy	Director of Science
Janice A. Plaziak	Town of Branford	Town Engineer
DARA K. BENTON	JANICAPLAN CONS.	PROJECT ASSIS.
JANICE CAPLAN	JCC	PROJECT MANAGER.
DARIN PUNCHARD	AECOM	DEPUTY PROJ. MGR.
Michael Goetz	FEMA REGION 1	RISK ANALYSIS BRANCH CHIEF
Christopher Rappa	SCR COG	Sustainability Planner
Eugene Livshits	SCR COG	Regional Planner
Alicia Leite	SCR COG	Intern
Joy Ford	City of New Haven	Planner
Cheneitha Attota	City of New Haven	Asst. Director of Comprehensive Planning
Jonathan Bodwell	North Haven	Town Engineer
Bob Brinton	Hamden	Town Engineer
Kurt Weiss	North Branford	Town Engineer
DAVID SUTHERLAND	THE NATURE CONSERVANCY	GOV'T RELATIONS DIRECTOR

5/15/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN


Advisory Committee Meeting
February 13, 2013

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MEETING AGENDA

- FEMA Flood Mapping Presentation
- Risk Assessment Review
- Capability Assessment Review
- Introduction to Mitigation Actions
- Next Steps



Project Timeline

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FLOOD MAPPING

Mike Goetz, Chief
Risk Analysis Branch
Mitigation Division, FEMA Region 1

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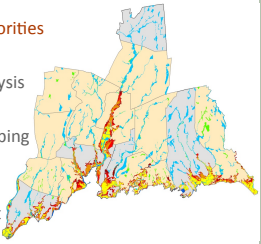
RISK ASSESSMENT REVIEW

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RISK ASSESSMENT

- Helps establish mitigation priorities
- Key Steps
 - ☑ Data Collection and Analysis
 - ☑ Hazard Identification
 - ☑ Hazard Profiles and Mapping
 - ☑ Inventory of Community Assets
 - ☑ Vulnerability Assessment



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PLAN OUTLINE – CHAPTER 4 (NATURAL HAZARD RISK ASSESSMENT)

- **Hazard Identification**
 - Documents process/reasoning for hazards included or excluded
- **Hazard Analysis**
 - Complete hazard profiles for 12 hazards:
 - Description
 - Location
 - Extent
 - Previous Occurrences
 - Probability of Future Events
- **Risk Analysis**
 - Jurisdiction-specific subsections summarizing findings of local GIS-based assessments for exposure, vulnerability and loss estimation

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PARCEL AND BUILDING INVENTORIES

Jurisdiction	Total Number of Parcels	Total Number of Buildings	Residential Breakdown	Commercial Breakdown	Industrial Breakdown
Bethany	2,393	3,444	1,929	131	42
Branford	13,207	26,814	10,652	741	249
Hamden	16,742	26,607	TBD	TBD	TBD
Madison	7,692	8,049	7,367	467	156
North Branford	5,721	8,470	4,844	297	136
North Haven	8,992	9,491	TBD	TBD	TBD
Orange	5,402	5,345	5,082	471	127
Wallingford	13,851	18,945	14,234	976	372
West Haven	14,434	20,634	TBD	TBD	TBD
Woodbridge	3,585	2,048	1,720	254	74

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REPETITIVE LOSS PROPERTIES

	Number of Losses	Number of Properties	Building Payments	Contents Payments	Total Payments
Bethany	0	0	\$0	\$0	\$0
Branford	59	18	\$854,922	\$195,358	\$1,049,980
Hamden	162	50	\$1,538,194	\$726,884	\$2,265,079
Madison	81	25	\$2,289,967	\$269,049	\$2,559,016
North Branford	22	9	\$245,849	\$119,219	\$365,068
North Haven	73	20	\$906,629	\$202,461	\$1,189,090
Orange	64	16	\$529,294	\$305,046	\$834,340
Wallingford	25	11	\$166,169	\$286,711	\$452,880
West Haven	69	22	\$1,112,901	\$131,176	\$1,244,077
Woodbridge	27	7	\$195,177	\$80,994	\$276,171
Total	582	178	\$7,783,102	\$2,396,898	\$10,179,784

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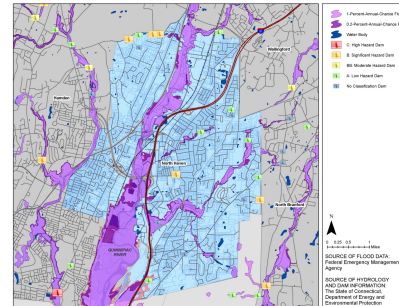
SEVERE REPETITIVE LOSS PROPERTIES

	Number of Losses	Number of Properties	Building Payments	Contents Payments	Total Payments
Bethany	0	0	\$0	\$0	\$0
Branford	10	1	\$44,950	\$0	\$44,950
Hamden	38	2	\$937,732	\$52,462	\$990,194
Madison	12	3	\$767,405	\$130,179	\$897,644
North Branford	0	0	\$0	\$0	\$0
North Haven	23	4	\$343,327	\$148,505	\$491,832
Orange	25	4	\$265,815	\$128,115	\$393,931
Wallingford	0	0	\$0	\$0	\$0
West Haven	22	2	\$830,472	\$0	\$830,472
Woodbridge	0	0	\$0	\$0	\$0
Total	130	16	\$3,189,761	\$459,261	\$3,649,023

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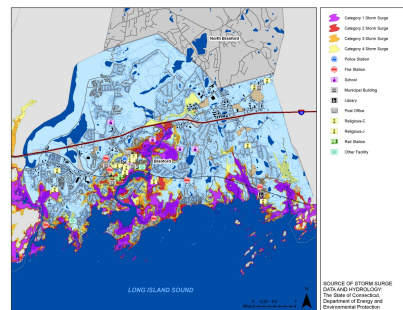
FLOOD HAZARD MAPPING



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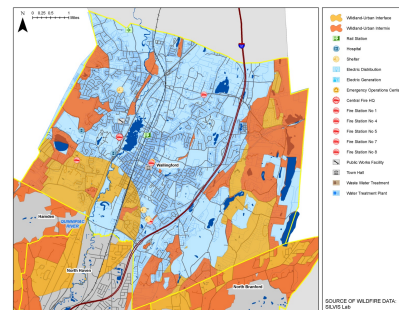
STORM SURGE HAZARD MAPPING



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WILDFIRE HAZARD MAPPING



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VULNERABLE ASSETS - BRANFORD

Hazard	Number of Parcels	Number of Buildings	Critical Facilities	Historic Assets	Population
Extreme Temperatures	0	0	0	0	5,387
Hurricane/Tropical Storm					
Category 1 Storm Surge	1,815	1,140	1	274	10,256
Category 2 Storm Surge	2,481	2,350	2	356	12,377
Category 3 Storm Surge	2,494	2,450	5	415	14,613
Category 4 Storm Surge	2,704	2,490	2	406	18,211
Severe Thunderstorm	13,207	26,414	14	969	28,026
Severe Winter Storm/No'caster	13,207	26,414	14	969	28,026
Tornado	13,207	26,414	14	969	28,026
Coastal Erosion	Unknown	Unknown	Unknown	Unknown	Unknown
Dam Failure					
High Hazard	1,143	2,190	2	0	3,750
Significant Hazard	4,576	8,620	10	237	12,447
Drought	0	0	0	0	0
Flood					
1-Percent-Annual-Chance	2,564	2,986	3	321	15,190
0.2-Percent-Annual-Chance	261	51	0	15	7,099
Zone VII	968	667	0	160	2,535
Sea Level Rise					
Earthquake	Refer to Loss Estimates section for Hazus-MH results.				
Wildfire	8,506	17,209	8	380	23,892

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POTENTIAL IMPACTS - BRANFORD

Hazard	Value of At-Risk Parcels	Value of At-Risk Critical Facilities	Value of At-Risk Historic Assets
Extreme Temperatures	\$0	\$0	\$0
Hurricane/Tropical Storm			
Category 1 Storm Surge	\$407,981,155	\$135,200	\$199,690,750
Category 2 Storm Surge	\$564,628,075	\$2,519,000	\$244,634,380
Category 3 Storm Surge	\$615,384,770	\$5,432,700	\$261,232,425
Category 4 Storm Surge	\$682,662,340	\$7,841,300	\$275,649,980
Severe Thunderstorm	\$2,685,402,155	\$120,889,700	\$514,292,800
Severe Winter Storm/No'caster	\$2,685,402,155	\$120,889,700	\$514,292,800
Tornado	\$2,685,402,155	\$120,889,700	\$514,292,800
Coastal Erosion	Unknown	Unknown	Unknown
Dam Failure			
High Hazard	\$213,980,910	\$3,674,700	\$0
Significant Hazard	\$972,814,465	\$83,871,900	\$211,217,795
Drought	\$0	\$0	\$0
Flood			
1-Percent-Annual-Chance	\$561,384,070	\$2,654,200	\$205,192,120
0.2-Percent-Annual-Chance	\$75,536,060	\$0	\$10,696,270
Zone VII	\$175,080,250	\$0	\$180,283,320
Sea Level Rise			
Earthquake	Refer to Loss Estimates section for Hazus-MH results.		
Wildfire	\$1,744,091,540	\$45,485,800	\$215,614,750

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LOSS ESTIMATES (FLOOD) - BRANFORD

- 1-percent-annual-chance flood

	Residential	Commercial	Industrial	Others	Total
Building Loss					
Building	\$46,430,000	\$10,660,000	\$4,830,000	\$1,340,000	\$62,460,000
Contents	\$29,770,000	\$26,110,000	\$7,940,000	\$7,090,000	\$73,710,000
Inventory	\$0	\$440,000	\$1,450,000	\$90,000	\$1,980,000
Subtotal	\$76,200,000	\$39,200,000	\$13,420,000	\$9,320,000	\$138,150,000
Business Interruption					
Income	\$0	\$150,000	\$0	\$10,000	\$160,000
Relocation	\$70,000	\$70,000	\$0	\$0	\$140,000
Rental Income	\$30,000	\$10,000	\$0	\$0	\$40,000
Wages	\$10,000	\$130,000	\$0	\$70,000	\$280,000
Subtotal	\$110,000	\$720,000	\$0	\$80,000	\$510,000
Total	\$76,310,000	\$39,920,000	\$13,420,000	\$9,410,000	\$138,660,000

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LOSS ESTIMATES (HURRICANE WIND) - BRANFORD

- Number of buildings damaged

Return Period	Minor	Moderate	Severe	Destruction	Total
10-year	0	0	0	0	0
20-year	14	1	0	0	15
50-year	292	27	1	0	320
100-year	1,252	187	8	3	1,450
200-year	2,746	704	59	29	3,538
500-year	4,125	1,924	390	221	6,660
1,000-year	4,207	2,949	1,000	622	8,779

- Building-related economic losses

Return Period	Residential	Commercial	Industrial	Others	Total
10-year	\$0	\$0	\$0	\$0	\$0
20-year	\$764,860	\$54,770	\$10,390	\$6,740	\$844,760
50-year	\$10,250,950	\$486,990	\$113,250	\$51,550	\$10,902,740
100-year	\$30,135,430	\$2,735,800	\$905,000	\$453,420	\$34,229,650
200-year	\$83,693,110	\$11,651,510	\$4,993,450	\$1,863,840	\$102,201,910
500-year	\$269,725,490	\$42,195,060	\$17,468,280	\$5,816,860	\$335,205,690
1,000-year	\$554,913,270	\$107,536,680	\$39,730,270	\$12,870,080	\$715,050,290

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ANNUALIZED LOSS ESTIMATES

Jurisdiction	Active Temperature Exceedance (Yearly)	Historical Temperature Exceedance (Yearly)	Severe Thunderstorm (Yearly)	Winter Storm/No'caster (Yearly)	Tornado	Coastal Erosion	Dam Failure	Drought	Flood (Riverine)	Flood (Coastal)	Earthquake	Sea Level Rise	Wildfire
Bethany	NEG	\$911,000	N/A	NEG	\$14,375	\$243,665	N/A	NEG	NEG	\$81,150	N/A	NEG	N/A
Bradford	NEG	\$2,914,000	TBD	NEG	\$14,375	\$243,665	NEG	NEG	\$1,515,180	\$4,515,440	NEG	TBD	NEG
Hamden	NEG	TBD	TBD	NEG	\$14,375	\$243,665	N/A	NEG	NEG	TBD	N/A	NEG	TBD
Madison	NEG	\$2,946,000	TBD	NEG	\$14,375	\$243,665	NEG	NEG	TBD	TBD	TBD	TBD	NEG
North Branford	NEG	\$898,000	N/A	NEG	\$14,375	\$243,665	N/A	NEG	NEG	TBD	N/A	NEG	N/A
North Haven	NEG	TBD	TBD	NEG	\$14,375	\$243,665	N/A	NEG	TBD	TBD	N/A	NEG	TBD
Orange	NEG	\$947,000	N/A	NEG	\$14,375	\$243,665	N/A	NEG	NEG	TBD	N/A	NEG	N/A
Wallington	NEG	\$2,925,000	N/A	NEG	\$14,375	\$243,665	N/A	NEG	NEG	TBD	N/A	NEG	N/A
West Haven	NEG	TBD	TBD	NEG	\$14,375	\$243,665	NEG	NEG	NEG	TBD	TBD	TBD	NEG
Woodbridge	NEG	\$485,000	N/A	NEG	\$14,375	\$243,665	N/A	NEG	NEG	TBD	N/A	NEG	TBD

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FINAL PRI RESULTS

HAZARD	CATEGORY/DEGREE OF RISK				
	LOCATION	PROBABILITY	POTENTIAL IMPACT*	WARNING TIME	DURATION
Extreme Temperatures	Large	Likely	Minor	More than 24 hours	1 to 7 days
Hurricane/Tropical Storm	Large	Likely	Catastrophic	More than 24 hours	6 to 24 hours
Severe Thunderstorm	Small	Highly Likely	Minor	Less than 6 hours	Less than 6 hours
Severe Winter Storm/ Nor'easter	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days
Tornado	Small	Occasional	Catastrophic	Less than 6 hours	Less than 6 hours
Coastal Erosion	Small	Highly Likely	Limited	More than 24 hours	More than 1 week
Dam Failure	Small	Unlikely	Critical	Less than 6 hours	6 to 24 hours
Drought	Large	Occasional	Minor	More than 24 hours	More than 1 week
Flood (3 Types):					
Riverine Flood	Moderate	Occasional	Catastrophic	More than 24 hours	1 to 7 days
Coastal Flood	Moderate	Likely	Catastrophic	More than 24 hours	6 to 24 hours
Urban Flood	Small	Highly Likely	Minor	Less than 6 hours	Less than 6 hours
Sea Level Rise	Small	Highly Likely	Limited	More than 24 hours	More than 1 week
Earthquake	Large	Occasional	Minor	Less than 6 hours	Less than 6 hours
Wildfire	Negligible	Highly Likely	Minor	Less than 6 hours	6 to 24 hours

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FINAL PRI RESULTS

HAZARD	PRI Value
Severe Winter Storm/Nor'easter	3.3
Hurricane/Tropical Storm	3.2
Coastal Flood	3.0
Riverine Flood	2.8
Tornado	2.7
Coastal Erosion	2.7
Sea Level Rise	2.7
Extreme Temperatures	2.4
Severe Thunderstorm	2.4
Urban Flood	2.4
Wildfire	2.3
Dam Failure	2.2
Drought	2.2
Earthquake	2.2

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NEXT STEPS

- Complete Risk Analysis
 - Hazus-MH loss modeling / loss estimates
 - Updates to building stock GDB for Hamden, North Haven and West Haven
 - Sea Level Rise analyses
- Finalize Problem Statements / Potential Solutions
 - Please review and provide revisions, deletions, or additions
 - We can provide MS Word versions of each *Problem Statement* table to each jurisdiction to aid in making these revisions

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PUBLIC SURVEY AND CAPABILITY ASSESSMENT REVIEW

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PUBLIC SURVEY RESULTS – 250 PARTICIPANTS!

- Participation
 - Madison (38.5%)
 - Branford (27.8%)
 - Wallingford (10.7%)
 - Hamden (9.8%)
- Demographics
 - Most over age 30
 - 70% college educated or higher
 - 79% household income that exceeds \$70,000
 - 72% South Central Connecticut residence over 20 years
 - 90% own their home, 90% are single family homes

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COMMUNITY ASSET VULNERABILITY

- Infrastructure
 - Damage/loss of roads, bridges, utilities, schools, etc.
- People
 - Loss of life and/or injuries
- Economic
 - Business interruptions/closures, job losses, etc.
- Environmental
 - Damage, contamination or loss of forests, wetlands, etc.
- Governance
 - Ability to maintain order and/or provide public amenities
- Cultural/Historic
 - Damage or loss of libraries, museums, historic properties

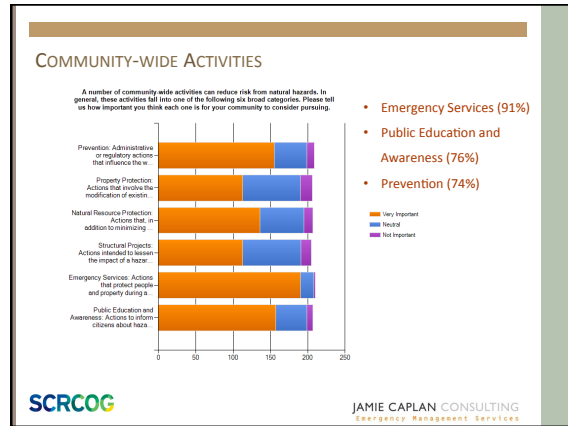
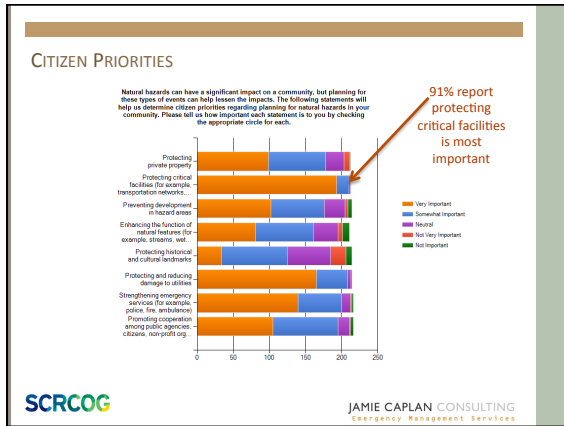
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COMMUNITY ASSET IMPORTANCE

How important are the following specific community assets to you?
(Check the appropriate circle for each asset)

- 74% Fire/Police
- 69% Hospitals
- 64% Major Bridges
- 50% Schools

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NOTED COMMENTS

- Natural Resources:**
 - Maintenance or removal of trees
 - Dredging waterways
 - Repairing seawalls
 - Improving stormwater management systems
- Prevention:**
 - Improved zoning, planning and wetlands regulations
- Structural Projects:**
 - Removal of dams
 - Elevation of structures
 - Burying of power lines
- Public Education:**
 - Increase the amount and frequency of public education on disaster preparedness strategies
- Emergency Services:**
 - Improved methods of communications to citizens
 - Better evacuation and post disaster planning (i.e. accessible information about shelter locations)

Category of Risk Reduction	Number of Responses
Natural Resource Protection	46
Prevention	31
Structural Projects	31
Public Education & Awareness	25
Emergency Services	19
Property Protection	6

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CAPABILITY ASSESSMENT

- The capability assessment must answer two questions:
 - Does the plan document each jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs?
 - Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate?
- Gathered information via research, questionnaire and municipality meetings

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AREAS OF REVIEW

	Bakersfield	Brandenburg	Hamden	Mallards	North Randall	North Haven	Orange	Wallingford	West Haven	Woodbridge
Planning and Regulatory	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Administrative and Technical	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NFIP Participation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Financial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Education and Outreach	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Safe Growth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning and Regulatory Capability Results

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PLANNING AND REGULATORY

- All municipalities implement required state and federal regulations
 - Emergency Management Plans
 - Floodplain Management Regulations and Ordinances
 - Land Use Regulations
 - Wetland Regulations
 - Building Codes
 - Plan of Conservation and Development
 - Coastal Management Programs

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ADMINISTRATIVE AND TECHNICAL

- **ALL** municipalities have Mutual Aid Agreements for first responders
- **MOST** municipalities have:
 - Emergency Manager
 - Community Planner
 - Floodplain Manager
- **ONLY 3** municipalities have specific hazard data
 - Bethany, Branford, North Branford
- **NONE** has ability to conduct Hazus-MH risk analysis


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NATIONAL FLOOD INSURANCE PROGRAM

- All jurisdictions in the South Central Region actively participate in the NFIP and are in good standing with FEMA .

NFIP Participation and Policy Statistics (as of September 30, 2012)

Jurisdiction	NFIP Entry Date	Current Effective Map	Number of Policies	Amount of Premiums	Amount of Coverage
Bethany	08/23/1977	12/17/10	7	\$5,695	\$2,335,900
Branford	12/15/1977	12/17/10	1,168	\$1,326,225	\$259,980,300
Hamden	06/15/1979	12/17/10	296	\$333,313	\$67,734,100
Madison	09/15/1978	12/17/10	545	\$877,690	\$152,516,600
North Branford	07/10/1978	12/17/10	100	\$120,160	\$23,979,800
North Haven	09/17/1980	12/17/10	133	\$180,818	\$38,762,200
Orange	03/18/1980	12/17/10	75	\$75,683	\$19,861,200
Wallingford	09/15/1978	12/17/10	234	\$248,179	\$53,022,500
West Haven	01/17/1979	12/17/10	1,047	\$913,448	\$185,891,200
Woodbridge	03/16/1981	12/17/10	74	\$52,207	\$26,166,300
Total			3,679	\$4,210,118	\$826,134,100

FEMA is currently remapping coastal hazard areas in Branford, Madison, North Haven and West Haven


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SAFE GROWTH QUESTIONS

• Land Use (Questions 1-3)

1. The comprehensive plan includes a future land use map that clearly identifies natural hazard areas.
2. Current land use policies discourage development and/or redevelopment within natural hazard areas.
3. The comprehensive plan provides adequate space for expected future growth in areas located outside of natural hazard areas.

	Q1	Q2	Q3
Bethany	1	5	5
Branford	2	1	4
Hamden	1	4	3
Madison	1	2	3
North Branford	5	5	5
North Haven	1	5	5
Orange	2	2	3
Wallingford	3	4	1
West Haven	5	5	5
Woodbridge			
Region Average	2.33	3.67	3.78

 1 = Strongly Disagree 2 = Somewhat Disagree
 3 = Neutral 4 = Somewhat Agree
 5 = Strongly Agree

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SAFE GROWTH QUESTIONS

• Environmental Management (Questions 7-9)

7. Environmental features that serve to protect development from hazards (e.g., wetlands, riparian buffers, etc.) are identified and mapped.
8. Environmental policies encourage the preservation and restoration of protective ecosystems.
9. Environmental policies provide incentives to development that is located outside of protective ecosystems.

	Q7	Q8	Q9
Bethany	5	5	4
Branford	5	4	1
Hamden	4	4	2
Madison	4	4	2
North Branford	5	5	4
North Haven	5	5	3
Orange	2	4	4
Wallingford	5	5	5
West Haven	5	4	1
Woodbridge			
Region Average	4.44	4.44	2.89

 1 = Strongly Disagree 2 = Somewhat Disagree
 3 = Neutral 4 = Somewhat Agree
 5 = Strongly Agree

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REGIONAL CAPABILITY RESULTS

- **GIS and Hazus-MH**
 - Limited with no ability to run Hazus-MH
- **Education and Outreach**
 - Underutilized – not used as a hazard mitigation action
- **Transportation**
 - Most municipalities do NOT feel transportation policies and systems are designed with safe growth in mind
- **Zoning Ordinance**
 - Adequate to discourage development in hazard prone areas


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MUNICIPALITY CAPABILITY RESULTS

- **Strengths**
 - Bethany implemented successful mitigation projects such as replacing flat roofs and culverts
 - Branford strong GIS capabilities
 - Hamden has an active CERT Team
 - Madison uses public outreach as a mitigation measure
- **Weaknesses**
 - Bethany inadequate shelters
 - Branford no grant writer and shelters in flood zone
 - North Branford Town Council can't implement forward planning and lack of volunteers
 - North Haven limited financial resources


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DISCUSSION AND NEXT STEPS

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PUBLIC WORKSHOPS – WHERE AND WHEN?

- **Purpose:** educate the community about mitigation planning and gain their input for the Mitigation Plan.
- **Handouts:** Project Fact Sheet and the Public Opinion Survey.
- **Presentation:** describe the planning process, risk assessment results and possible mitigation actions.
- **Discussion:** ample opportunity will be given for the public to participate in discussion.



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NEXT STEPS

- Review Risk Assessment
- Review Capability Assessment



- Next Meeting :
April 10, 2013 at 1:00pm

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THANK YOU

Jamie Caplan and Darrin Punchard

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AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Wednesday, April 10, 2013 @ 1:00 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. Project Status Update
- 1.2. Coastal Resiliency Tool
- 1.3. Mitigation Goal Setting

2. Project Status Update

- 2.1. Regional Profile
- 2.2. Capability Assessment
- 2.3. Risk Assessment

3. Presentation/Discussion: Adam Whelchel, *The Nature Conservancy*

- 3.1. Mitigation Options
- 3.2. Coastal Resiliency Tool

4. Mitigation Strategy Exercise

5. Public Workshops

- 5.1. Times: 6-8 PM and Dates:
 - 5.1.1. April 29 North Haven Public Library
 - 5.1.2. May 6 West Haven
 - 5.1.3. May 20 Branford
 - 5.1.4. May 23 Madison Senior Center

- 5.2. Goals and Logistics

6. Discussion and Next Steps


- 6.1. Mitigation Actions Homework
- 6.2. ASFPM Conference, Hartford June 9-14
 - 6.2.1. June 13th 2 PM SCRCOG Mitigation Plan presentation

Advisory Committee Meeting
4/10/13


Sign-In Sheet		
Name	Municipality/Organization	Title
David Anderson	Town of Madison	Town Planner
Clark Hurlburt	BETHANY	Deputy EMD
Eugene Lirshits	SCHLOG	Reg. Planner
BOB BRINTON	HAMDEN	TOWN ENGR.
Jonathan Bodwell	North Haven	" "
Jamie A. Plazinski	Branford	Town Engineer
Kurt A. New	North Branford	Town Engineer
Abdul Quadiri	West Haven	City Engineer
ADAM WHELCHER	THE NATURE Conservancy	Director of Science
Warren Connors	Woodbridge	Operations Manager
DARRIN LUNCHARD	JCC/AECOM	Deputy PM
JAMIE Caplan	JCC/AECOM	Project Manager
DARA K. BENTON	JCC/AECOM	PROJECT ASSOCIATE
PETER J. STRUBLE	WALLINGFORD	FIRE CHIEF/EMD
Alicia Leita	Intern/SERCOG	SERCOG
Christopher Rappaport	SCR COG	Sustainability Planner

Coastal Resilience (coastalresilience.org)

helping to adapt Connecticut's communities to hazards







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 (860) 970-8442



Coastal Resilience in Connecticut

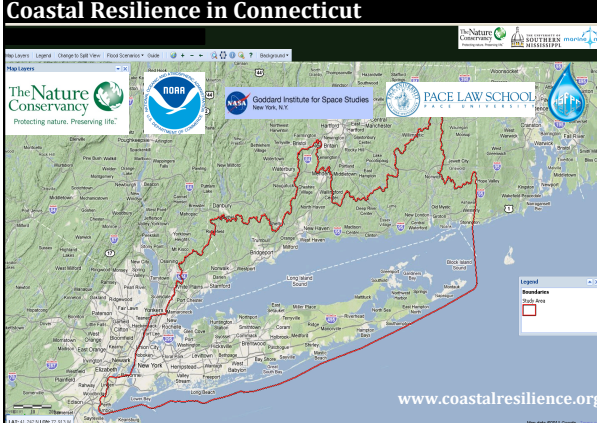
Objective: To help protect People and Nature through hazard mitigation and preparedness.

Awareness Risk Choices Action

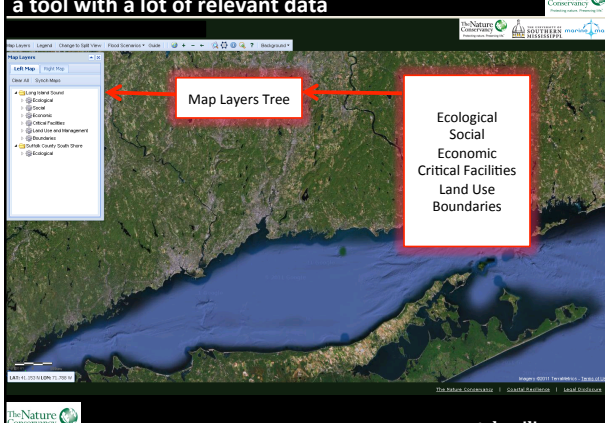
Towns and RPOs:
 Guilford, Old Saybrook, Stonington, Waterford, East Lyme, Old Lyme, Bridgeport, Fairfield
 SCRCOG, SECCOG, CREPA, GBRC, SWPRA

Coastal Resilience in Connecticut



www.coastalresilience.org

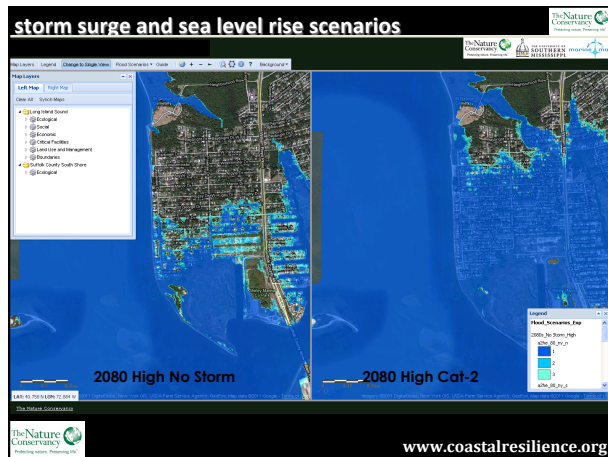
a tool with a lot of relevant data



Map Layers Tree

Ecological
Social
Economic
Critical Facilities
Land Use
Boundaries

www.coastalresilience.org



Visualizing impacts, planning wisely for the future, making smart choices today

Adam Wheelchel, Ph.D.
awheelchel@tnc.org
(860) 970-8442

www.coastalresilience.org

Click on Geography then New York & Connecticut

Geography

Visualization Tool

WHAT CAN BE DONE

Solutions

The Nature Conservancy
Protecting nature. Preserving life.

NOAA

NASA Goddard Institute for Space Studies
New York, N.Y.

PACE LAW SCHOOL
PACE UNIVERSITY

NOAA Coastal Services Center
LEADING PEOPLE, INFORMATION, AND TECHNOLOGY

Roadmap for Adapting to Coastal Risk

The Nature Conservancy
Protecting nature. Preserving life.

Risk Matrix

Determine Risk

Vulnerability

- Infrastructure: Age & Capacity
- Evacuation: "at-risk" communities
- Social Services: medical, shelters, elderly
- Natural Resources/Recreation losses

Strengths

- Interdepartmental coordination
- Social networks & services
- Natural resources (protection)
- Building codes & Infrastructure investments



Choices to Actions

Infrastructure

- Risk planning: re/development & infrastructure
- Water systems: retention, infiltration, separation
- Policy: building codes, zoning, incentives

Environmental

- Low Impact Development/Green Infra.
- Preserve Open Space, Wetlands, Buffers

Social

- Sheltering capacity & preparedness
- Resources: power, food/water, healthcare



Guilford's Coastal Resilience Planning

Steps:

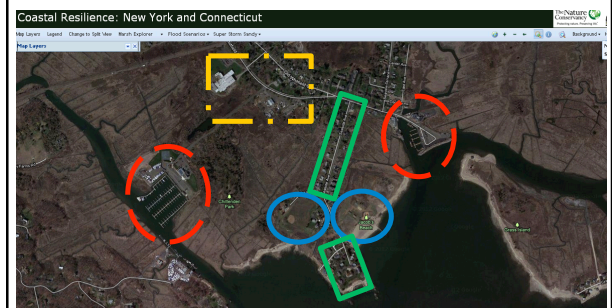
- 2010-11: Natural Hazard Mitigation Plan Development
- 2010-12: Coastal Resilience Plan
- 2013-14: Plan of Conservation and Development

Coastal Resilience Plan: Choices to Action Step

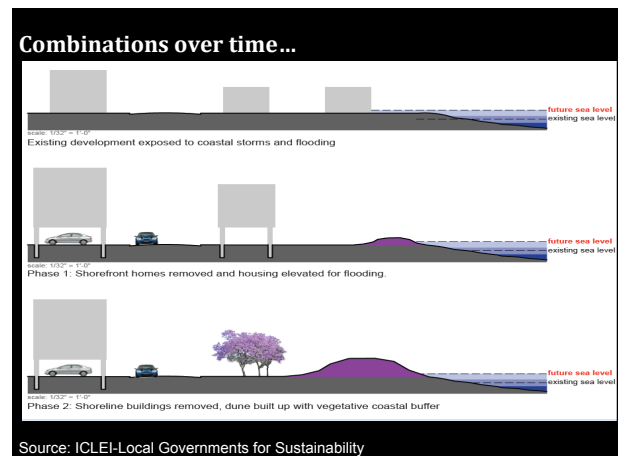
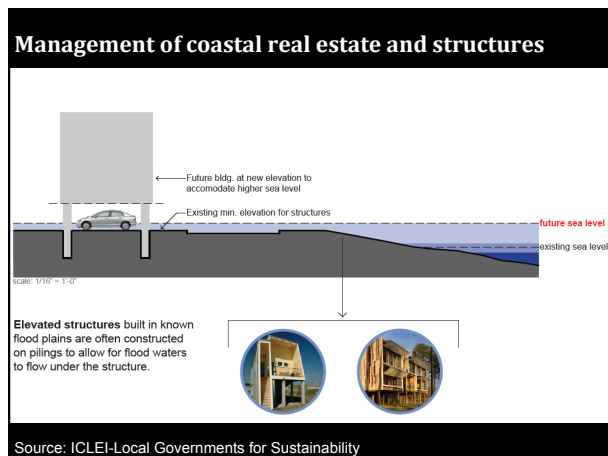
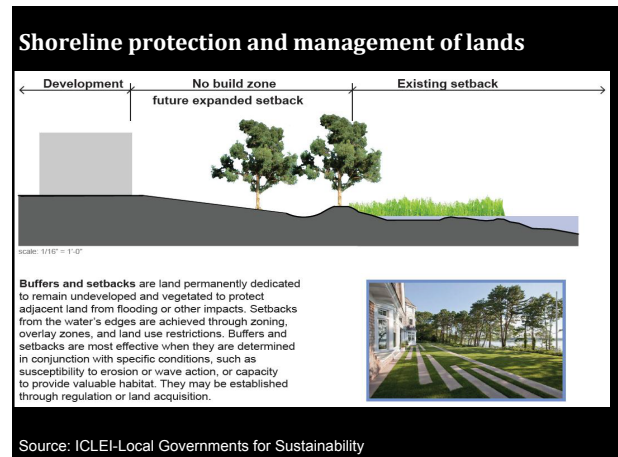
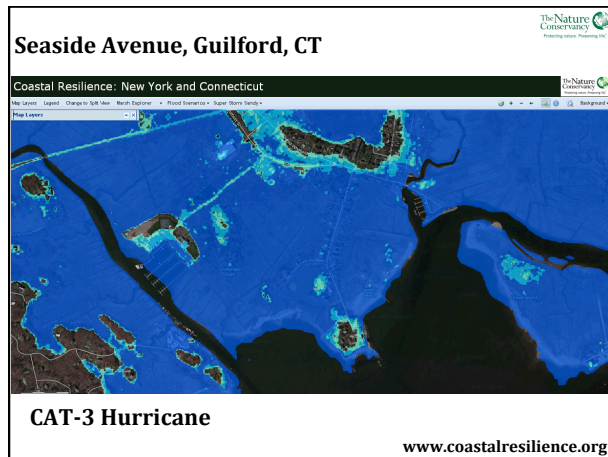
- Shoreline protection and management of lands
- Management of coastal real estate and structures
- Roadway alterations
- Water supply wells and septic systems



Seaside Avenue, Guilford, CT



Community Elements



Options for Adaptation in Guilford

Shoreline protection and management of lands

- Hard shoreline protections, living shorelines,
- Land acquisition/conservation practices for tidal marsh advancement
- Wetland buffers for flood protection.

Management of coastal real estate and structures

- Phasing coastal realignment strategies - zoning overlay districts or amendments
- Strengthening building codes to require freeboard
- V zone standards in A zones
- Acquisition of property damaged by coastal and riverine hazards.



Options for Adaptation in Guilford

Roadway alterations

- Elevation of roadways
- Abandonment of some roads
- Re-analysis of emergency access
- Developing alternative egress for some areas



Water supply wells and septic systems

- On-site retrofits
- Development of community systems
- Extension of sewer and water systems
- Vacating property when none of the above are feasible

Visualizing impacts, planning wisely for the future, making smart choices today

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awhelchel@inc.org
(860) 970-8442

www.coastalresilience.org

Click on Geography then New York & Connecticut

NEW YORK AND CONNECTICUT
Geography

FUTURE SCENARIOS MAP
Visualization Tool

WHAT CAN BE DONE
Solutions


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NOAA

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New York, N.Y.

PACE LAW SCHOOL

5/15/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN


Advisory Committee Meeting
April 10, 2013

SCRCOG

JAMIE CAPLAN CONSULTING
Emergency Management Services

MEETING AGENDA

- Project Status Update
- Presentation/Discussion: Adam Whelchel, *The Nature Conservancy*
- Mitigation Strategy Exercise
- Public Workshops
- Next Steps



Project Timeline

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PROJECT STATUS UPDATE

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PROJECT STATUS UPDATE

- Planning Process**
 - Ongoing – includes documentation and description of all meetings and data gathering
- Hazard Identification and Risk Assessment**
 - Completed editorial updates
 - Finalizing GIS updates / Hazus-MH analysis
- Regional Profile**
 - Draft final and will share via email this month
- Capability Assessment**
 - Draft final and will share via email this month
- Mitigation Strategy**
 - Today's exercise will lead to regional goal statements and assist with identifying mitigation actions

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HAZARD IDENTIFICATION AND RISK ASSESSMENT

- Editorial Updates**
 - All content changes have made, based on consolidated edits and revision requests provided by SCRCOG
 - Most review comments have been addressed
- GIS Updates**
 - Exposure calculation for sea level rise
 - Updating critical facilities inventory and related text, tables and maps
 - Hazus-MH analysis near completion

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EXPOSURE TO SEA LEVEL RISE (YEAR 2080, NO STORM)

Jurisdiction	Total Number of Parcels	Total Number of Buildings	Critical Facilities	Historic Assets	Population
Branford	2,194	1,299	2	282	11,898
West Haven	979	640	12	N/A	12,012
Madison	968	2,830	0	N/A	5,391
North Haven	183	662	0	N/A	1,415
Hamden	91	57	0	N/A	1,236

Jurisdiction	Value of At-Risk Parcels	Value of At-Risk Facilities	Value of At-Risk Historic Assets
Madison	\$641,899,000	\$0	N/A
Branford	\$441,271,525	\$135,200	\$214,493,120
Hamden	\$268,984,000	\$0	N/A
North Haven	\$181,166,000	\$0	N/A
West Haven	\$164,380,510	\$93,608,270	N/A


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HAZARD IDENTIFICATION AND RISK ASSESSMENT


- Hazus-MH Results**
 - Results have been incorporated, including total loss estimates
 - Riverine Flood
 - Coastal Flood
 - Hurricane
 - Earthquake
- Ongoing Analysis**
 - Evaluating work-around for storm surge loss estimation
 - Hurricane wind for Hamden
 - Coastal flood for West Haven



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HAZARD IDENTIFICATION AND RISK ASSESSMENT

- Hazus-MH Loss Estimates include:**
 - Direct Building Damages
 - Contents Losses
 - Inventory Losses
 - Loss of Income
 - Relocation Expenses
 - Lost Rental Income
 - Lost Wages



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HAZUS-MH RIVERINE FLOOD RESULTS (100-YEAR EVENT)

Jurisdiction	Residential	Commercial	Industrial	Others	Total
Branford	\$76,310,000	\$39,520,000	\$13,420,000	\$9,410,000	\$138,650,000
Wallingford	\$15,430,000	\$30,480,000	\$45,040,000	\$15,810,000	\$106,760,000
Hamden	\$36,660,000	\$29,280,000	\$6,080,000	\$31,310,000	\$103,330,000
North Haven	\$10,180,000	\$20,770,000	\$34,770,000	\$570,000	\$66,300,000
Madison	\$27,450,000	\$20,630,000	\$2,350,000	\$4,390,000	\$54,830,000
West Haven	\$29,860,000	\$9,820,000	\$5,920,000	\$4,430,000	\$50,030,000
North Branford	\$15,540,000	\$11,450,000	\$6,550,000	\$1,450,000	\$34,980,000
Orange	\$5,810,000	\$6,630,000	\$4,190,000	\$760,000	\$17,380,000
Woodbridge	\$3,820,000	\$3,150,000	\$720,000	\$1,410,000	\$9,100,000
Bethany	\$1,230,000	\$200,000	\$30,000	\$70,000	\$1,530,000

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HAZUS-MH RIVERINE FLOOD RESULTS (ANNUALIZED LOSS)

Jurisdiction	Annualized Loss Estimate (ALE)
Wallingford	\$9,614,590
North Haven	\$6,568,380
Hamden	\$4,017,080
Branford	\$1,525,180
North Branford	\$1,517,940
West Haven	\$1,457,500
Woodbridge	\$1,083,620
Orange	\$963,040
Madison	\$898,070
Bethany	\$83,150

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HAZUS-MH COASTAL FLOOD RESULTS (100-YEAR + ALE)

Jurisdiction	Residential	Commercial	Industrial	Others	Total	ALE
Branford	\$11,090,000	\$2,500,000	\$310,000	\$180,000	\$14,080,000	\$4,515,440
West Haven	\$8,980,000	\$2,470,000	\$350,000	\$140,000	\$11,930,000	TBD
Madison	\$5,670,000	\$1,210,000	\$710,000	\$210,000	\$7,800,000	\$4,199,730

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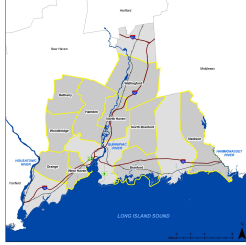
HAZUS-MH HURRICANE WIND RESULTS (100-YEAR + ALE)

Jurisdiction	Residential	Commercial	Industrial	Others	Total	ALE
West Haven	\$42,928,810	\$2,685,070	\$906,910	\$627,750	\$47,148,540	TBD
Hamden	\$39,271,380	\$2,351,920	\$183,600	\$1,579,380	\$43,386,280	TBD
Branford	\$30,135,430	\$2,735,800	\$905,000	\$453,420	\$34,229,660	\$2,914,000
Wallingford	\$26,975,040	\$3,283,570	\$1,187,270	\$692,400	\$32,138,270	\$2,925,000
Madison	\$23,781,290	\$1,987,070	\$244,510	\$337,830	\$26,350,700	\$2,046,000
North Haven	\$18,452,030	\$2,481,380	\$820,430	\$332,580	\$22,077,430	\$2,033,000
North Branford	\$8,248,300	\$487,730	\$246,050	\$98,250	\$9,080,340	\$898,000
Orange	\$6,708,700	\$1,180,440	\$220,800	\$115,670	\$8,225,610	\$947,000
Woodbridge	\$4,703,540	\$342,540	\$37,180	\$102,810	\$5,186,070	\$489,000
Bethany	\$1,789,270	\$107,990	\$23,580	\$22,750	\$1,943,590	\$191,000

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REGIONAL PROFILE

- **Description of Regional Planning Area**
 - Demographics
 - Geography
 - Climate
 - Transportation Network
 - Land Use & Development Patterns
- **Jurisdiction Specifics**



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CAPABILITY ASSESSMENT

- **Purpose:** Capture strengths and weaknesses in the region in terms of mitigating risks
- **Gathered data at Advisory Committee Meetings, Municipality Meetings, and through questionnaire.**
- **Each Municipality captured in detail on tables and in comment sections for each category**
 - Safe Growth Analysis – average Neutral for all questions
 - Bethany and West Haven – average Somewhat Agree
 - Woodbridge – N/A
 - Comprehensive Plan goals not consistent with mitigation plan and land use maps don't identify hazard areas
- **Final step – Connecting capabilities and risk**

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ADAM WHELCHER, THE NATURE CONSERVANCY

JAMIE CAPLAN CONSULTING
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MITIGATION STRATEGY EXERCISE

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MITIGATION STRATEGY EXERCISE

- **First focus question:**
What will it take for the South Central Region to become *disaster resistant*?

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MITIGATION STRATEGY EXERCISE

- **Second focus question:**
What **specific mitigation actions** should my community take to become safer from natural hazards?
- **Ground rules**
 - Reflect on risk assessment and capability assessment findings to date, combined with your local knowledge
 - Focus on mitigation vs. preparedness/response activities
 - Collaborate with your neighbors; but come up with your own top 3-5 ideas for new mitigation actions

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MITIGATION STRATEGY EXERCISE

- Using markers and paper provided:
 - Write down one idea per sheet – summarize in less than a dozen words
 - Identify your jurisdiction in lower right corner

Remove sediment and increase floodplain storage along Muddy River to minimize flooding

North Haven

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MITIGATION STRATEGY EXERCISE

What specific mitigation actions should my community take to become safer from natural hazards?

- Remember:
 - Focus on mitigation
 - One idea per sheet
 - Identify jurisdiction
 - Top 3-5 ideas!

Remove sediment and increase floodplain storage along Muddy River to minimize flooding

North Haven

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MITIGATION ACTION WORKSHEET - HOMEWORK

- Purpose: Identify potential natural hazard mitigation actions for each municipality
- Complete a minimum of 5 worksheets and rank the actions in order of priority
- Due to Eugene Livshits by April 30th

Community Name: Name of person completing Worksheet: Action Item: Please describe the selected measure. Please state to the best of your ability, project or location of mitigation project. If implemented, this action will reduce vulnerability. Category: (1) protection, property protection, natural resource protection, structural project, emergency services, public education and outreach Priority: List the hazard(s) the proposed action is designed to mitigate against. Mitigation Implementation: Respondents identify the agency or department most suited to implement the proposed action. Estimated Cost: Give general estimate for anticipated cost. This may include "best estimate" for those projects for ongoing storm preparedness. Funding Source(s): This may include any known state or federal funding source or it may include any local source used to fund improvement program, investment or other local or general. Implementation Schedule: Please give a specific month and year to the start date and the target completion date for the proposed action. Funding Source(s): "High", "Medium" or "Low" (How is the risk to the community, and whether the community will use additional funds). Ranking: List the action mitigation action(s) in the highest priority.

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RESOURCES – AVAILABLE ON PROJECT WEBSITE

- Mitigation Ideas**
 - A Resource for Reducing Risk to Natural Hazards
- Integrating Hazard Mitigation Into Local Planning**
 - Case Studies and Tools for Community Officials
- Hurricane Sandy Mitigation Resources**
 - FEMA site with many links
- Local Mitigation Planning Handbook**
 - Handbook we use toward preparing plan

<http://scrcog.org/regional-hazard-mitigation.html>

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PUBLIC WORKSHOPS

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PUBLIC WORKSHOPS

- April 29, 2013**
 - North Haven
 - Public Library
- May 6, 2013**
 - West Haven
- May 20, 2013**
 - Branford
- May 23, 2013**
 - Madison
 - Senior Center

- Goal:** community participation
- Outreach**
 - Press Release
 - Websites, newsletter, meeting announcements

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DISCUSSION AND NEXT STEPS

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NEXT STEPS

- Mitigation Actions Homework – Due April 30th to Eugene
- ASFPM Conference
 - June 9-14, 2013 in Hartford
 - June 13th at 2pm presenting SCRCOG Mitigation Planning Process
- Next Advisory Committee Meeting
 - June 27, 2013
 - 1:00 pm SCRCOG Offices

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Emergency Management Services



THANK YOU

Jamie Caplan and Darrin Punchard



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Cell) 413-218-7310
jamie@jamiecaplan.com

Darrin Punchard, Deputy Project Manager
AECOM
Office) 617-371-4547
Cell) 919-247-5784
darrin.punchard@aecom.com

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Regional Hazard Mitigation Plan

AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Thursday, June 27, 2013 @ 1:00 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

1.1. Project Status Update

1.2. Guest Speaker:

Emily Pysh, CT State Hazard Mitigation Officer (SHMO)

Emergency Management Program Specialist

CT Department of Emergency Services and Public Protection

1.3. Mitigation Actions Review and Prioritization

2. Presentation/Discussion: Emily Pysh, CT SHMO

2.1. Mitigation Funding Options

3. Project Status Update and Discussion

3.1. Recap of Public Workshops

3.2. Review and Discuss Mitigation Strategy

4. Plan Maintenance and Implementation Strategy Discussion

5. Discussion and Next Steps

5.1. Homework

5.2. Next Meeting September 11, 2013 1:00 pm

6/27/13

[illegible]

Title

Intern

Town Planner

Tan Engineer

City Engineer

Town Engineer

Operations Manager

Town Engineer ✓

Project Lead

Deputy PM

Director of Science

Coastal Resilience Planner

Legend Planner.

Sustainability Planner

Municipal Zoning Options for Adaptation to Sea Level Rise in Connecticut

Prepared for The Nature Conservancy by Brian Ambrette. June 7, 2013.

Fortunately for municipal planners, there are adaptation options that coastal towns can implement under existing state and federal laws. Options that to be considered include more resilient building codes, property acquisitions or easements, and tax incentives.¹ This paper will focus in particular on municipal zoning options.

Overlay Zoning

Overlay zones work in concert with existing zoning to apply an additional layer of regulation in areas that have special characteristics. Coastal overlays may prescribe SLR-informed building regulations such as setback, elevation, and freeboard requirements; building footprint and height restrictions; and construction requirements such as breakaway walls on floors below the base flood elevation.² The overlays may also set development densities or water-dependent use requirements to assist in coastal growth management and/or gradually move development out of high flood-risk areas. Overlays can also prioritize areas for conservation based on flood-buffering potential or other ecosystem services.

The Town of Greenwich, CT has implemented a Coastal Overlay Zone intended, among other purposes, to “limit the potential impact of coastal flooding and erosion patterns on coastal development so as to minimize damage to and destruction of life and property and to reduce the necessity of public expenditure to protect future development from such hazards.” Development projects within the zone require a Coastal Site Plan detailing the project’s water-dependent activity and a “description of proposed methods to mitigate adverse effects on coastal resources.”³

The Town of Stonington, CT has implemented a Coastal Area Management Overlay District, a Flood Hazard Overlay District, and a Groundwater Protection Overlay District. The

¹ A superb resource for planners who are exploring adaptation measures is the Georgetown Climate Center’s Adaptation Toolkit: <http://www.georgetownclimate.org/resources/adaptation-tool-kit-sea-level-rise-and-coastal-land-use>

² For an example of flood zone construction requirements, see the City of Waveland, Mississippi Flood Damage Prevention Ordinance Number 342, Section E. Coastal High Hazard Areas, p.18:

<http://www.georgetownclimate.org/sites/default/files/CITY%20OF%20WAVELAND%20ordinance%20342.pdf>

³ Greenwich Municipal Code, Division 9, Section 6-111.

<http://www.greenwichct.org/upload/medialibrary/23f/pzRegsDivision09.pdf>

Coastal Area Management District encompasses the 100-year coastal floodplain and all areas within 1000 feet of the mean high water mark and coastal wetlands. Within the district, the town may require additional erosion controls or conservation easements.⁴

Another overlay zoning approach is to identify zones based on SLR adaptation goals.⁵ The zones can be delineated by a combination of existing development density, dominant use, public utility services (sewer, water, etc.), elevation contours, and erosion rates. A town could divide the 100-year (or 500-year) floodplain into the following overlays:

- A Protection Zone for areas with critical infrastructure and dense development that have few options for adaptation. These areas, which may include town centers and historic districts, likely rely on existing hard armoring for flood protection and erosion control. Maintenance of existing hardened flood protection structures may be permitted while other resiliency practices are encouraged, such as employing green infrastructure for stormwater control.
- An Accommodation Zone for moderately to intensely developed but non-critical areas promotes development that considers future SLR. Downzoning to lower impact uses reduces risk exposure. Building codes are strengthened with setback, elevation, freeboard, and construction requirements; as well as limits on structure height and footprint size. Shoreline armoring is restricted to soft or natural solutions.
- A Conservation Zone includes areas that either provide the greatest natural protection or have non-critical structures at the greatest risk of extensive damage. The purpose is to gradually move development out of these areas and replace it with natural protection, marsh advancement areas, open space, or public access. This can be achieved by downzoning to low density, water-dependent purposes. Shoreline armoring is restricted to natural solutions. Maximum setbacks aim to move any new development landward. Rebuilding damaged structures is also restricted. Property acquisition and conservation programs are focused on this area.

Maryland has a tiered zoning structure, similar to the one just described, under its Chesapeake Bay Critical Areas Program.⁶ The program seeks to improve water quality and resource protection by regulating development near the Bay. Existing residential dwelling density, public services, and primary land use are used to identify three overlay zones:

⁴ Stonington Zoning Regulations, Article 7.3. http://www.stonington-ct.gov/Pages/StoningtonCT_Planning/regs/ZR_E23_7_1_11.pdf

⁵ Grannis, J. 2012. *Coastal Management in the Face of Rising Seas: Legal Strategies for Connecticut*. Sea Grant Law & Policy Journal. vol. 5.1.

⁶ Maryland Department of Natural Resources. *Bay Smart: A Citizen's Guide to Maryland's Critical Area Program*. <http://www.dnr.state.md.us/criticalarea/BaySmartGuide.asp>

- Intensely Developed Areas (IDA's) with either greater than 4 dwelling units per acre; or greater than 3 dwelling units per acre plus public sewer and water; or high industrial or commercial uses,
- Limited Development Areas (LDA's) with either 0.2-4 dwelling units per acre and public sewer and water; or areas not dominated by agriculture, wetland, or open space, and
- Resources Conservation Areas (RCA's) with less than 1 dwelling unit per 5 acres; or areas with a dominant use of agriculture, wetland, or open space.

Downzoning

A powerful tool that planners can employ is downzoning from more dense or intense use to low density or low impact use. Downzoning can be used with or without overlay zoning. The Connecticut Coastal Management Act authorizes municipalities to employ downzoning (which, along with setbacks and special use zones, are not authorized under the Zoning Enabling Act (ZEA)) to regulate development in coastal areas.⁷ Low density, low intensity uses that could be promoted by downzoning include low density residential (e.g. less than 1 unit per 20 acres), agriculture, recreational space, open space, and water-dependent use.

Subdivisions and Cluster Development

Cluster development allows a developer to subdivide and build in greater density than zoning regulations permit, provided that a specified percentage of the parcel is set aside as open space. For example, a developer wants to subdivide a 50 acre parcel into 50 lots. Existing zoning regulations specify a 1 acre minimum lot size. Under cluster development, the developer agrees to set aside 50% of the parcel, or 25 acres, for open space in return for permission to subdivide to half acre lots. In coastal areas, cluster development regulations specify that the upland or landward portion of the lot be developed while the low-lying portion is reserved for soft or natural flood protection. The developer is incentivized to adopt cluster development practices by a streamlined application process or by earning a building density bonus on the upland lots. In Chatham County, Georgia, developers are permitted to increase a project's density by 10% above regulations if 40% of the land is reserved for conservation.⁸

⁷ Grannis, J. 2012. *Coastal Management in the Face of Rising Seas: Legal Strategies for Connecticut*. Sea Grant Law & Policy Journal. vol 5.1.

⁸ Grannis, J. 2011. *Adaptation Toolkit: Sea-Level Rise and Coastal Land Use*. Georgetown Climate Center. p34.

Legal Challenges: Nonconformities and Takings

Overlay zoning and, in particular, downzoning are not without challenges. New zoning regulations will likely result in land uses that had been legal under the previous rules but no longer conform to current zoning requirements. The effectiveness of downzoning may be limited because the ZEA requires that nonconforming uses be allowed and preserved even when a structure is damaged or destroyed. However, when that structure is repaired or rebuilt, it will be subject to any additional SLR-informed construction regulations under the new zoning. These regulations may include freeboard minimums, as well as footprint and height limitations. Only when a use is *abandoned* (as opposed to having been idle or destroyed) may the new use requirements be enforced. However, the courts may be more likely to rule in favor of use enforcement when a structure is destroyed by a natural disaster such as coastal flooding, but the case law is not yet established on this point.⁹

Another challenge in designing SLR adaptation zoning regulations is to avoid instances of “taking” in which a government seizes a property or, more often with zoning, adversely affects the value of a property through regulation without just compensation to the owner. For example, regulations under a new overlay may seek to prohibit rebuilding after a storm, or setback requirements may leave an owner without space on the property to rebuild. Courts may rule these scenarios as takings. Typically, the Connecticut courts have ruled against zoning regulations when a taking results in a substantial decrease in economic value to the land owner.¹⁰ However, the U.S. Supreme Court has left room for an owner’s loss of economic value to be balanced against the public good.^{11 12}


⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ McGuire, C. and Hill J. 2012. *Climate Adaptation and the Fifth Amendment of the U.S. Constitution: A Regulatory Takings Analysis of Adaptation Strategies in Coastal Development with Application to Connecticut’s Coastal Management Regime*. Sea Grant Law & Policy Journal. vol 5.1.

¹² For a more thorough and Connecticut-specific discussion of takings and other legal issues with adaptation measures, see the Sea Grant Law & Policy Journal, volume 5, p. 77-79 and 140-168:
<http://nsglc.olemiss.edu/SGLPJ/SGLPJVol5No1.htm>

6/28/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN


Advisory Committee Meeting
June 27, 2013

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MEETING AGENDA

- **Presentation/Discussion**
 - Emily Pysh, CT SHMO
- **Project Status Update and Discussion**
 - Risk Assessment Update
 - Recap of Public Workshops
 - Review and Discussion of Mitigation Strategy
- **Plan Maintenance and Implementation**
- **Next Steps**



Project Timeline

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GUEST SPEAKER: EMILY PYSH, CT SHMO

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PROJECT STATUS UPDATE AND DISCUSSION

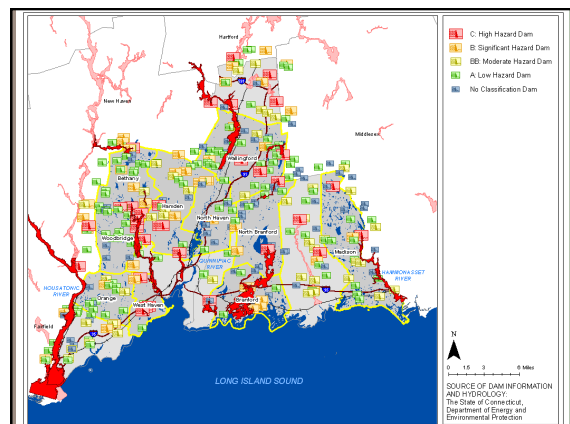
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RISK ASSESSMENT UPDATE

- Updated final draft version of **Risk Analysis** section based on comments received
 - Updated counts and descriptions of "Other" community assets (includes education, government, and religious buildings)
 - Updated all tables to includes proper subtotal figures
 - Updated Methodology section for riverine and coastal flood hazard loss estimates (Hazus-MH)
- Updating exposure analysis for **Dam Failure** using inundation mapping provided by CT DEEP

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4 PUBLIC WORKSHOPS

- Majority of participants from coastal communities
- Wealthier communities want coastal hardening – tax base!
- Networking
 - Connecticut Light and Power Participating
 - Citizen Groups Participating
- Ground-Truthing
 - “Do you have my neighborhood on the map?”
- Communication gap between citizens and local government
 - Mitigation Actions to improve communication

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REVIEW AND DISCUSS MITIGATION STRATEGY

2013 Multi-Jurisdiction Hazard Mitigation Plan Mission

Reduce or eliminate risk to people and property from natural hazards.

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MITIGATION PLAN GOALS

Goal Categories	Mitigation Plan Goals
Community Planning	1. Reduce the impact of natural hazards by integrating natural hazard mitigation policies and practices into local community planning.
Flood Hazards	2. Minimize flood hazards in the region by maintaining continued compliance with the National Flood Insurance Program, adopting higher regulatory standards for new floodplain development, and implementing flood mitigation projects for existing flood-prone structures.
Trees	3. Limit the impact of fallen trees due to natural hazards by collaborating with electric utility companies and property owners (private and public) to cut limbs and remove hazardous trees that pose threats to buildings, infrastructure and utility lifelines.
Regional Collaboration	4. Build capacity for natural hazard mitigation and climate adaptation at the local level through regional collaboration.
Public Awareness and Preparedness	5. Increase public awareness and preparedness for natural hazards by implementing community-based public education programs across the region.

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PROBLEM STATEMENTS

- Designed to provide linkage between **Risk Assessment** and **Mitigation Strategy**
- Derived from Municipality Meetings, Advisory Committee Meetings, Public Meetings, and GIS analysis
- Statements were developed to address:
 - Primary hazards of concern
 - Geographic areas of concern
 - Vulnerable community assets
- Potential solutions / mitigation actions may also be captured

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MITIGATION ACTION REVIEW

- Regional Mitigation Actions**
 - SCRCOG Actions are regional in focus
 - Any other specific actions that are multi-jurisdictional in focus?
- Look at your municipality's actions**
 - How can they be expanded?
 - Are their additional actions to include?
 - Branford and Madison: how should we include content from homeowner associations?

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PLAN MAINTENANCE AND IMPLEMENTATION

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AGENDA

Subject: Regional Hazard Mitigation Advisory Committee Meeting
Wednesday, September 11, 2013 @ 1:00 PM
SCRCOG Offices: 127 Washington Avenue, North Haven, CT 06473

1. Purpose of Meeting

- 1.1. Discuss Incorporating Plan Feedback
- 1.2. Discuss Plan Implementation and Adoption

2. Incorporating Plan Feedback

- 2.1. Feedback Provided
- 2.2. Additional Changes to Plan

3. Plan Implementation and Adoption

- 3.1. Draft Model Resolution
- 3.2. Plan Implementation and Local Progress Reports

4. Discussion and Next Steps

- 4.1. Next Meeting?
- 4.2. Implementation

Advisory Committee Meeting
9/11/13

Sign-In Sheet

[illegible]

Appendix E: Municipality Meetings

Bethany

[illegible]

Project Manager

Public Work Director/Fire Chief

Emergency Management

Schlag

First Selectman - Bethany

SCRCOG

Deputy Project Mgr.

Resident Trooper

Executive Director

10/10/12
Branford

10/10/12
Branford

[illegible]

North Branford Municipal Meeting

11/28/12

Jamie Caplan Project Manager

Fran Merola Director of P.W.

Bonnie Thernien Interim Town Manager

Kurt Weiss Town Engineer

Eugene Livshits SCR COG

DARRIN PUNCHARD

Deputy Project Manager - JCC/AECOM
SCR COG

Chris Rappa

Carl Amento

Executive Director - SCR COG

David D'Anciaco

Lieutenant, 2nd in command,
North Branford Police Dept.

Scott Schoonmaker

Supt. of Schools

Orange
12/17/12

Sign-In Sheet

[illegible]


10/17/12

[illegible]

10/25/12

[illegible]

5/15/13



SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN

Municipality Meetings
October 15-18, 2012

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MEETING AGENDA


- Introduction to Mitigation Project
- Natural Hazards Review
- Critical Facilities Identification
- Hazard Areas Identification
- Capabilities Assessment
- Past, Current and Future Mitigation Actions

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PROJECT PURPOSE

- FEMA approved mitigation plan – each jurisdiction eligible for mitigation program funding
 - New guidance effective 10/1/12
 - *Local Mitigation Plan Review Guide*
 - *Local Mitigation Planning Handbook*
- 10 Diverse Communities – 1 Multi-Jurisdiction Multi-Hazard Mitigation Plan




Project Timeline

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MITIGATION

- **Hazard mitigation** is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.
- **Hazard Mitigation Plans** form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.
- Examples
 - Local Planning and Regulations
 - Structure and Infrastructure Projects
 - Natural Systems Protection
 - Education and Awareness




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BENEFITS OF MITIGATION PLANNING

- Identify hazards and prioritize risk reduction efforts
- Increase public awareness of hazards
- Build partnerships between jurisdictions
- Align risk reduction with other community objectives
- Become eligible for State and Federal funding
- Speed recovery following disaster events
- Maximize credit points under the National Flood Insurance Program's Community Rating System (CRS)



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BENEFITS OF MULTI-JURISDICTIONAL MITIGATION PLANNING


- Pool resources
- Engage in comprehensive risk management (hazards don't abide by political boundaries)
- Reduce level of effort by each municipality – achieve economies of scale and avoid duplication of effort
- Promotes consistency throughout the planning area
- Enhances grant funding opportunities
- FEMA and CT encourage the partnership approach

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OPPORTUNITIES TO PARTICIPATE

- **The planning process is as important as the plan itself.** It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters.
- Public Opinion Survey
- Public Workshops
- Draft Plan Review

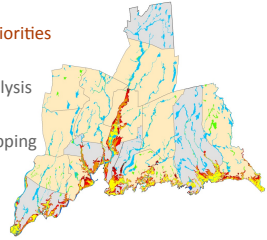


<http://www.scrkog.org/regional-hazard-mitigation.html>

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RISK ASSESSMENT

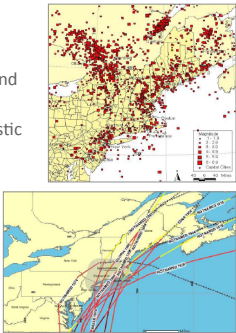
- Helps establish mitigation priorities
- Key Steps
 - ☒ Data Collection and Analysis
 - ☒ Hazard Identification
 - ☐ Hazard Profiles and Mapping
 - Location
 - Extent
 - Previous occurrences
 - Probability of future occurrences
 - ☐ Inventory of Community Assets
 - ☐ Vulnerability Assessment



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RISK ASSESSMENT APPROACH

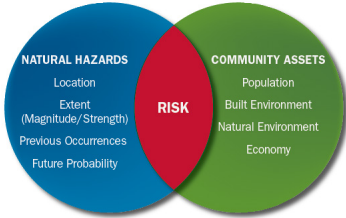
- **Quantitative Analysis**
 - Use of best available data and technology
 - Deterministic and probabilistic modeling (Hazus-MH and statistical methods)
- **Qualitative Analysis**
 - Local knowledge and stakeholder collaboration
 - Priority Risk Index



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DEFINING RISK

- The potential for damage, loss, or other impacts created by the interaction of natural hazards with community assets



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NATURAL HAZARDS IDENTIFIED FOR SOUTH CENTRAL REGION

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure	Landslide	
Nor'easter	Drought	Soil Hazards (includes expansion, subsidence, and sinkholes)	
Severe Thunderstorm (includes high winds, hail, and lightning)	Flood (includes coastal, riverine and flash flooding. Also includes ice jams and storm surge)	Tsunami	
Severe Winter Storm (includes snow and ice)	Sea Level Rise		
Tornado			

* Climate change will be addressed in terms of its potential effects on the frequency and intensity of natural hazards.

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COMMUNITY ASSETS

- **People**
 - Residential and transient populations
 - Social vulnerability factors (demographics; access and functional needs)
 - Projected population growth = increased vulnerability?
- **Economy**
 - Major employers
 - Commercial/industrial centers
 - Primary economic sectors
 - Interdependencies between sectors
 - *What drives your community?*


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COMMUNITY ASSETS

- **Built environment**
 - Existing structures
 - Critical facilities and infrastructure *
 - Cultural and historic resources
 - Future development
- **Natural environment**
 - Critical or sensitive areas
 - Features or systems that provide beneficial functions, including protection from hazards
 - Future target areas for conservation, recreation, etc.

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CRITICAL FACILITIES AND INFRASTRUCTURE



- Provide services essential for life safety and economic viability.
- Must continue to operate during and following a disaster.

Critical Facilities	High Potential Loss Facilities	Infrastructure Systems
Hospitals and medical facilities	Nuclear power plants	Water and wastewater
Police and fire stations	Dams	Power utilities
Emergency operations centers	Military and civil defense installations	Transportation (roads, bridges, tunnels, railways, rail stations, waterways, etc.)
Evacuation shelters	Locations housing hazardous materials	Communication systems/centers
Schools		Energy pipelines and storage
Airports/heliports		

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TYPES OF CAPABILITIES

- **Planning and Regulatory**
 - Safe Growth Audit
- **Administrative and Technical Staff**
 - Community staff and skills.
- **Financial**
 - Ability and resources to access funding for mitigation actions.
- **Education and Outreach**
 - Education and outreach methods in place to implement mitigation activities or communicate hazard related information.

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PLANNING AND REGULATORY CAPABILITIES

- Which plans exist? Are hazards addressed? Are mitigation projects addressed?
 - Comprehensive Plan
 - Capital Improvements Plan
 - Economic Development Plan
 - Local Emergency Operations Plan
 - Transportation Plan
 - Continuity of Operations Plan
 - Stormwater Management Plan
- **Building Codes – version and effectiveness**
- **Zoning Ordinances**
 - Are they effective at reducing hazard impacts?
 - How are they enforced?

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ADMINISTRATIVE AND TECHNICAL CAPABILITIES

- Describe capability and has it been used to mitigate risk?
 - Planning Commission
 - Mutual Aid Agreements
 - Building Official
 - Floodplain Administrator
 - Community Planner
 - Civil Engineer
 - GIS
 - Grant Writing
 - Hazard Analysis

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FINANCIAL CAPABILITIES

- Do you have access to or are you eligible for any of the following funding sources? Can these funds be used for mitigation projects?
 - Capital improvement projects
 - Fees for water, sewer, gas, electric
 - Stormwater utility
 - Community Development Block Grant
 - Other sources

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EDUCATION AND OUTREACH

- What programs or methods in place to communicate hazard risk or to implement hazard mitigation activities?
- How can these be expanded or improved to reduce risk?
 - Local citizen or nonprofit groups focused on emergency preparedness
 - Natural disaster or safety related school programs
 - Public education programs



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SAFE GROWTH AUDIT – COMPREHENSIVE PLAN

- **Land Use Planning**
 - Does the future land-use map identify natural hazard areas?
 - Do land-use policies discourage development in hazard areas?
- **Transportation**
 - Does the plan limit access to hazard areas?
 - Is transportation policy used to guide growth away from hazard areas?
- **Environmental Management**
 - Are environmental systems that protect development from hazard areas mapped?
 - Do environmental policies maintain and restore ecosystems?
- **Public Safety**
 - Is safety explicitly included in the comprehensive plan?



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SAFE GROWTH AUDIT – ZONING ORDINANCE

- Does the zoning ordinance conform with the comprehensive plan in terms of discouraging development in natural hazard areas?
- Do the regulations provide for conservation of environmental resources?
- Does the capital improvement program limit expenditures on projects that would encourage development in hazard areas?
- What plans are in place that include avoiding development in natural hazard areas?
- Is there an evacuation and shelter plan in place?



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NATIONAL FLOOD INSURANCE PROGRAM

- What is your community's level of participation?
 - Insurance summary
 - Staff resources
 - Compliance history
 - Regulation
 - Community Rating System (CRS)



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MITIGATION STRATEGY

- Mitigation Strategy is the long-term blueprint for reducing the potential losses identified in the risk assessment. The strategy describes how the community will accomplish the overall purpose, or mission, of the planning process.
- Develop Goals and Objectives.
- Prioritize mitigation actions for each municipality.
- Use risk assessment to justify as well as identify possible actions.
- State of CT 2010 Natural Hazard Mitigation Plan Update, Mission to mitigate effects of natural hazards by minimizing loss of life and property damage.
 1. Promote implementation of sound floodplain management and other natural hazard mitigation principles on a state and local level;
 2. Encourage research to support management and planning activities for natural hazard mitigation and State investment policies; and
 3. Promote implementation of effective natural hazard mitigation projects on a state and local level.



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MITIGATION TECHNIQUES

1. **Prevention**
 - Typically government programs – building codes, floodplain regulations
2. **Property Protection**
 - Modification of buildings, building elevation, seismic retrofit
3. **Natural Resource Protection**
 - Protect natural resources, land acquisition, floodplain protection
4. **Structural Projects**
 - Modify environment with construction, dams, storm sewers, beach nourishment
5. **Emergency Services**
 - Warning systems, sandbagging, evacuation planning
6. **Public Education and Awareness**
 - Outreach projects, hazard mapping, real estate disclosure



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MITIGATION ACTIONS

- What mitigation actions would you like to see added to the plan?
 - Do you have a funding source in mind?
 - Have you prepared a benefit-cost analysis?

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THANK YOU

Jamie Caplan and Darrin Punchard

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Appendix F: Public Opinion Survey


















Natural Hazard Mitigation Plan Public Opinion Survey



1. Have you ever experienced or been impacted by a disaster?

		ResponsePercent	ResponseCount
Yes		92.5%	222
No		7.5%	18
		AnsweredQuestion	240
		SkippedQuestion	13

2. If yes, which of these disasters have you experienced or been impacted by? (Please check all that apply)

		ResponsePercent	ResponseCount
Coastal Erosion		10.8%	25
Dam Failure		1.3%	3
Drought		3.4%	8
Earthquake		4.7%	11
Extreme Temperatures		8.2%	19
Flood (includes coastal, riverine, and flash flooding)		35.8%	83
Hurricane/Tropical Storm		92.7%	215
Landslide		1.3%	3
Nor'easter		75.4%	175
Sea Level Rise		11.6%	27
Severe Thunderstorm (includes high winds, hail, and lightning)		56.0%	130
Severe Winter Storm (includes snow and ice)		68.5%	159
Soil Hazards (includes expansion, subsidence, and sinkholes)		2.6%	6
Tornado		10.3%	24
Tsunami		0.4%	1
Wildfire		2.6%	6
Other (please specify)		1.7%	4
AnsweredQuestion			232
SkippedQuestion			21

3. How concerned are you about the possibility of your community being impacted by a disaster? (Check the corresponding circle for each hazard.)

	Very Concerned	Somewhat Concerned	Neutral	Not Very Concerned	Not Concerned	RatingCount
Coastal Erosion	35.7% (85)	26.5% (63)	6.7% (16)	8.4% (20)	22.7% (54)	238
Dam Failure	3.2% (7)	13.4% (29)	13.4% (29)	21.2% (46)	48.8% (106)	217
Drought	3.6% (8)	23.6% (52)	29.1% (64)	22.3% (49)	21.4% (47)	220
Earthquake	2.2% (5)	14.6% (33)	19.5% (44)	33.6% (76)	30.1% (68)	226
Extreme Temperatures	8.4% (19)	32.3% (73)	25.7% (58)	19.0% (43)	14.6% (33)	226
Flood	32.9% (77)	40.2% (94)	12.4% (29)	7.3% (17)	7.3% (17)	234
Hurricane/Tropical Storm	65.2% (161)	28.3% (70)	3.6% (9)	1.6% (4)	1.2% (3)	247
Landslide	1.4% (3)	7.3% (16)	13.2% (29)	28.6% (63)	49.5% (109)	220
Nor'easter	48.6% (118)	42.0% (102)	4.9% (12)	3.3% (8)	1.2% (3)	243
Sea Level Rise	31.2% (73)	32.1% (75)	13.2% (31)	9.4% (22)	14.1% (33)	234
Severe Thunderstorm	32.9% (78)	46.0% (109)	14.3% (34)	3.8% (9)	3.0% (7)	237
Severe Winter Storm	42.1% (102)	45.9% (111)	7.4% (18)	2.5% (6)	2.1% (5)	242
Soil Hazards	7.8% (17)	20.5% (45)	26.9% (59)	20.5% (45)	24.2% (53)	219
Tornado	6.6% (15)	32.0% (73)	27.6% (63)	22.8% (52)	11.0% (25)	228
Tsunami	2.3% (5)	6.3% (14)	14.4% (32)	21.2% (47)	55.9% (124)	222
Wildfire	1.8% (4)	18.1% (40)	21.3% (47)	24.0% (53)	34.8% (77)	221

Other (from previous answer)	5.9% (5)	2.4% (2)	21.2% (18)	10.6% (9)	60.0% (51)	85
AnsweredQuestion						250
SkippedQuestion						3

4. In your opinion, which of the following categories are most susceptible to natural hazards in your community? (Please rank the community assets in order of vulnerability, 1 being most vulnerable and 6 being least vulnerable.)

	1	2	3	4	5	6	RatingAverage	RatingCount
People: Loss of life and/or injuries	43.1% (97)	18.7% (42)	14.7% (33)	8.9% (20)	8.0% (18)	6.7% (15)	2.40	225
Economic: Business interruptions/closures, job losses, etc.	7.6% (17)	27.1% (61)	23.6% (53)	21.3% (48)	16.9% (38)	3.6% (8)	3.24	225
Infrastructure: Damage/loss of roads, bridges, utilities, schools, etc.	34.1% (77)	31.4% (71)	22.1% (50)	8.8% (20)	2.2% (5)	1.3% (3)	2.18	226
Cultural/Historic: Damage or loss of libraries, museums, historic properties, etc.	1.8% (4)	4.0% (9)	6.6% (15)	22.6% (51)	27.4% (62)	37.6% (85)	4.83	226
Environmental: Damage, contamination or loss of forests, wetlands, waterways, etc.	9.3% (21)	10.6% (24)	20.8% (47)	22.6% (51)	26.5% (60)	10.2% (23)	3.77	226
Governance: Ability to maintain order and/or provide public amenities and services	4.4% (10)	8.4% (19)	12.4% (28)	15.9% (36)	19.0% (43)	39.8% (90)	4.56	226
AnsweredQuestion								226
SkippedQuestion								27

5. How important are the following specific community assets to you? (Check the appropriate circle for each asset.)

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important	RatingCount
Elder-care Facilities	33.0% (72)	38.5% (84)	17.4% (38)	5.0% (11)	6.0% (13)	218
Schools (K-12)	50.2% (111)	29.4% (65)	12.7% (28)	3.6% (8)	4.1% (9)	221
Hospitals	69.3% (149)	18.1% (39)	11.2% (24)	0.5% (1)	0.9% (2)	215
Major Bridges	63.8% (139)	25.7% (56)	7.3% (16)	0.9% (2)	2.3% (5)	218
Fire/Police Stations	74.0% (162)	20.1% (44)	4.6% (10)	0.5% (1)	0.9% (2)	219
Museums/Historic Buildings	10.6% (23)	37.6% (82)	32.6% (71)	13.8% (30)	5.5% (12)	218
Major Employers	20.5% (44)	45.1% (97)	26.5% (57)	5.1% (11)	2.8% (6)	215
Small Businesses	32.7% (72)	46.8% (103)	16.4% (36)	3.2% (7)	0.9% (2)	220
Colleges/Universities	10.3% (22)	33.3% (71)	36.2% (77)	12.7% (27)	7.5% (16)	213
City Hall/Courthouse	18.3% (40)	37.2% (81)	32.6% (71)	7.8% (17)	4.1% (9)	218
Parks	15.3% (33)	32.4% (70)	34.7% (75)	11.6% (25)	6.0% (13)	216
AnsweredQuestion						223
SkippedQuestion						30

6. Natural hazards can have a significant impact on a community, but planning for these types of events can help lessen the impacts. The following statements will help us determine citizen priorities regarding planning for natural hazards in your community. Please tell us how important each statement is to you by checking the appropriate circle for each.

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important	RatingCount
Protecting private property	46.7% (99)	37.3% (79)	11.8% (25)	3.8% (8)	0.5% (1)	212
Protecting critical facilities (for example, transportation networks, hospitals, fire stations, etc.)	90.6% (193)	8.0% (17)	0.9% (2)	0.0% (0)	0.5% (1)	213
Preventing development in hazard areas	47.7% (102)	34.6% (74)	13.6% (29)	1.9% (4)	2.3% (5)	214
Enhancing the function of natural features (for example, streams, wetlands, etc.)	38.4% (81)	37.9% (80)	16.1% (34)	2.8% (6)	4.7% (10)	211
Protecting historical and cultural landmarks	15.9% (34)	42.5% (91)	28.0% (60)	9.8% (21)	3.7% (8)	214
Protecting and reducing damage to utilities	77.1% (165)	20.1% (43)	2.3% (5)	0.0% (0)	0.5% (1)	214
Strengthening emergency services (for example, police, fire, ambulance)	64.8% (140)	27.8% (60)	5.6% (12)	0.9% (2)	0.9% (2)	216
Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	48.6% (105)	41.7% (90)	7.4% (16)	0.5% (1)	1.9% (4)	216
AnsweredQuestion						217
SkippedQuestion						36



7. What are some steps that your local government could take to reduce or eliminate the risk of future natural hazard damages in your neighborhood?

ResponseCount	
113	
AnsweredQuestion	113
SkippedQuestion	140










8. A number of community-wide activities can reduce risk from natural hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for your community to consider pursuing.

	Very Important	Neutral	Not Important	RatingCount
Prevention: Administrative or regulatory actions that influence the way land is developed and buildings are built.	74.2% (155)	21.1% (44)	4.8% (10)	209
Property Protection: Actions that involve the modification of existing buildings to protect them from a hazard or removal from the hazard area.	54.9% (113)	37.4% (77)	7.8% (16)	206
Natural Resource Protection: Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems.	65.7% (136)	28.5% (59)	5.8% (12)	207
Structural Projects: Actions intended to lessen the impact of a hazard by modifying the natural progression of the hazard.	55.1% (113)	38.0% (78)	6.8% (14)	205
Emergency Services: Actions that protect people and property during and immediately after a hazard event.	90.5% (190)	8.6% (18)	1.0% (2)	210
Public Education and Awareness: Actions to inform citizens about hazards and the techniques they can use to protect themselves and their property.	75.8% (157)	20.3% (42)	3.9% (8)	207
AnsweredQuestion				210
SkippedQuestion				43




9. Are you interested in making your home or neighborhood more resistant to natural hazards?

		ResponsePercent	ResponseCount
Yes		92.2%	190
No		7.8%	16
AnsweredQuestion			206
SkippedQuestion			47




10. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to natural hazards?

		ResponsePercent	ResponseCount
Newspaper		5.3%	11
Television		3.4%	7
Radio		2.4%	5
Internet (Web Pages)		40.8%	84
Internet (Social Media)		8.7%	18
Mobile Messages/Alerts		9.2%	19
Mail		14.6%	30
Public workshops/meetings		10.2%	21
Other (please specify)		5.3%	11
AnsweredQuestion			206
SkippedQuestion			47






11. Is your home located in a floodplain?

		ResponsePercent	ResponseCount
Yes		17.8%	37
No		75.5%	157
I don't know		6.7%	14
		AnsweredQuestion	208
		SkippedQuestion	45


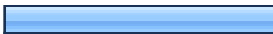
12. Do you have flood insurance?

		ResponsePercent	ResponseCount
Yes		18.2%	38
No		78.0%	163
I don't know		3.8%	8
		AnsweredQuestion	209
		SkippedQuestion	44

13. If “No,” why not?

		ResponsePercent	ResponseCount
Not located in a floodplain		61.8%	102
Too expensive		9.1%	15
Not necessary because it never floods		4.8%	8
Not necessary because I'm elevated or otherwise protected		18.8%	31
Never really considered it		5.5%	9
AnsweredQuestion			165
SkippedQuestion			88

14. Have you taken any actions to make your home or neighborhood more resistant to natural hazards?

		ResponsePercent	ResponseCount
Yes		46.5%	92
No		53.5%	106
AnsweredQuestion			198
SkippedQuestion			55















15. If “Yes,” please explain:

	ResponseCount
	84
AnsweredQuestion	84
SkippedQuestion	169

16. In the following list, please check the activities that you have done in your household, plan to do in the near future, have not done, or are unable to do. (Please check one response for each preparedness activity.)

	Have Done	Plan To Do	Not Done	Unable To Do	RatingCount
Attended meetings or received written information on natural disasters or emergency preparedness?	53.4% (109)	11.3% (23)	34.8% (71)	0.5% (1)	204
Talked with members in your household about what to do in case of a natural disaster or emergency?	71.7% (147)	11.7% (24)	15.1% (31)	1.5% (3)	205
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	43.9% (90)	28.8% (59)	26.3% (54)	1.0% (2)	205
Prepared a "Disaster Supply Kit" (stored extra food, water, batteries or other emergency supplies)?	56.6% (116)	25.4% (52)	18.0% (37)	0.0% (0)	205
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	38.0% (78)	4.9% (10)	55.1% (113)	2.0% (4)	205
Prepared your home by installing smoke detectors on each level of the house?	93.2% (191)	2.9% (6)	3.4% (7)	0.5% (1)	205
Discussed or created a utility shutoff procedure in the event of a natural disaster?	33.2% (68)	21.5% (44)	44.4% (91)	1.0% (2)	205
AnsweredQuestion					206
SkippedQuestion					47



17. What municipality do you live in?

		ResponsePercent	ResponseCount
Bethany		0.5%	1
Guilford		0.0%	0
Meriden		0.5%	1
North Branford		2.0%	4
Wallingford		10.7%	22
Branford		27.8%	57
Hamden		9.8%	20
Milford		0.5%	1
North Haven		2.0%	4
West Haven		1.5%	3
East Haven		2.0%	4
Madison		38.5%	79
New Haven		0.0%	0
Orange		1.0%	2
Woodbridge		2.0%	4
Other (please specify)		1.5%	3
		AnsweredQuestion	205
		SkippedQuestion	48





18. Please indicate your age:

	ResponseCount
	194
AnsweredQuestion	194
SkippedQuestion	59








19. Please indicate your gender:

		ResponsePercent	ResponseCount
Male		52.5%	106
Female		47.5%	96
	AnsweredQuestion		202
	SkippedQuestion		51






20. Please indicate your highest level of education:

		ResponsePercent	ResponseCount
High school graduate/GED		3.5%	7
Some college/trade school		17.9%	36
College degree		36.8%	74
Postgraduate degree		41.8%	84
Other		0.0%	0
	AnsweredQuestion		201
	SkippedQuestion		52



21. What is your total household income?

		ResponsePercent	ResponseCount
Less than \$20,000		1.2%	2
\$20,000 - \$39,999		4.9%	8
\$40,000 - \$69,999		14.0%	23
\$70,000 - \$99,999		24.4%	40
\$100,000 - \$129,999		21.3%	35
\$130,000 - \$159,999		8.5%	14
Over \$160,000		25.6%	42
AnsweredQuestion			164
SkippedQuestion			89







22. How long have you lived in South Central Connecticut?

		ResponsePercent	ResponseCount
Less than one year		1.5%	3
1-5 years		6.3%	13
6-9 years		6.3%	13
10-19 years		13.7%	28
20 years or more		72.2%	148
AnsweredQuestion			205
SkippedQuestion			48

23. Do you own or rent your home?

		ResponsePercent	ResponseCount
Own		94.5%	190
Rent		5.5%	11
AnsweredQuestion			201
SkippedQuestion			52

24. What type of building do you live in?

		ResponsePercent	ResponseCount
Single-family home		89.8%	185
Duplex		1.5%	3
Apartment (3-4 units in structure)		0.5%	1
Apartment (5 or more units in structure)		1.5%	3
Condominium		5.8%	12
Manufactured home		0.0%	0
Other (please specify)		1.0%	2
AnsweredQuestion			206
SkippedQuestion			47

Irene, Sandy, Athena... What's Next? Help Make Madison Less Vulnerable to Disasters

The South Central Regional Council of Governments (SCROG) wants your input for developing a multi-jurisdiction hazard mitigation plan so Madison and surrounding towns can become better prepared for disasters.

Posted by [Nicole Ball](#), November 12, 2012 at 12:23 pm
1 Comment Recommend



Officials from Madison spent countless hours [preparing the town for Sandy's strike](#). [Following the storm, they put in](#)

even more hours to help keep residents stay safe and clean-up the mess. And then there was the nor'easter, dubbed [Athena by the Weather Channel](#). Now a regional government agency is asking residents in Madison and surrounding towns to participate in a survey about disaster planning and preparedness.

"The [South Central Regional Council of Governments](#) [SCROG] has been awarded a grant from the CT Department of Energy and Environmental Protection (DEEP) to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on Hazard Mitigation Plans. They have been invited to participate in this planning process," SCROG's website says. They are looking for residents to participate in a brief survey about disaster planning and preparedness.

"The purpose of this plan is to identify and assess the region's natural hazard risks (such as flooding, winter storms, tornadoes and wildfires) and determine how to best minimize or manage those risks," the survey says.

"Upon completion, this plan will be presented to the local governing bodies of participating jurisdictions for adoption and then submitted to the Connecticut Department of Energy and Environmental Protection and to the Federal Emergency Management Agency (FEMA) for review and approval."

Eugene Livshits, SCROG Regional Planner, said the survey will be available through mid-January 2013; by the end of February 2013 the results will be made available to the Advisory Committee, which consists of representatives from the participating municipalities and other stakeholders in the

Region. "The final version of the Mitigation Plan is scheduled for review by the State in September 2013," he said.

The survey asks questions about your personal experience with natural disasters and specifically asks you to rank, by importance, categories that are most susceptible to hazards in Madison. Reflecting on Irene and more recently Sandy, what area do you think is most susceptible?

- People (loss of life)
- Economic (business interruption, loss of jobs)
- Infrastructure (damage to roads bridges utilities, schools)
- Governance (ability to maintain order and provide public service)
- Culture/historic (damage to libraries, museums, or history property)
- Environmental (damage, contamination or loss of forest, wetlands, waterways)

SCRCOG Hazard Mitigation Public Opinion Survey

Branford Community Survey Request - Natural Hazards Mitigation Plan



Town Hall

Posted: Monday, October 1, 2012 12:52 pm | *Updated: 3:58 pm, Mon Oct 1, 2012.*

Staff

The Town of Branford is participating in the development of a Regional Natural Hazards Mitigation Plan. This plan will be a regional plan but will also be specific to Branford.

There will be public outreach meetings sometime after January 2013, but right now there is a survey available for people to become involved and give their opinions and provide information which will guide the plan.

The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the Town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared.

Please note that on the Town of Branford website there is a link under the “News and Events” section on the right hand side of the front page called Hazard Mitigation Plan. This link will bring you to the South Central Regional Council of Governments website page for the Hazard Mitigation Plan which will provide some information on the plan as well as the link for the survey. <http://www.scrkog.org/regional-hazard-mitigation.html>

Please take time to complete the survey and contact me if you have any questions or comments regarding the plan. Share this information with friends and colleagues. Thank you,
The survey [can be accessed here](#).

Janice A. Plaziak, P.E.
Branford Town Engineer

Hazard Mitigation Survey Responses Needed

By **Pam Johnson**

Published 10/03/2012 12:00 AM

Updated 10/03/2012 12:20 PM



Pam Johnson

Branford hazards created by Tropical Storm Irene in Aug. 2011 included this seawall and beach erosion, with roadway destruction above, on Linden Avenue.

If you were in Branford on Aug. 27, 2011, you know the answer to the following question: Have you ever experienced or been impacted by a disaster?

That's one of several questions in a current on-line survey in which Town Engineer Janice Plaziak hopes many residents will participate.

The South Central Regional Council of Governments (SCRCOG) and its municipalities, including Branford, are working together to prepare a multi-jurisdiction Hazard Mitigation Plan. The plan will identify and assess natural hazard risks (flooding, winter storms, hurricanes, etc.) and provide ways to best minimize or manage those risks. Answers and opinions provided by survey results will help build the plan.

The final plan will be a regional plan, but it will also be specific to Branford, said Plaziak.

"The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the

community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared," said Plaziak.

Plaziak noted there will be public outreach meetings sometime after January 2013, but right now, "...people can become involved by responding to the survey, where they can give their opinions and provide information to guide the plan."

The survey can be found at <http://www.scrkog.org/regional-hazard-mitigation.html>

There is also a link to the survey through the Town of Branford website, under "News and Events."

http://www.newhavenindependent.org/index.php/branford/entry/get_involved_in_post_irene_planning/

Get Involved In Post-Irene Planning

BY **Diana Stricker** | OCT 15, 2012 6:26 AM

[Post a Comment](#) | [E-mail the Author](#)

Posted to: [Environment](#)



WITH PERMISSION

Is your neighborhood prone to flooding?

Are your roads inaccessible during a Nor'easter?

What can be done to lessen the impact of extreme weather events?

Now is your time to speak out.

Branford is participating in a regional online survey that allows people to express their concerns about potential natural hazards. The survey is one way for people to have an impact in the development of a Hazard Mitigation Plan. [Click here](#) to participate in the survey. Information from the surveys will be anonymous.

"The survey helps identify what people's opinions are of hazards we may face in the community," said Town Engineer Janice Plaziak. "It gets their input into the

plan.”

Branford is joining nine other towns in the South Central Regional Council of Governments (SCRCOG) in an effort to identify potential natural disasters and find ways to reduce their effects. Once a plan is in place, towns may apply for FEMA grant money for mitigation projects.

The consulting team at a recent meeting listed the frequency of natural disasters in Connecticut. According to NOAA data, flooding is the most prevalent hazard in the state. In addition, there were 49 tropical storms or hurricanes in Connecticut since 1900; 255 severe winter storms since 1950; and 88 tornadoes since 1950.

Plaziak, who is Branford’s representative on the Hazard Mitigation Advisory Committee, attended a planning meeting at SCRCOG headquarters in North Haven last week.

“We’re making progress,” Plaziak told the Eagle. “We’re meeting monthly so they can get information from each town.”

Joining Branford are Bethany, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. Five other towns in the SCRCOG—East Haven, Guilford, Meriden, Milford and New Haven—have already developed a local plan but have been invited to join the regional effort.

Plaziak was one of the people who interviewed potential consultants to spearhead the program. The SCRCOG used grant money to hire Jamie Caplan of Consulting LLC of Massachusetts, a company specializing in emergency management services. Her team will review the surveys and provide results to each town. They will also work with the SCRCOG and the municipalities to develop an overall plan.

The plan will address regional needs and the specific concerns of each community. [Click here](#) to read a story about Storm Irene one year later.

“The more information we have, the better we can understand where the needs are,” Plaziak said.

Some survey questions ask people their opinions about which hazards have the most effect on residents, the local economy and infrastructure like roads and

utilities. Questions are targeted to show people's perception of how vulnerable the town is to disasters like floods, hurricanes, Nor'easters, thunderstorms, snowstorms or earthquakes. There is a section where people can write suggestions about what local government could do to reduce risks in their neighborhood.

In addition, there are also questions dealing with how well people are prepared for natural disasters.

"Part of it is educating the public. Being prepared helps mitigate the effects of a hazard," Plaziak said.

The consultants and SCRCOG personnel will conduct a work session with Branford officials and community leaders this week. Public meetings will be held early next year for residents to offer additional input.

The consultants will develop a risk assessment based on data from residents, local officials and from the National Oceanic and Atmospheric Administration (NOAA). The team will then develop strategies and specific projects that would lessen the impact of natural disasters.

Plaziak is hopeful the mitigation plan will be complete by early summer.

"Stay tuned for more information in the future," Plaziak said, adding that anyone who has questions may call her office at Town Hall at (203) 315-0606.

Additional information may be found at the SCROG Web site at www.scrkog.org

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Appendix G: Public Workshops

PUBLIC WORKSHOPS

Draft South Central Region Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge

The South Central Regional Council of Governments (SCRCOG) is hosting four public workshops to review and discuss the Draft South Central Region Hazard Mitigation Plan. The purpose of the plan is to reduce the Region's vulnerability to natural hazards. These workshops are an opportunity for the public to hear a presentation of the Draft Plan and to ask questions and provide feedback.

The Public Workshops will be held:

April 29, 2013 at 6:00 PM – North Haven Memorial Library, 17 Elm Street, North Haven, CT 06473

May 6, 2013 at 6:00 PM – West Haven City Hall, Conf. Rm. B, 355 Main Street, West Haven, CT 06516

May 20, 2013 at 6:00 PM – Branford Fire Department, 45 North Main Street, Branford, CT 06405

May 23, 2013 at 6:00 PM – Madison Senior Center, 29 Bradley Road, Madison, CT 06443

Visit our website www.scrkog.org for more details.



SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

Planning for Our Region's Future

Bethany Branford East Haven Guilford Hamden Madison Meriden Milford
New Haven North Branford North Haven Orange Wallingford West Haven Woodbridge

Carl J. Amento, Executive Director

MEDIA RELEASE

For Immediate Release

Contact: Eugene Livshits
(203) 466-8626

April 12, 2013

**SCRCOG to host Public Workshops regarding the
Draft South Central Region Multi-Jurisdiction Hazard Mitigation Plan**

(NORTH HAVEN) The South Central Regional Council of Governments (SCRCOG) is hosting four public workshops to present, review and discuss the Draft South Central Region Hazard Mitigation Plan. Public participation is an important part of the mitigation planning process. Residents, business owners and town officials of the SCRCOG municipalities are encouraged to participate in these workshops.

Date	Location	Time
April 29, 2013	North Haven Memorial Library 17 Elm Street, North Haven, CT 06473	6 PM – 8 PM
May 6, 2013	West Haven City Hall, Conf. Rm. B 355 Main Street, West Haven, CT 06516	6 PM – 8 PM
May 20, 2013	Branford Fire Department 45 North Main Street, Branford, CT 06405	6 PM – 8 PM
May 23, 2013	Madison Senior Center 29 Bradley Road, Madison, CT 06443	6 PM – 8 PM

SCRCOG was awarded a grant from the Connecticut Department of Energy and Environmental Protection (CT DEEP) to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on their own hazard mitigation plans. SCRCOG hired a consulting team led by Jamie Caplan Consulting, LLC with support from AECOM to develop the Draft Plan.

The purpose of the plan is to reduce the Region's vulnerability to natural hazards and provide a comprehensive approach to mitigate potential hazards. Mitigation strategies include planning, policy, regulation change, educational programs, infrastructure projects and other activities.

The Multi-Jurisdiction Hazard Mitigation Plan will ease the burden of keeping municipalities in the SCRCOG region safe and resilient to natural hazards by identifying and developing actions to reduce or eliminate those risks. The adoption and approval of the Multi-Jurisdiction Hazard

Mitigation Plan will allow each of the municipalities to be eligible for Federal Emergency Management Agency (FEMA) mitigation program funding before and after the next disaster strikes.

About the South Central Regional Council of Governments

The South Central Regional Council of Governments provides a platform for inter-municipal coordination, cooperation, and decision making. SCRCOG is made up of fifteen municipalities: Bethany, Branford, East Haven, Guilford, Hamden, Madison, Meriden, Milford, New Haven, North Branford, North Haven, Orange, Wallingford, West Haven, and Woodbridge. Over the years, SCRCOG has primarily addressed issues of transportation and land use planning. However, in recent years, SCRCOG has taken on such additional issues as foreclosure prevention and pre-disaster natural hazard mitigation planning. SCRCOG is also a part of the NY-CT Sustainable Communities Regional Planning Consortium which was awarded a \$3.5 million grant in 2010 by the U.S. Department of Housing and Urban Development.

The SCRCOG region covers approximately 570,000 people, or 1/6th of the state's population. SCRCOG has a staff of six employed in its offices in North Haven.

In 1948, a few municipalities in our Region were the first to take advantage of the opportunity afforded by recently enacted legislation to voluntarily form the Regional Planning Authority of the South Central Region. By 1960, the authority was serving all 15 towns in the Region. In 1985, the South Central Regional Council of Governments was established with the approval of each legislative body from the fifteen municipalities. Today, the 15 mayors and first selectmen of the SCRCOG member cities and towns meet monthly to promote regional collaboration and to address issues of regional importance.

Further information about SCRCOG and its projects, including the South Central Region Multi-Jurisdiction Hazard Mitigation Plan, can be found at www.scrkog.org.

Input Sought for Bfd, NB Hazard Mitigation Plan

By **Pam Johnson**

Published 05/06/2013 12:00 AM

Updated 05/06/2013 01:09 PM

Branford Town Engineer Janice Plaziak and North Branford Town Engineer encourage residents of Branford and North Branford to give input on May 20 to a draft hazard mitigation plans for the area.

The input will help the towns to prepare for fall out from future emergencies like those brought on by storms, flooding and more. Together with North Branford Town Engineer Kurt Weiss, Plaziak is hoping for community input at a public meeting at Branford Fire Headquarters, she said.

"We want them to share their experiences and they may have some other concerns where they feel we've been vulnerable, and feel we can mitigate the risks with a project or improvement to a plan; or another approach... so that we're prepared. It's really an emergency management type of project," said Plaziak.

She noted towns are required by FEMA to have a such plan in order to access hazard mitigation funds available following an emergency.

"The funds available are only for prjoects that have been identifiend in your plan," Plaziak noted.

The South Central Regional Council of Governments (SCRCOG) will host a public workshops in at Branford Fire Department, 45 North Main St. on May 20 from 6 p.m. to 8 p.m. Below is information provided by SCRCOG:

PRESS RELEASE: The South Central Regional Council of Governments (SCRCOG) is hosting four public workshops to present, review and discuss the Draft South Central Region Hazard Mitigation Plan. Public participation is an important part of the mitigation planning process. Residents, business owners and town officials of the SCRCOG municipalities are encouraged to participate in these workshops.

SCRCOG was awarded a grant from the Connecticut Department of Energy

and Environmental Protection (CT DEEP) to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on their own hazard mitigation plans. SCRCOG hired a consulting team led by Jamie Caplan Consulting, LLC with support from AECOM to develop the Draft Plan.

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Further information about SCRCOG and its projects, including the South Central Region Multi-Jurisdiction Hazard Mitigation Plan, can be found at www.scrkog.org.

Draft South Central Region Hazard Mitigation Plan - May 23rd Public Workshop

Posted by [David Anderson](#), 18 hours ago

[Comment](#) [1 Recommend](#)

The South Central Regional Council of Governments (SCRCOG) is hosting four public workshops to present, review and discuss the Draft South Central Region Hazard Mitigation Plan. The purpose of the plan is to reduce the Region's vulnerability to natural hazards and provide a comprehensive approach to mitigate potential hazards. Mitigation strategies include planning, policy, regulation change, educational programs, infrastructure projects and other activities. The Multi-Jurisdiction Hazard Mitigation Plan will ease the burden of keeping municipalities in the SCRCOG region safe and resilient to natural hazards by identifying and developing actions to reduce or eliminate those risks.

A workshop has been scheduled within the Town of Madison for **Thursday, May 23, 2013 at the Madison Senior Center (29 Bradley Road) from 6 PM – 8 PM**. Public participation is an important part of the mitigation planning process. Residents, business owners and town officials of the SCRCOG municipalities are encouraged to participate in these workshops.

Further information about the South Central Region Multi-Jurisdiction Hazard Mitigation Plan, can be found at www.scrkog.org.

Planning for Future Hazards

Branford, North Branford Public Input Needed

By Pam Johnson

Sound Senior Staff Writer

Residents of Branford and North Branford are needed to help build a plan to highlight areas prone to frequent flooding, road undermining, or any other nasty fall-out brought on by weather disasters.

Branford Town Engineer Janice Plaziak and North Branford Town Engineer Kurt Weiss encourage public input during a Monday, May 20 workshop, which will help draft hazard mitigation plans for the area.

The input will help the towns to prepare for major infrastructure problems following future storms, flooding, and other natural disasters. Plaziak and Weiss are hoping for a big turnout at the South Central Regional Council of Governments (SCRCOG) public workshop for both towns, to be held at Branford Fire Department, 45 North Main Street, on May 20 from 6 to 8 p.m.

"We want them to share their experiences and they may have some other concerns where they feel we've been vulnerable, and feel we can mitigate the risks with a project or improvement to

See PLANNING page 19



Readers of *The Sound*, like Cassidy Murphy of Branford, were instrumental in sending us photos showing where hazards were hitting during last October's Superstorm Sandy (this is a view of the Stony Creek public waterfront, on its way to being underwater). On May 20, the public is invited to give input on Branford and North Branford areas they feel should be part of a future hazard mitigation plan, during a South Central Regional Council of Governments workshop. Once drafted, the plan will help both towns quickly receive FEMA funding assistance for hazards created by future natural disasters. Photo by Cassidy Murphy

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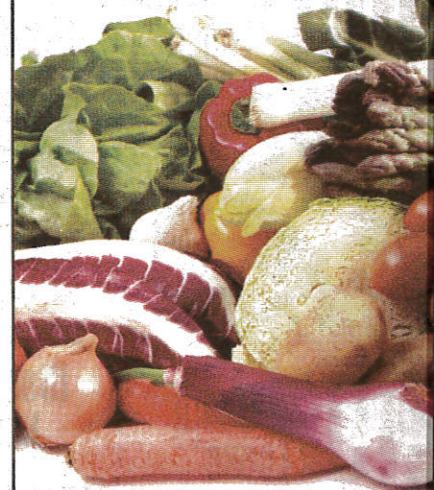
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Planning for Future Hazards

Continued from page 9

a plan or another approach...so that we're prepared. It's really an emergency management type of project," said Plaziak.

She noted towns are required by FEMA to have such plans in order to access hazard mitigation funds available following an emergency.

"The funds available are only for projects that have been identified in your plan," Plaziak explained.

Residents, business owners, and town officials are encouraged to participate in the SCRCOG workshop, one of four being held in the region. The SCRCOG region covers approximately 570,000 people, about one-sixth of the state's population.

SCRCOG was awarded a grant from the Connecticut Department of Energy and Environmental Protection to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven, and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on their own hazard mitigation plans. SCRCOG hired a consulting team led by Jamie Caplan Consulting, LLC, with support from AECOM to develop the Draft Plan.

The purpose of the plan is to reduce the region's vulnerability to natural hazards and provide a comprehensive approach to mitigate potential hazards. Mitigation strategies include planning, policy, regulation change, educational programs, infrastructure projects, and other activities. The adoption and approval of the Multi-Jurisdiction Hazard Mitigation Plan will allow each of the municipalities to be eligible for FEMA mitigation program funding before and after the next disaster strikes, according to a SCRCOG press release.

Further information about SCRCOG and its projects, including the South Central Region Multi-Jurisdiction Hazard Mitigation Plan, can be found at www.scrkog.org.



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Regional Hazard Mitigation Plan North Haven Public Workshop April 29, 2013

[illegible]

Regional Hazard Mitigation Plan
West Haven Public Workshop
May 6, 2013

Sign-In Sheet		
Name	Municipality/Organization	Title
Abdul Quadir	City of West Haven	City Engineer
Eugene Livshits	SCR COG	Planner
Christopher Rappa	SCR COG	Planner
Sharte Key	Resident West Haven Watershed Restoration Committee	
Mary E Head	West Haven Watershed Restoration Committee	Member
Ruth G. Torres	"	"
Carol J. Sater	"	"
Robert Taphin Nan Norrene	22 Second Ave West Haven Residents	
Kevin Dillon	36 Blomst W. Haven	
Connie Eberle	114 Third Ave Ext WH	"
Michael Halprin	West Haven	"
Clint + Melissa Karlin	292 Peck Ave West Haven	
Carol Ludington	92 Third Ave. Ext.	
Jim D'Addio	120 Third Ave Ext	"
Ben Sarzo	City of West Haven	Public Works
Matthew Smith	Southwest Conservation Fish	Grants Coordinator

Regional Hazard Mitigation Plan
Branford Public Workshop
May 20, 2013

Sign-In Sheet		
Name	Municipality/Organization	Title
Cathy Leron	CLTP / Yankee Gas Community	Le
BILL HITCHCOCK	BUILDING OWNER	125-143 MEADOW ST
DIANA STRICKER	BRANFORD EAGLE	REPORTER
Nan Norene	homeowner Linden Shores	
Jim Goggin	homeowner	-
Emel Cordeiro	DIRECTOR - D.P.W.	
Louise La Montagne	Pres. Linden Shore District	President
Dorothy Dockreich	81 Main St 444C	-
Dorothy Maynard	271 Elm St 06405	RTM
Paul Brim	129 Meadow St Branford	
Carey Watt	Independent candidate for first selectwoman - Branford Independent Branford voters coalition	Branford citizen for 42 years - - candidate - title - with the
Anthony D'Amico	Town Branford	1st Selectman
Raymond Dunbar	Town of Branford	EMU For Town POLICE CAPTAIN
Barbara Hutchinson	Branford	resident Branford
STEVE + SUZANNE D'AMICO	Branford	Resident 0 m on the Pt 2
JAY Medlyn	710 Leetes Island Rd BRANFORD	owner Medlyn's FARM
Thomas Grantland	34 Woodvale Rd.	Homeowner
MARI-ELLEN GRANTLAND	34 WOODVALE RD	HOME OWNER
Terence Elton	Town of Branford	Special Projects / Economic Dev

Regional Hazard Mitigation Plan
Branford Public Workshop
May 20, 2013

Name	Municipality/Organization	Title
Peter Anderson	Town of Branford	
Linda Anderson	Linden Shore District	secretary
Michael Pascucci	East Shore District H. H. H.	Director of H. H. H.
OTTO BERGER	TOWN OF BRANFORD (GLO) ^(D. at)	LEAD TRADESMAN
PAT & PETER BROUGHAL	Linden Shore Area	
L. J. ZILINSKAS	22 BAYBERRY LA	
GARY BEEMAN	20 Bayberry Lane	Homeowner
ROBERT HULL	BRANFORD	HOMEOWNER
John Opie	Branford -	Resident
Beth Dock	Branford	Resident/homeowner
Maxine Maiocco	239 Linden Ave Branford	Resident/homeowner
Susan Sansone	16, 18 Hopson Ave 98 Meadow	OWNER
Reid Sansone	16, 18 Hopson Ave 98 Meadow St.	Owner
Paul Muniz	Hatchkiss Grove Shore District	President
MARK Johnson	Hopson Ave	Home
Anthony Thompson	Linden Shore	Planner
Ray Sinatra	4 Bayberry Lane	Homeowner + resident
LINDA Sinatra	4 Bayberry Lane	" "
Walter Gay	231 Linden Ave	Resident/homeowner
Betsy Gay	231 Linden Ave	Resident/homeowner

**Regional Hazard Mitigation Plan
Branford Public Workshop
May 20, 2013**

[illegible]

Regional Hazard Mitigation Plan
Madison Public Workshop
May 23, 2013

Sign-In Sheet		
Name	Municipality/Organization	Title
David Anderson	Town of Madison	Town Planner
Bill Shauver	MPOA Bogardus Dir.	ACTING SECRETARY
JOHN BOWERS	TOWN OF MADISON	DIR. OF EM. MGMT.
Cathy Lezon	CLTP/Yankee Gas	Community Relations
AL GOLDBERG	TOWN OF MADISON	SELECTMAN
Lee Penn	Madison	Resident
JOHN BRADY		Resident
Joan O'Neill	Madison	Cons. Commission
Heather Crawford	Madison	Conservation Commission
Christopher Rappa	SCRCOG	Sustainability Planner
Eugene Livshits	SCRCOG	Regional Planner



SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS

Planning for Our Region's Future

Bethany Branford East Haven Guilford Hamden Madison Meriden Milford
New Haven North Branford North Haven Orange Wallingford West Haven Woodbridge

Carl J. Amento, Executive Director

Which municipality do you live in?

- | | | |
|---|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Bethany | <input type="checkbox"/> Branford | <input type="checkbox"/> East Haven |
| <input type="checkbox"/> Guilford | <input type="checkbox"/> Hamden | <input type="checkbox"/> Madison |
| <input type="checkbox"/> Meriden | <input type="checkbox"/> Milford | <input type="checkbox"/> New Haven |
| <input type="checkbox"/> North Branford | <input type="checkbox"/> North Haven | <input type="checkbox"/> Orange |
| <input type="checkbox"/> Wallingford | <input type="checkbox"/> West Haven | <input type="checkbox"/> Woodbridge |

How concerned are you about the following natural hazards? (Mark appropriate box for each.)

Hazards	High Concern	Moderate Concern	Low Concern
Coastal Erosion			
Coastal Flood			
Dam Failure			
Drought			
Earthquake			
Extreme Temperatures			
Hurricane/Tropical Storm			
Riverine Flood			
Sea Level Rise			
Severe Thunderstorm			
Severe Winter Storm/Nor'easter			
Tornado			
Urban Flood			
Wildfire			

Which of the following categories are most susceptible to natural hazards in your community? (Please rank the community assets in order of vulnerability, 1 being most vulnerable and 6 being least vulnerable.)

Community Assets	Potential Natural Hazard Impact	Order of Vulnerability
People	Loss of life and/or injuries	
Economic	Business interruptions/closures, job losses, etc.	
Infrastructure	Damage/loss of roads, bridges, utilities, schools, etc.	
Cultural/Historic	Damage or loss of libraries, museums, historic properties, etc.	
Environmental	Damage, contamination or loss of forests, wetlands, waterways, etc.	
Governance	Ability to maintain order and/or provide public amenities and services	

How important are the following specific community assets to you? (Check the appropriate box for each asset.)

Community Asset	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Elder-care Facilities					
Schools (K-12)					
Hospitals					
Major Bridges					
Fire/Police Stations					
Museums/Historic Buildings					
Major Employers					
Small Businesses					
Colleges/Universities					
City Hall/Courthouse					
Parks					

What have you done to prepare for or mitigate the consequences of natural hazards?
(Check all that apply.)

Action	Yes	Additional Comments
72-hour Preparedness Kit		
Generator		
Car Preparedness Kit		
Other		


Do you have any comments regarding the Multi-Jurisdiction Hazard Mitigation Plan?

Additional Comments

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE

<http://www.scrkog.org/regional-hazard-mitigation/html>

5/15/13



SCRCOG MULTI-JURISDICTION HAZARD MITIGATION PLAN

Public Workshop
West Haven, 5/6/13

SCRCOG

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PUBLIC WORKSHOPS

PUBLIC WORKSHOPS
Draft South Central Region Hazard Mitigation Plan for
Bethany, Branford, Hamden, Madison, North Branford, North Haven,
Orange, Wallingford, West Haven and Woodbridge

The South Central Regional Council of Governments (SCRCOG) is hosting four public workshops to review and discuss the Draft South Central Region Hazard Mitigation Plan. The purpose of the plan is to reduce the Region's vulnerability to natural hazards. These workshops are an opportunity for the public to hear a presentation of the Draft Plan and to ask questions and provide feedback.


The Public Workshops will be held:
April 29, 2013 at 6:00 PM – North Haven Memorial Library, 17 Elm Street, North Haven, CT 06473
May 6, 2013 at 6:00 PM – West Haven City Hall, Conf. Rm. B, 355 Main Street, West Haven, CT 06516
May 20, 2013 at 6:00 PM – Branford Fire Department, 45 North Main Street, Branford, CT 06405
May 23, 2013 at 6:00 PM – Madison Senior Center, 29 Bradley Road, Madison, CT 06443

Visit our website www.scrcog.org for more details.

SCRCOG

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GETTING STARTED EXERCISE



1. Who lives in West Haven?
2. What buildings, organizations and infrastructure do the people here rely on?
3. What weather related hazards impact these people and/or the buildings, organizations and infrastructure?
4. What can be done to lessen the impact of these hazards and to protect people and property?

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WHAT IS MITIGATION?

- Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters.
- Mitigation is taking action *now*—before the next disaster—to reduce human and financial consequences later (analyzing risk, reducing risk, insuring against risk).
- Effective mitigation requires that we *all* understand local risks, address the hard choices, and invest in long-term community well-being.
- Without mitigation actions, we jeopardize our safety, financial security, and self-reliance.

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MITIGATION EXAMPLES

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness



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MITIGATION PLAN

- FEMA approved mitigation plan – each jurisdiction eligible for mitigation program funding
 - New guidance effective 10/1/12
 - *Local Mitigation Plan Review Guide*
 - *Local Mitigation Planning Handbook*
- 10 Diverse Communities – 1 Multi-Jurisdiction Multi-Hazard Mitigation Plan
- Planning process is as important as the plan itself.
- Public must participate!



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5/15/13

MITIGATION PLANNING SCOPE OF WORK

Key Project Tasks:

1. Planning Process
2. Hazard Identification and Risk Assessment
3. Capability Assessment
4. Mitigation Strategy
5. Plan Maintenance Process
6. Plan Adoption and Approval

Theme:
Municipalities are individual entities with specific characteristics/risks that need to be addressed.

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REGIONAL PROFILE

- Demographics
- Geography
- Climate
- Transportation Network
- Land Use & Development Patterns

Population Density of the Region

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WEST HAVEN PROFILE

- Mix of working and middle class homes. Bedroom community for New Haven.
- University of New Haven located here.
- High unemployment rate.
- 11 square miles – more than half of boundary is water, river, sound or harbor
 - Makes West Haven vulnerable to flooding, severe storms and hurricanes
- ¼ of State's public beaches in West Haven
- City has a rich history – many buildings listed with National Register of Historic Places

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PUBLIC OUTREACH STRATEGY

- "Ground-truthing"
- Consensus building
- Meet FEMA requirements
- Create multiple opportunities to participate
 - Website
 - Advisory Committee
 - Survey
 - Municipality Meetings
 - Public Meetings
 - Review Draft Plan

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SCRCOG.ORG/REGIONAL-HAZARD-MITIGATION.HTML

REGIONAL HAZARD MITIGATION

The South Central Regional Council of Governments has been awarded a grant from the CT Department of Energy and Environmental Protection (DEEP) to develop a Multi-Jurisdiction Hazard Mitigation Plan for Bethany, Branford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, West Haven and Woodbridge. The five additional municipalities in the Region (East Haven, Guilford, Meriden, Milford, and New Haven) have completed or are currently working on Hazard Mitigation Plans. They have been invited to participate in this planning process.

The planning process will adhere to Federal Emergency Management Agency (FEMA) standards. The Plan will address possible natural hazards such as flood, wind, earthquake, and winter storms. The purpose of the Plan is to reduce the Region's vulnerability to natural hazards and provide a comprehensive approach to mitigate any potential inter-jurisdictional hazards. The Hazard Mitigation Plan is a prerequisite for the Region's municipalities to apply for federal and state grants to implement the identified mitigation projects.

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ADVISORY COMMITTEE

Bethany	Clark Hurlburt	Deputy EMD / CERT Coordinator
Branford	Janice Plaziak	Town Engineer
Hamden	Bob Brinton	Town Engineer
Madison	Michael Ott	Town Engineer
	David Anderson	Town Planner
North Branford	Kurt Weiss	Town Engineer
North Haven	Jonathan Bodwell	Town Engineer
Orange	Fred Palmer	Emergency Management Director
Wallingford	Peter Struble	Fire Chief
West Haven	Abdul Quadir	City Engineer
Woodbridge	Warren Connors	Operations Manager

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5/15/13

PUBLIC PARTICIPATION SURVEY IN THE MEDIA

Branford
October 9, 2012

HOME | NEWS | LIVING | SPORTS | COMMUNITY | MULTIMEDIA | CONTACT

Hazard Mitigation Survey Responses Needed

By Pam Johnson
Published 10/09/2012 12:00 AM Updated 10/09/2012 12:20 PM

If you were in Branford on Aug. 27, 2011, you know the answer to the following question: Have you ever experienced or been impacted by a disaster?

That's one of several questions in a current on-line survey in which Town Engineer Janice Plazak hopes many residents will participate.

The South Central Regional Council of Governments (SCRCOG) and its municipalities, including Branford, are working together to prepare a multi-jurisdiction Hazard Mitigation Plan. The plan will identify and assess natural hazard risks (flooding, winter storms, hurricanes, etc.) and provide ways to best minimize or manage those risks. Answers and opinions provided by survey results will help build the plan.


The final plan will be a regional plan, but it will also be specific to Branford, said Plazak.

"The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared," said Plazak.

Plazak noted there will be public outreach meetings sometime after January 2013, but right now, "...people can become involved by responding to the survey, where they can give their opinions and provide information to guide the plan."

The survey can be found at <http://www.scrco.org/regional-hazard-mitigation.html>

There is also a link to the survey through the Town of Branford website, under "News and Events."

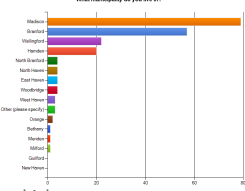


Pam Johnson
Branford hazards created by Tropical Storm Irene in Aug. 2011 included this seawall and beach erosion, with roadway destruction above, on Linden Avenue.

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PUBLIC SURVEY RESULTS – 250 PARTICIPANTS!

- Participation**
 - Madison (38.5%)
 - Branford (27.8%)
 - Wallingford (10.7%)
 - Hamden (9.8%)
- Demographics**
 - Most over age 30
 - 70% college educated or higher
 - 79% household income that exceeds \$70,000
 - 72% South Central Connecticut residence over 20 years
 - 90% own their home, 90% are single family homes

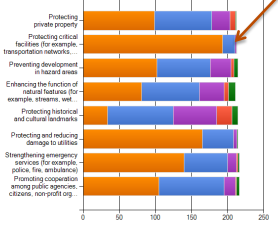


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CITIZEN PRIORITIES

Natural hazards can have a significant impact on a community, but planning for these types of events can help lessen the impacts. The following statements will help us determine citizen priorities regarding planning for natural hazards in your community. Please tell us how important each statement is to you by checking the appropriate circle for each.

91% report protecting critical facilities is most important

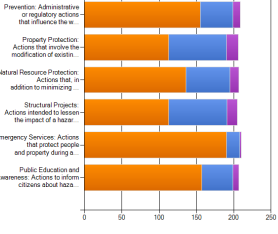


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COMMUNITY-WIDE ACTIVITIES

A number of community-wide activities can reduce risk from natural hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for your community to consider pursuing.

- Emergency Services (91%)
- Public Education and Awareness (76%)
- Prevention (74%)



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NOTED COMMENTS

- Natural Resources:**
 - Maintenance or removal of trees
 - Dredging waterways
 - Repairing seawalls
 - Improving stormwater management systems
- Prevention:**
 - Improved zoning, planning and wetlands regulations
- Structural Projects:**
 - Removal of dams
 - Elevation of structures
 - Burying of power lines
- Public Education:**
 - Increase the amount and frequency of public education on disaster preparedness strategies
- Emergency Services:**
 - Improved methods of communications to citizens
 - Better evacuation and post disaster planning (i.e. accessible information about shelter locations)

Category of Risk Reduction	Number of Responses
Natural Resource Protection	46
Prevention	31
Structural Projects	31
Public Education & Awareness	25
Emergency Services	19
Property Protection	6

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MUNICIPAL MEETINGS: COMMON THEMES



- Hazards**
 - Trees
 - Too many along roadways, can block roads and take out power, can block neighborhoods and make travel to schools difficult
 - Flooding
 - Many places experience flooding during heavy rain or high tide
 - Power Outages
- EOC's in Town Halls, Police Station or Fire Station depending on where generator is located
- Shelter capacity is limited

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WEST HAVEN MUNICIPALITY MEETING SPECIFICS

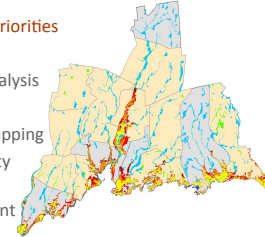
- Officials from **West Haven** were able to identify the details of specific past hazard occurrences such as, impassable roadway flooding at the **Morgan Lane Underpass** that resulted in the drowning of an individual.
- They have given considerable thought to the allocation of hazard mitigation funding, including projects that address **coastal erosion** and the **transfer station located in a floodplain**.



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RISK ASSESSMENT

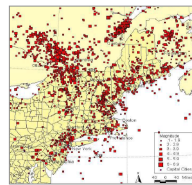
- Helps establish mitigation priorities
- Key Steps
 - ✓ Data Collection and Analysis
 - ✓ Hazard Identification
 - ✓ Hazard Profiles and Mapping
 - ✓ Inventory of Community Assets
 - ✓ Vulnerability Assessment



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RISK ASSESSMENT APPROACH

- Quantitative Analysis
 - Use of best available data and technology
 - Deterministic and probabilistic modeling (Hazus-MH and statistical methods)
- Qualitative Analysis
 - Local knowledge and stakeholder collaboration
 - Priority Risk Index



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HAZARD IDENTIFICATION AND RESEARCH

West Haven residents fed up with frequent backyard floods

Published Monday, November 12, 2012



By Susan Misur, Register Staff
smisur@nhregister.com / Twitter: @nhmsusan

WEST HAVEN — At this rate, Nancy Leverich and Lou Passanelli might as well build an ark.

Any rainstorm in the city means their backyard — what's left of it — goes underwater. It is barely recognizable from its formerly dry condition of a few years ago.

"The water comes in like rapids. It's really strong. ... Birds stand there and get fish out of my yard," Leverich said.

A tiny route for water runoff at the edge of their yard that barely existed when they moved in more than a decade ago has grown into a stream that swells during storms and spreads into abutting yards.



Click to enlarge



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HISTORY OF HAZARD OCCURRENCES

- 453 events listed in NOAA Storm Events Database

Hazard	# of Events	Property Damage	Fatalities	Injuries
Flood	89	\$3,210,000	2	0
Severe Thunderstorm	326	\$1,340,300	2	16
Tornado	15	\$129,825,030	1	87
Winter Storm	20	\$123,000	0	0
Rip Current	2	\$0	2	0
Tropical Storm	1	\$0	1	0
Total	453	\$134,498,330	8	103



- 1989 tornado in Hamden (F4)
 - \$125 million in damages
 - 40 injuries



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HAZARD IDENTIFICATION

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure		
Severe Thunderstorm	Drought		
Severe Winter Storm/ Nor'easter	Flood		
Tornado	Sea Level Rise		

* Climate change will be addressed in terms of its potential effects on the frequency and intensity of natural hazards.



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HAZARD ANALYSIS

- Summary of Major Disaster and Emergency Declarations
- Hazard Profiles
 - Description – Brief descriptions of the hazard, its characteristics, and potential effects
 - Location – Geographic area within the planning area that are susceptible to occurrences of the hazard
 - Extent – Potential strength or magnitude of the hazard
 - Previous Occurrences – Brief summaries of notable occurrences
 - Probability of Future Events – Likelihood of future hazard occurrences in the planning area.
 - * Includes any anticipated effects of climate change

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PREVIOUS TORNADO OCCURRENCES

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REGIONAL STORM SURGE INUNDATION AREAS

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PEAK GROUND ACCELERATION & SIGNIFICANT EARTHQUAKE EPICENTERS

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CRITICAL FACILITIES AND INFRASTRUCTURE

- Provide services essential for life safety and economic viability.
- Must continue to operate during and following a disaster.

Critical Facilities	High Potential Loss Facilities	Infrastructure Systems
Hospitals and medical facilities	Nuclear power plants	Water and wastewater
Police and fire stations	Dams	Power utilities
Emergency operations centers	Military and civil defense installations	Transportation (roads, railways, waterways)
Evacuation shelters	Locations housing hazardous materials	Communication systems/centers
Schools		Energy pipelines and storage
Airports/heliports		

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HAZUS-MH – FEMA’S LOSS ESTIMATION METHODOLOGY

- Our Approach:
 - “Level 2” Analysis - replace FEMA’s national default inventory data with best available local data
- Results:
 - Physical, economic and social impacts will be quantified for the South Central Region as well as each municipal jurisdiction

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RISK ANALYSIS

- Main components for each participating jurisdiction
 - Community assets
 - Vulnerable assets
 - Potential impacts
 - Loss estimates
 - Problem statements
- Methodologies used
 - GIS-based analysis
 - Statistical analysis
 - Hazus-MH loss estimation
- Conclusions on hazard risk

POTENTIAL IMPACTS AND LOSS ESTIMATES

- Dollar value of at-risk assets (total exposure)
 - Parcels
 - Critical facilities
 - Historic assets
- Detailed loss estimates from Hazus-MH (FEMA loss estimation methodology)
 - Flood
 - Hurricane wind
 - Hurricane storm surge
 - Earthquake
- Annualized losses

SEVERE WINTER STORM/NOR'EASTER

- 21 historical events since 1996
 - No recorded fatalities
 - \$2.3 million in damages
 - Heavy snowpack has resulted in multiple roof collapses
 - Major impacts to electric utilities, transportation, and communications networks
 - Coastal flooding associated with Nor'easters

PRI Category	Risk Level
Location	Large
Probability	Highly Likely
Potential Impact	Critical
Warning Time	More than 24 hours
Duration	1 to 7 days

Anticipated effects of climate change:
 Shorter winters with fewer cold days and more precipitation (but less precipitation falling as snow and more as rain). Will result in reduced snowpack, earlier breakup of winter ice on lakes and rivers, and earlier spring snowmelt resulting in earlier peak river flows.

FLOOD HAZARD AREAS IN WEST HAVEN

STORM SURGE AREA IN WEST HAVEN

PRIORITY RISK INDEX (PRI)

- Helps evaluate and prioritize hazards based on five factors:
 - Location (geographic area affected)
 - Probability of future events
 - Impact (potential casualties, damage or loss)
 - Warning time
 - Duration of event
- Will be used in combination with vulnerability assessment results to identify most significant hazard risks
- Based on best available data, and YOUR input

FINAL PRI RESULTS

HAZARD	PRI Value
Severe Winter Storm/Nor'easter	3.3
Hurricane/Tropical Storm	3.2
Coastal Flood	3.0
Riverine Flood	2.8
Tornado	2.7
Coastal Erosion	2.7
Sea Level Rise	2.7
Extreme Temperatures	2.4
Severe Thunderstorm	2.4
Urban Flood	2.4
Wildfire	2.3
Dam Failure	2.2
Drought	2.2
Earthquake	2.2

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HAZARDS OF CONCERN IN WEST HAVEN

- **Tree-related hazards** are cited as the City's biggest concern, particularly the downing of electric and communication lines during hurricane/tropical storm and severe winter storm events.
- **Urban flooding** is a widespread concern with major stormwater drainage issues in many localized areas across the City that are exacerbated by riverine and coastal sources of flood inundation. Backflow from the existing stormwater systems caused by bottlenecks and inadequate detention/retention areas.
 - Need to update stormwater management/master drainage study plans
- **Coastal flooding** (storm-related and often resulting from high tides) and sea level rise.
- **Coastal erosion** – constant, recurring erosion along shoreline.

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AREAS OF CONCERN IN WEST HAVEN

- Morgan Lane @ Railroad Underpass
– frequent and severe flash flooding
- Allingtown Area – frequent urban flooding due to inadequate drainage and backflow from existing stormwater system.
- West Main Street @ Painter Drive – urban flooding problems
 - Elm Street drainage project alleviated some problems
- West Spring Street (near VA Hospital) – flooding caused by runoff from VA Hospital site, impacts public housing.
- Campbell Ave. & Washington Ave. @ Railroad Underpasses – subject to railway and intersection flooding



A local resident is rescued from her home by West Haven firefighters along Morse Street in West Haven, Conn. on Sunday August 28, 2011. Photo: Christian Abraham

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VULNERABLE COMMUNITY ASSETS IN WEST HAVEN

- Existing sewage treatment plant located in the floodplain, with a history of flooding issues.
- High School is located in floodplain of Cove River.
 - Facility houses City's mainframe computer system.
- Evacuation routes are threatened by flooding.
- Surfside Senior Housing (200 Oak Street) and Morrissey Manor Senior Housing (Bayshore Drive) located along coast and have required evacuation.



The effects of combined sewer overflow are seen on Platt Avenue in West Haven, Connecticut, April 23, 2006. (Christopher Zurcher, CT environmental headlines)

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MITIGATION TECHNIQUES

1. **Prevention**
 - Typically government programs – building codes, floodplain regulations
2. **Property Protection**
 - Modification of buildings, building elevation, seismic retrofit
3. **Natural Resource Protection**
 - Protect natural resources, land acquisition, floodplain protection
4. **Structural Projects**
 - Modify environment with construction, dams, storm sewers, beach nourishment
5. **Emergency Services**
 - Warning systems, sandbagging, evacuation planning
6. **Public Education and Awareness**
 - Outreach projects, hazard mapping, real estate disclosure

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MITIGATION ACTIONS SPECIFIC TO WEST HAVEN



Waves from Long Island Sound caused by Hurricane Irene pushed water up to Thomas Street, flooding it, in West Haven, Conn. on Sunday August 28, 2011. Photo: Christian Abraham

- Buy properties prone to repetitive flooding
- Beach sand and dune restoration
- Improve bridge and channel on Cove River @ Painter Drive and West Main Street
- Construct Cove River Channel and retention basins to reduce flooding at Greta Street & West Spring Street
- Install mechanized tide gates at Captain Thomas Blvd. on Cove River

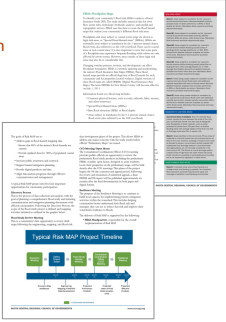
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5/15/13

FLOODPLAIN MAPPING TOOLKIT



- **New Resources for Public Education**
 - Fact Sheet
 - PowerPoint Presentation
- **Non-technical Information**
 - About the NFIP
 - FEMA floodplain maps
 - Floodplain mapping process
 - Risk MAP
 - Procedures for map changes
- **Target audience**
 - Property owners
 - To be distributed or delivered by local community officials



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PLAN MAINTENANCE PROCESS

- **Develop a plan to update and maintain the mitigation plan on a regular basis.**
 - Required to update it every 5 years for State and FEMA review.
- **Include a plan to implement the mitigation plan strategy.**




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PLAN ADOPTION AND APPROVAL

- All SCRCOG participating jurisdictions will formally adopt the plan.
- SCRCOG will formally adopt the plan.
- CT Department of Energy and Environmental Protection (CT DEEP) will review and approve the plan.
- FEMA will review and approve the plan.

Draft plan available for review and feedback on the www.scrkog.org website in several months.

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THANK YOU

Jamie Caplan

SCRCOG

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Appendix H: Floodplain Mapping Toolkit

Floodplain Mapping Fact Sheet

About the National Flood Insurance Program

Since standard homeowners insurance does not cover flooding, it is important to have protection from the floods associated with hurricanes, tropical storms, heavy rains, and other conditions that impact the United States.

In 1968, Congress created the National Flood Insurance Program (NFIP) to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.

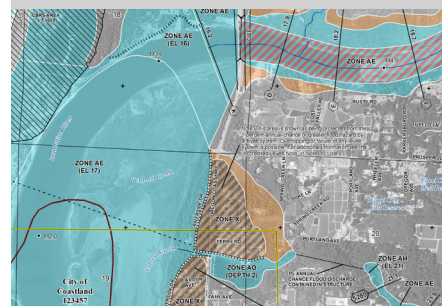
The NFIP is administered by the Federal Emergency Management Agency (FEMA), which works with private insurance companies to offer flood insurance to property owners and renters. In order to qualify for flood insurance, a community must join the NFIP and agree to enforce sound floodplain management standards.

Flood insurance rates are set and do not differ from company to company or agent to agent. These rates depend on many factors, including the date and type of construction of the building, along with its level of risk. The level of risk is based on the flood maps for your area. This topic is covered in more detail later in this fact sheet. And, a lender can require flood insurance, even if it is not federally required.

Homes and buildings in high-risk flood areas with mortgages from federally regulated or insured lenders are required to have flood insurance. These areas have a 1% or greater chance of flooding in any given year, which is equivalent to a 1 in 4 chance of flooding during a 30-year mortgage.

Homes and businesses located in moderate to low risk areas that have mortgages from federally regulated or insured lenders are typically not required to have flood insurance. However, flood insurance is highly recommended because anyone can be financially vulnerable to floods. People outside of high-risk areas file over 20% of NFIP claims and receive one-third of disaster assistance for flooding. When it is available, disaster assistance is typically a loan you must repay with interest.

In addition to making flood insurance available, the NFIP also supports local communities in their efforts to reduce the risk and consequences of serious flooding. Additional information about the NFIP, including Frequently Asked Questions, is available at: <http://www.floodsmart.gov>



FEMA Floodplain Maps

To identify a community's flood risk, FEMA conducts a Flood Insurance Study (FIS). The study includes statistical data for river flow, storm tides, hydrologic/hydraulic analyses, and rainfall and topographic surveys. FEMA uses this data to create the flood hazard maps that outline your community's different flood risk areas.

Floodplains and areas subject to coastal storm surge are shown as high-risk areas, or "Special Flood Hazard Areas" (SFHAs). SFHAs are essentially areas subject to inundation by the 1-percent-annual-chance flood event, also referred to as the 100-year flood. These can be coastal areas or non-coastal areas. It is also important to note that some parts of a floodplain may experience frequent flooding while others are only affected by severe storms. However, areas outside of these high-risk areas may also be at considerable risk.

Changing weather patterns, erosion, and development can affect floodplain boundaries. FEMA is currently updating and modernizing the nation's Flood Insurance Rate Maps (FIRMs). These flood hazard maps provide an official depiction of flood hazards for each community and for properties located within it. Digital versions of these flood maps are called DFIRMs (Digital Flood Insurance Rate Maps). The latest DFIRMs for the South Central Connecticut region will become effective on July 1, 2013.

Information found on a flood map includes:

- Common physical features, such as roads, railroads, lakes, streams, and other waterways
- Special Flood Hazard Areas (SFHAs)
- Base flood elevations (BFEs) or flood depths
- Areas subject to inundation by the 0.2-percent-annual-chance flood event (also referred to as the 500-year flood)

The SFHAs shown on a flood map are given a zone label which characterizes the flood hazard and flood insurance implications. The most common flood zone definitions are shown below, divided into three categories: high risk areas, moderate to low risk areas, and undetermined risk areas.

Floodplain Mapping Process and Risk MAP

FEMA's Risk MAP (Risk Mapping, Assessment and Planning) program is aimed at reducing losses of life and property through effective local mitigation activities that are supported by best current flood hazard data, risk assessments, and mitigation planning. Risk MAP information and tools help communities develop informed mitigation plans that will reduce losses from natural hazards.

The goals of Risk MAP are to:

- Address gaps in flood hazard mapping data

HIGH RISK AREAS

Zone A: Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements apply.

Zones AE: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. Mandatory flood insurance purchase requirements apply.

Zone AH: Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1-3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements apply.

Zone AO: Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1-3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase requirements apply.

Zone V: Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements apply.

Zones VE: Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm induced velocity wave action. BFEs derived from detailed hydraulic analyses are shown within these zones. Mandatory flood insurance purchase requirements apply.

MODERATE TO LOW RISK AREAS

Zone B and X (shaded): Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.

Zone X: Areas identified in the community FIS as areas of moderate or minimal hazard from the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in the community's FIS. The failure of a local drainage system creates areas of high flood risk within these rate zones. Flood insurance is available in participating communities but is not required by regulation in these zones.

UNDETERMINED RISK AREAS

Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- Ensure that 80% of the nation's flood hazards are current
- Provide updated data for 100% of populated coastal areas
- Increase public awareness and outreach
- Support hazard mitigation planning
- Provide digital products and data
- Align risk analysis programs through effective communication and management

A typical Risk MAP project involves four important opportunities for community participation:

Discovery Process

This is the process of data collection and analysis with the goal of planning a comprehensive flood study and initiating communication and mitigation planning discussions with affected communities. Following the Discovery Process, the scope of the flood study project is defined and mapping activities initiated as outlined in the graphic below.

Flood Study Review Meeting

This is a community's first opportunity to review draft maps following the engineering, mapping, and flood risk data development phase of the project. This allows FEMA to address any major concerns with the study results before official "Preliminary Maps" are issued.

CCO Meeting/Open House

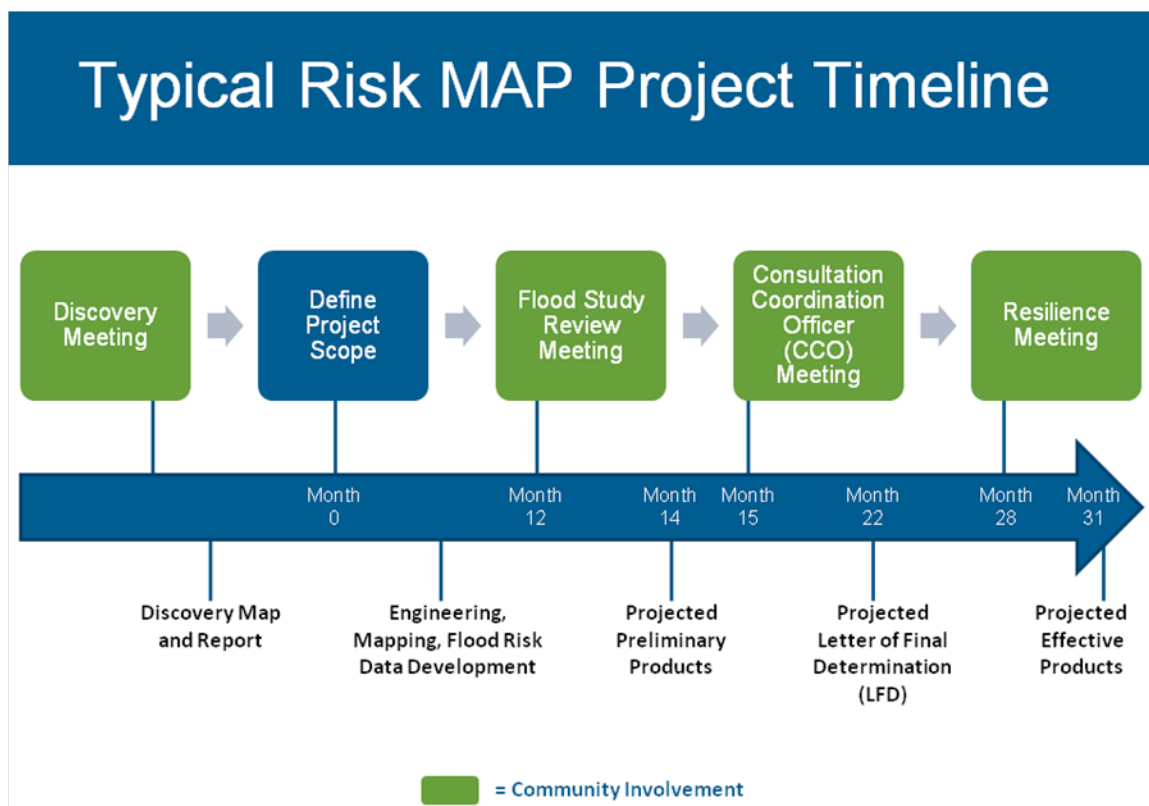
The Consultation Coordination Officer (CCO) meeting provides public officials an opportunity to review the preliminary flood study products including the preliminary FIRM. A public open house, designed to assist residents locate their properties on the preliminary maps, will be held shortly after the CCO meetings. This phase of the project begins the 90-day comment and appeal period. Following the review and resolution of submitted appeals, a final DFIRM and FIS report will be published approximately six months after the final determination in both paper and digital format.

Resilience Meeting

The purpose of the Resilience Meeting is to continue to build local capacity for implementing priority mitigation activities within the watershed. This includes helping communities better understand their flood risk and strategies they can use to reduce that risk and improve their watershed's resilience to floods.

The delivery of Risk MAP is supported by the following:

- **FEMA Headquarters:** responsible for the overall implementation of Risk MAP
- **FEMA's 10 Regional Offices:** manage flood map production for their geographic areas and help implement the Risk MAP outreach strategy



- **Local communities, regional entities, Tribes, and State agencies:** help ensure updated mapping information is used to make informed decisions regarding risk
- **Program management contractors:** provide general oversight for Risk MAP, help integrate the activities of other FEMA contractors, design and implement a nationwide outreach strategy, and foster partnerships with key FEMA stakeholders
- **Production and technical services contractors:** work with local communities and Cooperating Technical Partners (CTPs) to update flood hazard data and maps
- **Customer and data services contractor:** provides the digital platform for sharing flood mapping products

Procedures for Changes to Mapping Products

Appeals Process

Leading up to the 90-day comment and appeal period, FEMA formally presents copies of the preliminary maps in paper and digital formats to community officials at a county meeting called a CCO meeting, as described above. At this meeting the map publication and adoption process is explained in detail. FEMA encourages each community to then publicize and display the maps. A scheduled public meeting allows local residents to view the maps, ask questions, and find out more information about their flooding risk.

After the formal meetings are held, the following materials are prepared:

- Listings of BFEs shown on the preliminary maps
- A legal notice, called a Proposed Rule, which is published in the Federal Register
- Public notices announcing the start of the appeal period and the posting of the BFE listings, which are published twice in local newspapers with wide circulation

In addition, FEMA mails letters notifying community officials of the new or modified BFEs shown on the new maps. These letters are referred to as “proposed flood elevation determination letters.” FEMA encourages community officials to distribute this information to residents and other key stakeholders.

The 90-day appeal period begins on the date of the second public notice in the local newspaper. During this 90-day period, any individual property owner who wishes to file an objection to the BFEs or other information on the preliminary map or in the preliminary FIS report may do so. This is accomplished by submitting an appeal or protest along with the required scientific or technical

data to the community official designated to manage this process. Examples of support data and documentation for appeals may include maps and other support data certified by a Registered Professional Engineer or a Licensed Land Surveyor reflecting existing conditions. Maps prepared by an authoritative source, such as a Federal agency—the U.S. Army Corps of Engineers (USACE), U.S. Geological Survey (USGS), U.S. Bureau of Reclamation (USBR)—or a state department of highways or transportation, are acceptable without certification as long as the sources and dates of the maps are identified. The designated community official reviews each appeal and protest to determine whether the information or data submitted is sufficient to forward to FEMA.

Letter of Map Revision (LOMR)

A Letter of Map Revision (LOMR), issued to the Chief Elected Official (CEO) of the community, has the effect of revising the Flood Insurance Rate Map (FIRM) without physically revising and reprinting the affected FIRM panel(s). LOMRs are generally issued within 90 days of the date all required data are received. All requests for map revisions should be submitted through the CEO of the community, because it is the community that must adopt any changes to the FIRM.

The Floodplain Managers user group on FEMA’s Flood Hazard Mapping website at <http://www.fema.gov/floodplain-managers> includes links to the MT-2 application forms and the cost information required to support a LOMR.

Letter of Map Amendment (LOMA)/Letter of Map Revision Based on Fill (LOMR-F)

If you would like FEMA to make an official determination regarding the location of your house relative to the Special Flood Hazard Area (SFHA), you may submit certain property and elevation information and request that FEMA issue a Letter of Map Amendment (LOMA), if your house is located on natural ground, or a Letter of Map Revision Based on Fill (LOMR-F), if your house has been elevated above the base flood by the placement of earthen fill. If you have a completed Elevation Certificate, certified by a licensed land surveyor or registered professional engineer, you may submit that as part of your application. A property is considered outside the SFHA when the FIRM already shows it to be clearly outside the SFHA. For cases in which the determination for the property is uncertain, elevation data must be submitted for a definitive determination.

Specific information required to support a LOMA or LOMR-F request, including the MT-1 application forms that must be used for all such requests, is available on FEMA’s

Flood Hazard Mapping website at <http://www.fema.gov/library/viewRecord.do?id=1492>. Upon receipt of the required property and elevation information and completed application forms, FEMA will make an official determination regarding the location of your house relative to the SFHA. If FEMA issues a LOMA or LOMR-F that determines your house is not in the SFHA, the mandatory flood insurance requirements of the NFIP would no longer apply. However, even if FEMA issues a LOMA or LOMR-F to remove the house from the SFHA, thus eliminating the Federal requirement for flood insurance, your lender still retains the right to require flood insurance as a condition of the loan. Therefore, you should contact your lender to determine whether it will waive the flood insurance requirement if a LOMA or LOMR-F is issued. Even if your lender still requires flood insurance, flood insurance premiums are lower for structures that have been removed from the SFHA by issuance of a LOMA or LOMR-F.

If FEMA issues a LOMA or LOMR-F, your lender agrees to waive the flood insurance requirement, and you choose to cancel your flood insurance policy, you may be entitled to a refund of the premium paid for the current policy year if no claim is pending and no claim has been paid during the current policy year. To cancel your policy, you must submit a copy of the LOMA or LOMR-F and the waiver from your lender to the insurance agent or broker who services your policy. A completed cancellation form with the LOMA or LOMR-F and the waiver must be submitted by the agent to the NFIP or insurance company licensed by the NFIP to sell Federal flood insurance. If FEMA issues a LOMA or LOMR-F that removes your property from a flood zone in which flood insurance is federally required, this does not mean that the risk of flooding has been eliminated.

It is important to note again that floods do occur in areas designated as moderate to low flood risk. People outside of high-risk areas file over 20% of NFIP claims and receive one-third of disaster assistance for flooding. Due to these potential flood risks, FEMA recommends that you maintain flood insurance coverage, even if you are no longer required to do so by law.

For more information, please visit the following websites:

FEMA

<http://www.fema.gov/about>

This page provides background information on FEMA, including its mission, statutory authority, and history.

FEMA Map Service Center

<http://www.msc.fema.gov>

The FEMA Map Service Center (MSC) is the official government distribution center for digital flood hazard mapping products created by FEMA in support of the National Flood Insurance Program (NFIP).

FEMA Region I

<http://www.fema.gov/region-i>

From its office in Boston, Massachusetts, FEMA Region I works in partnership with the emergency management agencies of New England to prepare for, respond to, and recover from all hazards.

FloodSmart

<http://www.floodsmart.gov>

FloodSmart is the official website of the National Flood Insurance Program (NFIP).

Strategic Alliance for Risk Reduction (STARR)

<http://www.starr-team.com>

STARR is a partner with FEMA working with FEMA Regions I, V, VII, and X. Information specific to Connecticut can be found under FEMA Region Workspaces > Region I.

List of Acronyms

BFE	Base Flood Elevation
CCO	Consultation Coordination Officer
CEO	Chief Elected Official
CTP	Cooperating Technical Partners
DFIRM	Digital Flood Insurance Rate Map
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
LOMA	Letter of Map Amendment
LOMR	Letter of Map Revision
LOMR-F	Letter of Map Revision Based on Fill
NFIP	National Flood Insurance Program
Risk MAP	Risk Mapping, Assessment and Planning
SFHA	Special Flood Hazard Area

Floodplain Mapping Fact Sheet

South Central Regional Council of Governments

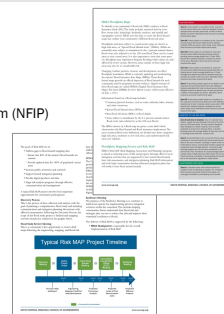
May 8, 2013



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Overview

- **Target audience of fact sheet**
 - Property owners
 - Other interested parties
- **Content/sections**
 - About the National Flood Insurance Program (NFIP)
 - FEMA floodplain maps
 - Risk MAP
 - Floodplain mapping process
 - Procedures for map changes



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About the NFIP

- **Homeowners insurance does not cover flooding**
- **Congress created the NFIP in 1968**
- **Offers insurance to homeowners, renters and business owners**
 - Community must participate in the NFIP
- **Participating communities adopt and enforce ordinances**
 - Must meet or exceed FEMA requirements
- **Flood insurance rates are set**
 - Rates do not differ from company to company or agent to agent
 - Rates are based on many factors, including level of flood risk



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About the NFIP

- **Buildings in high-risk areas with mortgages from federally regulated or insured lenders are required to have flood insurance**
 - A lender can also require flood insurance even if it is not federally required
- **Flood insurance is highly recommended in moderate-to-low risk areas**
 - 20% of flood insurance claims come from outside high-risk areas
 - 1/3 of disaster assistance for flooding goes to buildings outside high-risk areas

The average flood insurance policy costs about \$600 per year.



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FEMA Floodplain Maps

- **Flood Insurance Studies (FISs)**
 - Includes data for river flow, storm tides, hydrologic/hydraulic analyses, and rainfall and topographic surveys
- **Flood Insurance Rate Maps (FIRMs)**
 - Official depiction of flood hazards at the community level
 - Shows flood risk by "zones"
 - Digital versions are called DFIRMs
- **Special Flood Hazard Areas (SFHAs)**
 - 1-percent-annual-chance or "100-year" floods
 - Can be coastal or non-coastal



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FEMA Floodplain Maps

HIGH RISK AREAS

Zone A: Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements apply.

Zone AE: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. Mandatory flood insurance purchase requirements apply.

Zone AH: Areas subject to inundation by the 1-percent-annual-chance shallow flooding (usually sheet flow or ponding) where average depths are 1.5 feet. BFEs derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements apply.

Zone AO: Areas subject to inundation by the 1-percent-annual-chance shallow flooding (usually sheet flow or ponding) where average depths are 1.5 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase requirements apply.

Zone AV: Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm induced waves. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements apply.

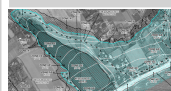
Zone VE: Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm induced waves. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements apply.

MODERATE TO LOW RISK AREAS

Zone B and Zone X (shaded): Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate those floodplains of lesser hazard, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.

Zone X: Areas identified in the community FIS as areas of moderate or minimal hazard from the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in the community FIS. The failure of a local drainage system creates areas of high flood risk within these zone zones. Flood insurance is available in participating communities but is not required by regulation in these zones.

Zone D: Unshaded areas where flood hazards are unassessable, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.



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Risk MAP

- Risk MAP stands for Risk "Mapping, Assessment and Planning"
- Nationwide program administered by FEMA
- Focuses on reducing losses of life and property through effective local mitigation activities
 - Best current flood hazard data
 - Risk assessments
 - Mitigation planning



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FEMA Floodplain Maps

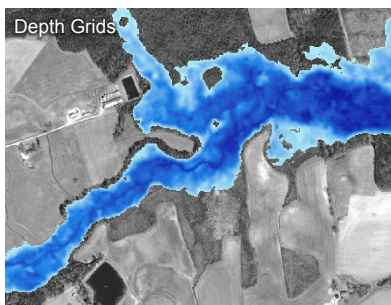


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FEMA Floodplain Maps

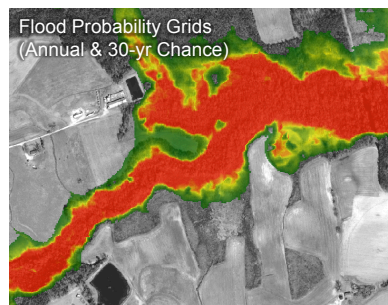


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FEMA Floodplain Maps

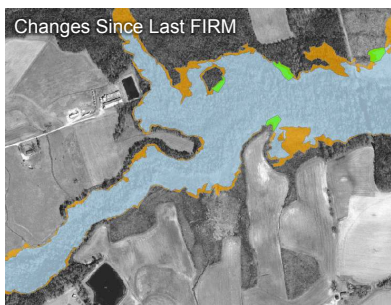


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FEMA Floodplain Maps



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Risk MAP Goals

- Address gaps in flood hazard mapping data
 - Ensure that 80% of the nation's flood hazards are current
 - Provide updated data for 100% of populated coastal areas
- Increase public awareness and outreach
- Support hazard mitigation planning
- Provide digital products and data
- Align risk analysis programs through effective communication and management



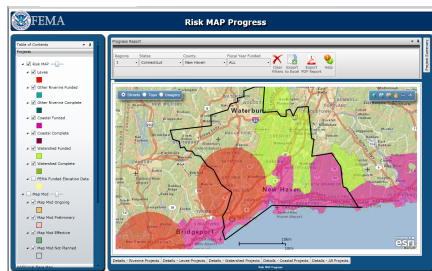
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Risk MAP Progress

www.riskmapprogress.com



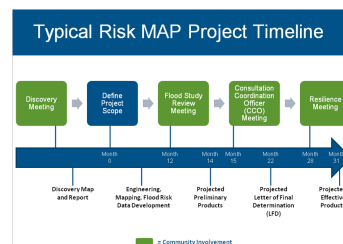
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Floodplain Mapping Process

- Emphasis on community involvement



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Procedures for Map Changes

Appeals process

- During a 90-day period, an individual property owner who wishes to file an objection to information on a preliminary map or in a preliminary FIS report may do so

- Details provided in Fact Sheet

Letter of Map Revision (LOMR)

- Has the effect of revising the FIRM without physically revising and reprinting the affected FIRM panel(s)
- Details provided in Fact Sheet



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Procedures for Map Changes

Letter of Map Amendment (LOMA)

- An official determination regarding the location of your house relative to the SFHA if your house is located on natural ground
- Details provided in Fact Sheet

Letter of Map Revision Based on Fill (LOMR-F)

- An official determination regarding the location of your house relative to the SFHA if your house has been elevated above the base flood by the placement of earthen fill
- Details provided in Fact Sheet

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For More Information

- About the NFIP: www.floodsmart.gov
- About FEMA: www.fema.gov/about
- About FEMA flood maps: www.msc.fema.gov
- About FEMA Region I: www.fema.gov/region-i
- Floodplain Managers user group: www.fema.gov/floodplain-managers



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Appendix I: Capability Assessment Questionnaire

Your Name and Jurisdiction: _____

Please complete the following questionnaire. The information you provide will be used in the Capability Assessment portion of the Hazard Mitigation Plan. Please bring the completed questionnaire to the December 5, 2012 Advisory Committee, or you may email it to jamie@jamiecaplan.com. We have some of this data based on the municipality meetings but want to make sure we gather everything required.

PLANNING AND REGULATORY CAPABILITIES

Does your jurisdiction have these plans in place and do they include natural hazards?

Plans	Yes/No	Natural Hazards Included? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive Master Plan		
Capital Improvements Plan		
Economic Development Plan		
Local Emergency Operations Plan		
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan		
Community Wildfire Protection Plan		

Return Completed Questionnaire to Advisory Committee Meeting on December 5, 2012

Disaster Recovery Plan		
Coastal Zone Management Plan		
Climate Change Adaptation Plan		
Building Code, Permitting	Yes/No	Are codes adequately enforced?
Building Code		
Fire Department ISO Rating		
Zoning Ordinance		
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is it adequately enforced?
Zoning Ordinance		
Subdivision Ordinance		
Natural Hazard Specific Ordinance (stormwater, wildfire, etc.)		
Acquisition of Land for Open Space and Recreation		

Return Completed Questionnaire to Advisory Committee Meeting on December 5, 2012

Do you have recommendations for expanding and improving these capabilities toward reducing risk?

ADMINISTRATIVE AND TECHNICAL RESOURCES

What skills does your jurisdiction have and can they be used for mitigation planning?

Administration	Yes/No	Describe capability and is it coordinated effectively?
Planning Commission		
Maintenance Programs to Reduce risk, i.e. tree trimming, clearing drainage systems		
Mutual Aid Agreements		
Staff	Yes/No	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation?
Chief Building Official		
Floodplain Manager		
Emergency Manager		
Community Planner		

Civil Engineer		
GIS Coordinator		
Technical	Yes/No	Describe capability and has it been used to mitigate risk?
Warning Systems i.e. reverse 911		
Hazard data and information		
Hazus Analysis		
How can these capabilities be expanded and improved to reduce risk?		

FINANCIAL RESOURCES

Is your jurisdiction eligible for or have access to the following funding sources for hazard mitigation?

Funding Resource	Access/Eligibility Yes/No	Has the funding resource been used in past for mitigation activities? Please explain.
Capital improvements project funding		
Authority to levy taxes for specific purposes		

Return Completed Questionnaire to Advisory Committee Meeting on December 5, 2012

Fees for water, sewer, gas, or electric services		
Impact fees for development		
Storm water utility fee		
Community Development Block Grant		
Federal Funding		
State Funding		
How can these capabilities be expanded and improved to reduce risk? 		

EDUCATION AND OUTREACH CAPABILITIES

What education and outreach programs are currently in place to communicate hazard-related information?

	Yes/No	Describe the program and how it relates to disaster resilience. Could the program or organization assist help implement mitigation measures?
CERT Team		

Public Education Program		
Natural Disaster Program in Schools		
Citizen Group or Nonprofit Focused on Emergency Preparedness		
Public-Private Partnership for Disaster Related Issues		

FLOODPLAIN MANAGEMENT

Floodplain Administrator or Manager Name, Title and Department
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)? Is a CAV or CAC scheduled or needed?
Does the local floodplain ordinance exceed FEMA minimum requirements in any way? Please list any higher regulatory standards currently in place, including but not limited to the following:

Return Completed Questionnaire to Advisory Committee Meeting on December 5, 2012

- Require freeboard (elevation requirements higher than the base flood)
- Require soil tests or engineered foundations
- Require compensatory storage for new developments
- Prohibit or minimize new development in floodplain areas
- Prohibit or enforce higher standards for critical facilities subject to flood hazards
- Provision for cumulative substantial damage/improvement requirements
- Provisions that protect natural and beneficial functions of floodplains

Please describe any other floodplain management activities your jurisdiction performs that go beyond FEMA minimum requirements. This includes activities such as drainage system maintenance, flood warning systems, or any public education or outreach activities related to promoting flood risk awareness, risk reduction, and the availability of flood insurance.

SAFE GROWTH QUESTIONS

Now, please indicate how strongly you agree or disagree with the following statements as they relate to your jurisdiction's current plans, policies and programs for guiding future community growth and development.

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Neutral 4 = Somewhat Agree 5 = Strongly Agree

Land Use					
1.	The comprehensive plan includes a future land use map that clearly identifies natural hazard areas.	1	2	3	4 5
2.	Current land use policies discourage development and/or redevelopment within natural hazard areas.	1	2	3	4 5

3. The comprehensive plan provides adequate space for expected future growth in areas located outside of natural hazard areas.	1	2	3	4	5
Transportation					
4. The transportation element limits access to natural hazard areas.	1	2	3	4	5
5. Transportation policy is used to guide future growth and development to safe locations.	1	2	3	4	5
6. Transportation systems are designed to function under disaster conditions (e.g., evacuation, mobility for fire/rescue apparatus, etc.).	1	2	3	4	5
Environmental Management					
7. Environmental features that serve to protect development from hazards (e.g., wetlands, riparian buffers, etc.) are identified and mapped.	1	2	3	4	5
8. Environmental policies encourage the preservation and restoration of protective ecosystems.	1	2	3	4	5
9. Environmental policies provide incentives to development that is located outside of protective ecosystems.	1	2	3	4	5
Public Safety					
10. The goals and policies of the comprehensive plan are related to and consistent with those in the Mecklenburg County Multi-jurisdictional Hazard Mitigation Plan.	1	2	3	4	5

Return Completed Questionnaire to Advisory Committee Meeting on December 5, 2012

11. Public safety is explicitly included in the plan's growth and development policies.	1	2	3	4	5
12. The monitoring and implementation section of the plan covers safe growth objectives.	1	2	3	4	5
ZONING ORDINANCE					
13. The zoning ordinance conforms to the comprehensive plan in terms of discouraging development and/or redevelopment within natural hazard areas.	1	2	3	4	5
14. The ordinance contains natural hazard overlay zones that set conditions for land use within such zones.	1	2	3	4	5
15. Rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use.	1	2	3	4	5
16. The ordinance prohibits development within, or filling of, wetlands, floodways, and floodplains.	1	2	3	4	5
SUBDIVISION REGULATIONS					
17. The subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas.	1	2	3	4	5
18. The regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources.	1	2	3	4	5
19. The regulations allow density transfers where hazard areas exist.	1	2	3	4	5
CAPITAL IMPROVEMENT PROGRAM AND INFRASTRUCTURE POLICIES					

20. The capital improvement program limits expenditures on projects that would encourage development and/or redevelopment in areas vulnerable to natural hazards.	1	2	3	4	5
21. Infrastructure policies limit the extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards.	1	2	3	4	5
22. The capital improvements program provides funding for hazard mitigation projects identified in the Mecklenburg County Multi-jurisdictional Hazard Mitigation Plan.	1	2	3	4	5
OTHER					
23. Small area or corridor plans recognize the need to avoid or mitigate natural hazards.	1	2	3	4	5
24. The building code contains provisions to strengthen or elevate new or substantially improved construction to withstand hazard forces.	1	2	3	4	5
25. Economic development and/or redevelopment strategies include provisions for mitigating natural hazards or otherwise enhancing social and economic resiliency to hazards.	1	2	3	4	5

Appendix J: Mitigation Action Plan Worksheets

From: Christopher Rappa
Sent: Tuesday, August 20, 2013 8:50 AM
To: Clark Hurlburt (clarkhurlburt@sbcglobal.net)
Cc: Eugene Livshits
Subject: Mitigation Actions - Bethany

Good Morning Clark: Jamie and Darrin developed several mitigation actions for Bethany, which are based on the problem statements in the Risk Analysis chapter. These actions (see attached) are included in the draft plan that was released for public comment this morning. Please review these actions and provide us with feedback before the public comment period ends on September 5th at noon. Thanks, Chris Rappa

Christopher J. Rappa Sustainability Planner
South Central Regional Council of Governments
127 Washington Avenue, 4th Floor West
North Haven, CT 06473
(203) 466-8610

Bethany Mitigation Actions

Bethany Mitigation Action #1	Hazard Tree Management
Project Description	In coordination with private utility operators, develop and adopt an ordinance to require the routine inspection, maintenance and removal (if necessary) of hazardous trees along public rights of way which pose potential threats to power distribution lines.
Mitigation Goal	Trees
Mitigation Category	Local Plans and Regulations
Hazard(s) Addressed	Hurricane/Tropical Storm (Wind); Severe Winter Storm/Nor'easter
Estimated Cost	N/A (local staff time)
Potential Funding Source	N/A
Lead Department	Planning and Zoning Commission, with support from Tree Warden
Implementation Schedule	July 2015

Bethany Mitigation Action #2	Miller Road Culvert Expansion
Project Description	Increase capacity of Miller Road Culvert to eliminate future and repetitive damages and loss of service to roadway and provide increased conveyance of stormwater during peak flows.
Mitigation Goal	Flood Hazards
Mitigation Category	Structure and Infrastructure Projects
Hazard(s) Addressed	Flooding
Estimated Cost	TBD
Potential Funding Source	CT DOT (if eligible for pilot program funding); HMGP in combination with PA 406 (post-disaster)
Lead Department	Public Works
Implementation Schedule	Immediately following next blowout event, if eligible and proven cost-effective

Bethany Mitigation Action #3	Town Hall Generator
Project Description	Install electric generator and quick-connect transfer switch to provide backup emergency power for Town Hall.
Mitigation Goal	Public Awareness and Preparedness
Mitigation Category	Structure and Infrastructure Projects
Hazard(s) Addressed	Power outages due to all natural disasters
Estimated Cost	\$50,000
Potential Funding Source	HMGP
Lead Department	Public Works
Implementation Schedule	July 2015

Bethany Mitigation Action #4	Homebound and Elderly Resident Directory
Project Description	Develop and maintain a Homebound and Elderly Resident Directory in order to quickly identify people with special needs during and following long-term power outages or other related emergency or disaster events.
Mitigation Goal	Public Awareness and Preparedness
Mitigation Category	Public Education and Awareness Programs
Hazard(s) Addressed	Power outages due to all natural disasters
Estimated Cost	N/A (local staff time)
Potential Funding Source	N/A
Lead Department	Human Services
Implementation Schedule	July 2015

Bethany Mitigation Action #5	Community Shelter
Project Description	Retrofit and convert the existing hangar at the old airport on Amity Road to serve as a local community shelter during times of emergency, including backup generator power and necessary facilities for overnight stays (kitchen and shower facilities).
Mitigation Goal	Public Awareness and Preparedness
Mitigation Category	Structure and Infrastructure Projects
Hazard(s) Addressed	Primarily Hurricane/Tropical Storm (Wind); Severe Winter Storm/Nor'easter

Bethany Mitigation Action #5	Community Shelter
Estimated Cost	TBD
Potential Funding Source	CT Small Town Economic Assistance Program (STEAP); HMGP
Lead Department	Emergency Management Committee
Implementation Schedule	ASAP pending availability of grant funding

Bethany Mitigation Action #6	Water Supply
Project Description	Coordinate with the CT Water Planning Council on drought preparedness and response planning activities to ensure the Town's unique vulnerabilities to water shortages (dependency on wells for potable water, coupled with large equine population) are adequately addressed through State and local action.
Mitigation Goal	Public Awareness and Preparedness
Mitigation Category	Local Plans and Regulations
Hazard(s) Addressed	Drought
Estimated Cost	N/A (local staff time)
Potential Funding Source	N/A
Lead Department	Environmental Services
Implementation Schedule	In sequence with updates to Connecticut's Drought Preparedness and Response Plan and other relevant statewide planning activities

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: <u>Town of Branford</u>
Name of Person Completing Worksheet: <u>Janice A. Plaziak</u>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. <u>Identify and Construction erosion protection measures along the Coastal exposure of Linden Avenue.</u>
Category: i.e. prevention, property protection, natural resource protection, <u>structural projects</u> , emergency services, public education and outreach.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. <u>Coastal erosion due to wave action</u>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. <u>Engineering Department</u>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <u>\$5 million</u>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <u>In search of funding now</u>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <u>Study can start immediately once funding available with construction to follow.</u>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. <u>High</u>
Rank your 5 or more mitigation actions (1 is the highest priority) <u>1</u>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Branford
Name of Person Completing Worksheet:	Janice A. Plaziak
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Install standby generators at 2 shelters and upgrade generators at the EOC/Police Dept and Volunteer Services Center and Wastewater Treatment Plant.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Power outages due to any natural hazard.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	GGB / BOE
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$900,000
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Grants
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	as soon as funds are available
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	
Rank your 5 or more mitigation actions (1 is the highest priority)	2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Branford
Name of Person Completing Worksheet:	Janice A. Plaziak
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Flood protection of meadow street and Indian Neck Avenue. Will protect CL&P substation and possibly improve access during times of flood.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	structural projects
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding - both coastal and inland
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Engineering Department
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$500,000 ±
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Need outside funding. State/Federal
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	dependent on funding
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	3

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	TOWN OF BRANFORD, CT
Name of Person Completing Worksheet:	DEREK ALBERTSON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	STRUCTURAL MITIGATION PROJECT = RAISING ELECTRONICS AT HOTCHKISS SEWAGE PUMPING STATION, 23 SEAVIEW AVE. BRANFORD, CT
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	STRUCTURAL PROJECT
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	RIISING SEA WATER DUE TO STORM SURGE, ETC.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	WASTEWATER TREATMENT PLANT 75 BLOCK ISLAND RD., BRANFORD, CT 06405
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 2500 - \$7500
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	NONE
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	JULY 2013
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	MEDIUM
Rank your 5 or more mitigation actions (1 is the highest priority)	ONLY ONE LISTED ABOVE.

Please complete a separate mitigation action worksheet for each action being proposed

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Branford
Name of Person Completing Worksheet:	Michael A. Pascucilla
<p>Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.</p> <p>As part of our all hazards planning and public health preparedness efforts at the local health, our focus would be promote awareness/education on what business and property owners can do to prepare and prevent property damage and reduce injury and loss of life.</p>	
<p>Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. Public Health Education & Outreach</p>	
<p>Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. Community Resilience</p>	
<p>Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. Local Health Department – East Shore District Health Department</p>	
<p>Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. \$50,000.00</p>	
<p>Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. N/A</p>	

Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.

Start/plan public health outreach in the summer/fall with a community wide campaign and implement community conversation with our partners with a completion date within one- two years.

Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.

High – Partner with other town agencies and community groups/businesses with a regional mitigation plan.

Research Questions to explore with the last Coastal Storm : Medium

1. What are the best indicators to measure the resilience of a community following a storm like hurricane Sandy?
2. What were the demographic differences between communities on the Connecticut coastline that were more or less resilient in the aftermath of Hurricane Sandy? Were there differences in resiliency within a single community based on population subgroup?
3. What differences in disaster preparedness (use of non-traditional partners, Sheltering capability, municipal spending etc.) corresponded to a better level of community resilience? Did the presence or absence of regional efforts play a role?
4. What were the social and cultural networks present in a community that may predict the extent of community resilience post-hurricane Sandy? Was there a relationship between social capital and social connectivity?
5. Did a history of previous disasters correlate to community resilience or vulnerability?

Rank your 5 or more mitigation actions (1 is the highest priority)

1. Create a network of partners on Climate Change with a regional focus.
2. Public Outreach and Awareness.
3. Policy change on development
4. Review latest Predicted Models.
5. Review/update current preparedness plans.

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Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	HAMDEN
Name of Person Completing Worksheet:	BOB BRINTON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	REPLACE EMERGENCY GENERATOR AT PUBLIC WORKS GARAGE
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	EMERGENCY SERVICES
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	EXISTING GENERATOR DOES NOT FUNCTION - IMPACTS*
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	TOWN OF HAMDEN
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 50,000
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	LOCAL CAPITAL BUDGET
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	UNKNOWN
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	HIGH
Rank your 5 or more mitigation actions (1 is the highest priority)	1

* PUBLIC WORKS DEPT.'S ABILITY TO RESPOND TO NATURAL DISASTERS - COMPUTERS, LIGHTS, PHONES, FUEL PUMPS DO NOT WORK WITHOUT POWER.

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Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	HAMDEN
Name of Person Completing Worksheet:	BOB BRINTON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	TREE PRUNING ADJACENT TO POWER DISTRIBUTION WIRES.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	PREVENTION
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	POWER OUTAGES
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	UI (ELECTRIC UTILITY) AND ITS CONTRACTORS
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	UNKNOWN
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	UTILITY FEES
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	ONGOING
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	MEDIUM
Rank your 5 or more mitigation actions (1 is the highest priority)	2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	HAMDEN
Name of Person Completing Worksheet:	BOB BRINTON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	UPDATE FEMA FLOOD STUDY FOR HAMDEN
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	PREVENTION
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	FLOODING
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	FEMA
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	UNKNOWN
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	FEDERAL BUDGET
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	UNKNOWN
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	MEDIUM
Rank your 5 or more mitigation actions (1 is the highest priority)	3

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	HAMDEN
Name of Person Completing Worksheet:	BOB BRINTON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	EXTEND PARDEE BROOK BOX CULVERT FROM SOUTH OF SCHOOL STREET TO AUSTEN ROAD.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	STRUCTURAL PROJECT
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	FLOODING
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	TOWN OF HAMDEN
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 1.9 MILLION
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	LOCAL CAPITAL BUDGET
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	APRIL 2015 - MAY 2016
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	MEDIUM
Rank your 5 or more mitigation actions (1 is the highest priority)	4

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	HAMDEN
Name of Person Completing Worksheet:	BOB BRINTON
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	STUDY TOWN BUILDINGS TO DETERMINE SNOW REMOVAL CRITERIA.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	PREVENTION
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	ROOF COLLAPSE DUE TO SNOW LOAD
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	TOWN OF HAMDEN
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	UNKNOWN
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	LOCAL CAPITAL BUDGET
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	UNKNOWN
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Low
Rank your 5 or more mitigation actions (1 is the highest priority)	5

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: <u>Town of Madison</u>
Name of Person Completing Worksheet: <u>David Anderson</u>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. <u>Construct 900 linear foot stone revetment waterward of recently reconstructed seawall along Middle Beach Rd</u>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. <u>structural project</u>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. <u>storm damage to existing coastal infrastructure</u>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. <u>Madison Public Works</u>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <u>No cost estimate at this time</u>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <u>FEMA Hazard Mitigation Grant Program</u>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <u>No schedule at this time; DEEP Permit Applications prepared</u>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. <u>High</u>
Rank your 5 or more mitigation actions (1 is the highest priority) <u>#1</u>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Madison
Name of Person Completing Worksheet:	David Anderson
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Garvin Point seawall repair or replacement
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	structural project
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	storm damage to existing coastal infrastructure; protection of public park
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Madison Public Works
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	No cost estimate at this time
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	FEMA Hazard Mitigation Grant Program
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	No schedule at this time
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	# 2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: <u>Town of Madison</u>
Name of Person Completing Worksheet: <u>David Anderson</u>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. <u>Risk reduction measures to reduce impacts of East River Coastal Flooding - (1) property acquisition of 5 residential homes north of I-95 (2) elevation of buildings and road on south side (3) flood control structure south of highway</u>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. <u>property protection / structural project</u>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. <u>flooding</u>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. <u>Emergency Management / Public Works</u>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <u>no cost estimate at this time</u>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <u>Emergency Watershed Program</u> <u>USDA Natural Resources Conservation Service / Hazard Mitigation</u>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <u>No schedule at this time</u>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. <u>High</u>
Rank your 5 or more mitigation actions (1 is the highest priority) <u># 3</u>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Madison
Name of Person Completing Worksheet:	David Anderson
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Radio infrastructure improvements including (1) new dispatch consoles; (2) microwave connectivity between towers; (3) simulcast to allow communication for two towers at once; (4) new tower
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	emergency services
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	all hazards requiring emergency response
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Emergency Management
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	No cost estimate at this time
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	general jurisdiction funds
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	No schedule at this time
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	#4

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: <i>Town of Madison</i>
Name of Person Completing Worksheet: <i>David Anderson</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. <i>Install generator at Senior Center to allow the center to serve some functions as an emergency shelter</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. <i>emergency services</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. <i>power outages due to storm events</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. <i>Emergency Management</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <i>No cost estimate at this time</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <i>general jurisdiction funds</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <i>No schedule at this time</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. <i>"low"</i>
Rank your 5 or more mitigation actions (1 is the highest priority) <i># 5</i>

From: "Anderson, David" <andersond@madisonct.org>
Subject: FW: Madison Mitigation Actions
Date: September 13, 2013 1:43:39 PM EDT
To: "elivshits@scrcog.org" <elivshits@scrcog.org>,
"Jamie@jamiecaplan.com" <Jamie@jamiecaplan.com>

Two more...

An approximate cost for Item 6 is \$1.5 million; Item 7 is \$265,000.

Dave

From: Anderson, David
Sent: Friday, September 13, 2013 1:30 PM
To: elivshits@scrcog.org; Jamie@jamiecaplan.com
Subject: Madison Mitigation Actions

Eugene & Jamie,

I have a cost estimate for Madison Mitigation Action #3 (East River – Property Acquisition) of \$1.6 million. Please include this number in your final version of the document.

I may have other numbers by the end of the day, but am awaiting on information from others. If you don't hear from me, please don't hold anything up.

Thanks.

David M. Anderson

Town Planner

Town of Madison

8 Campus Drive

Madison, Connecticut 06443

Telephone: (203) 245-5633

Facsimile: (203) 245-5613

Email: andersond@madisonct.org

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Branford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. Installation of standby generator to service Town Hall / Emergency Operations Center (future) during times of potential power outages due to severe weather.	
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. Emergency services	
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. Major storms, including hurricanes, blizzards, nor-easters and others	
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. Town / Emergency Operations	
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. \$ 100,000	
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. FEMA, DEEP	
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. As soon as funding is available	
Priority Level: List as "High", "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	
Rank your 5 or more mitigation actions (1 is the highest priority) 1	

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of North Branford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Removal of trees alongside roads and power lines
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevention
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Severe weather events, including hurricanes, blizzards, ice storms
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	State of CT, Utilities, Town
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	unknown
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	State / Local / Utility
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	Soon
Priority Level: List as "High", "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Branford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Construction of Farm River Flood Control Project
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevention, property protection, structural project
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	CT DEEP / NRCS / Town
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$5.0 million
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	NRCS / DEEP / FEMA
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	unknown
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	3

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Brantford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Increase public awareness regarding the potential for flooding, the areas to be affected, the need for and availability of flood insurance
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Public Education and Outreach
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town / Engineering
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	minimal
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	n/a
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	10/2013
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	4

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Branford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Open Space Acquisition
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Natural Resource Protection
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town of North Branford / Town Manager
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	Varies based upon parcel
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	DEEP / Local
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	As available
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	
Rank your 5 or more mitigation actions (1 is the highest priority)	5

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Branford
Name of Person Completing Worksheet:	Kurt Weiss
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Remove or elevate existing structures in flood prone areas
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevention, property protection
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town / Engineering
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	Varies by property
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	FEMA / DEEP
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	subject to funding availability
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	
Rank your 5 or more mitigation actions (1 is the highest priority)	6

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Haven
Name of Person Completing Worksheet:	Jonathan Bodwell
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Emergency Generators
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Emergency Services
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Back-up power supply for emergency response structures
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Fire Department
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$180,000
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Hazard Mitigation Grant Program
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	Winter 2013-2014
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	#1

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Haven
Name of Person Completing Worksheet:	Jonathan Bodwell
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Pine River Road houses flooding due to the Muddy River.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Property Protection
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works Department
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$1,700,000 ±
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Federal, State and Local
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	TBD
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	#2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Haven
Name of Person Completing Worksheet:	Jonathan Bodwell
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. Flooding of Spring Road due to the Muddy River	
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. Prevention	
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. Flooding	
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. Public Works Department	
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. T.B.D.	
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. T.B.D.	
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. T.B.D.	
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. Medium	
Rank your 5 or more mitigation actions (1 is the highest priority) #3	

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Haven
Name of Person Completing Worksheet:	Jonathan Bodwell
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Flooding of Pathann Road due to the Muddy River
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevention
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works Department
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	T.B.D.
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	T.B.D.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	T.B.D.
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	#4

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	North Haven
Name of Person Completing Worksheet:	Jonathan Bodwell
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Todd Drive Area flooding
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Property Protection
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flooding
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works Department
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$2,200,000
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	CT DEEP and Town
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	Fall, 2013
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	#5 (Because design & funding in place)

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Orange
Name of Person Completing Worksheet:	FRED PALMER
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Reduce storm water flooding: Old Grassy Hill Road. Water flows across road in heavy rain. Have had to close highly traveled road.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevent water from flooding roads.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Prevent water from flowing over roadway.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town of Orange - Town Engineer.
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$25,000 TO \$250,000. depending on funds available and method of correcting problem.
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Will seek grants.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	as soon as funding becomes available.
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	HIGH
Rank your 5 or more mitigation actions (1 is the highest priority)	ONE (1)

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Orange
Name of Person Completing Worksheet:	FRED PALMER
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Perminant Generators for Sewer Pump Stations - 220 Indian River Road. Prevent sewer from backing up in power outages.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Sewers backing up would cause a major health emergency.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Sewage Backup.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town of Orange Sewer Commission.
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	Total cost estimated around \$80,000 including design.
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Will seek grants.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	Need funding first - as soon as funding is available.
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	(2) TWO

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Orange
Name of Person Completing Worksheet:	FRED PALMER
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	<i>Permanent Generator for Sewer Pump Station - 538 Boston Post Rd. Prevent sewers from backing up in power outages.</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	<i>Sewers backing up would cause a major health emergency.</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	<i>Sewage backup.</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	<i>Town of Orange Sewer Commission.</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	<i>Construction \$50,000 plus design fees \$7,500.</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	<i>Will seek grants</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	<i>as soon as funding is available</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	<i>HIGH</i>
Rank your 5 or more mitigation actions (1 is the highest priority)	<i>(3) Three</i>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	TOWN OF ORANGE
Name of Person Completing Worksheet:	FRED PALMER
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Permanent Generator for Sewer Pump Station - 352 Smith Farm Rd. Prevent sewers from backing up during power outages
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Sewers backing up would cause a major health emergency.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Sewage backup.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town of Orange Sewer Commission.
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$50,000 construction and \$7,500 design fees.
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Will seek grants.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	as soon as funding is available.
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	HIGH
Rank your 5 or more mitigation actions (1 is the highest priority)	(4) FOUR

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	Town of Orange
Name of Person Completing Worksheet:	FRED PALMER
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Removal of trees along side of road
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	All town roads have trees umbrellaing the roadways. Hurricane could cause massive road closures and power outages.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Storm/Hurricane - Trees falling in roadways making them impassable.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Town of Orange Highway Department.
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$20,000 TO millions,
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Will seek grants.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	As soon as funding is available
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	Five (5)

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	WEST HAVEN
Name of Person Completing Worksheet:	ABDUL QUADIR
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Buy Properties on Third Ave Extension, Blohm St. in the Old Field Creek Flood Plain and demolish houses.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Structural Project to restore floodplain and avoid flooding of Properties.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flood
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works / Planning & Development
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 2 million
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Federal
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	March 2014 to June 2015
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	1

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	WEST HAVEN
Name of Person Completing Worksheet:	Abdul Quadri
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Beach sand nourishment and dunes restoration
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Prevention
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flood
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 3 million
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Federal / state / local
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	Sept 2013 - May 2014
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	High
Rank your 5 or more mitigation actions (1 is the highest priority)	2

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	<i>West Haven</i>
Name of Person Completing Worksheet:	<i>Abdul Qader</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	<i>Improve bridge and channel on Cove River at Painter Drive and West Main Street</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	<i>structural</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	<i>Flood</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	<i>Public Works / State DOT</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	<i>\$1.5 million</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	<i>Federal / state / local</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	<i>June 2015 to Dec. 2016</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	<i>Medium</i>
Rank your 5 or more mitigation actions (1 is the highest priority)	<i>3</i>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	West Haven
Name of Person Completing Worksheet:	Abdul Quader
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	study, design and construct Cove River Channel and retention basins to reduce flooding at Greta street & West Spring Street
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Structural
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	Flood
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$ 2 million
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Federal / state / local
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	2015 to 2017
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	4

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	<i>West Haven</i>
Name of Person Completing Worksheet:	<i>Abdul Quader</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	<i>Install Mechanized tide gates at Captain Thomas Blvd on Cove River</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	<i>Structural</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	<i>Flood</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	<i>Public Works</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	<i>\$1.5 million</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	<i>Federal / state / local</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	<i>2016</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	<i>low</i>
Rank your 5 or more mitigation actions (1 is the highest priority)	<i>5</i>

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:	WEST HAVEN
Name of Person Completing Worksheet:	ABDUL QADIR
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.	Raise Beach Street from Monahan Place to Second Avenue to provide access to Water Pollution Control Plant
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.	Structural
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.	To prevent frequent road closures
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.	Public Works
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.	\$1 million
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.	Federal, State, local
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.	2016
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.	Medium
Rank your 5 or more mitigation actions (1 is the highest priority)	# 5



Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: Wallingford
Name of Person Completing Worksheet: Peter Struble
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. – <i>Install emergency generator at High School to support primary shelter.</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. – <i>Emergency Services</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. – <i>Loss of power in the community no generators in shelters</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. – <i>Civil Preparedness/Emergency Management</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <i>\$250000</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <i>Post Disaster Mitigation Funds</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <i>November 2013</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. – <i>High</i>

Rank your 5 or more mitigation actions (1 is the highest priority) - 1



Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: Wallingford
Name of Person Completing Worksheet: <i>Peter Struble</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. – <i>Replace emergency generator at central Fire Headquarters.</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. – <i>Emergency Services</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. – <i>Loss of power in the community critical services at risk.</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. – <i>Civil Preparedness/Emergency Management</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <i>\$75,000</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <i>Post Disaster Mitigation Funds Town Funds</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <i>September 2013</i>
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent,

cost-effective and compatible with your jurisdiction's needs. - *High*

Rank your 5 or more mitigation actions (1 is the highest priority) - 2



Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: Wallingford
Name of Person Completing Worksheet: <i>Peter Struble</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. – <i>Replace kitchen and install refrigerator at Cook Hill Emergency management building to feed small shelter population and critical workers from town and private contractors.</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. – <i>Emergency Services</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. – <i>Loss of power in the community critical services at risk.</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. – <i>Civil Preparedness/Emergency Management</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <i>\$10,000</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <i>EMPG Grant Funds from in-kind services</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <i>September 2013</i>

SCRCOG

Mitigation Action Plan Worksheet

Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. - *High*

Rank your 5 or more mitigation actions (1 is the highest priority) - 3



Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name: Wallingford
Name of Person Completing Worksheet: <i>Peter Struble</i>
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability. – <i>Create web page for emergency preparedness on Town Website. Include information on preparation. Include information on keeping debris from small streams to prevent street flooding.</i>
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach. – <i>Public Education</i>
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against. – <i>All hazards through public information</i>
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action. – <i>Civil Preparedness/Emergency Management</i>
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding. <i>\$2,000</i>
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds. <i>EMPG Grant Funds from in-kind services</i>
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action. <i>September 2013</i>

Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs. - *High*

Rank your 5 or more mitigation actions (1 is the highest priority) - 4

MITIGATION ACTION PLAN WORKSHEET

Community Name: Town of Woodbridge

Name of Person Completing Worksheet: Warren Connors, Operations Manager

Action Item: Merritt Avenue Bridge Replacement – Involves structure replacement to eliminate risk of deck closure due to scour potential during high water flow. It also eliminates a center pier that creates water flow restriction and debris collection.

Category: Structure project that is a prevention measure that assists in property protection.

Hazard: Flooding reduction during low volume storms.

Lead Agency/Department Responsible: Public Works under Board of Selectmen and Board of Finance.

Estimated Costs: Initial estimate was at 1.4 million dollars. Project will be going out for bid.

Funding Source: Federal Funding of 80% under the Federal Local Bridge Program & 20% Town of Woodbridge capital funding.

Implementation Schedule: Initiated August 2007 currently in final stages of design with a target completion date of 2014.

Priority Level: "High"

Ranking: 1

MITIGATION ACTION PLAN WORKSHEET

Community Name: Town of Woodbridge

Name of Person Completing Worksheet: Warren Connors, Operations Manager

Action Item: Dam removal at Lily Pond in New Haven. Elimination of the dam will reduce low storm year flood potential upstream in Woodbridge on West River.

Category: Lower a section of the dam as a preventative measure for property protection.

Hazard: Flooding reduction associated with low peak storm events.

Lead Agency/Department Responsible: Board of Selectmen and Finance

Estimated Costs: An estimate of \$500,000.00 could be possible

Funding Source: An initial grant was obtained in the amount of \$60,000.00 for initial planning. Milone & MacBroom was retained for design of dam removal which provides up to 60% of the plan. Fund seeking must continue for additional planning and permits.

Implementation schedule: Planning start in 2012 with a completion date to be determined.

Priority Level: "High"

Ranking: 2



Mitigation Action Plan Worksheet

Participation in the Mitigation Action Plan (MAP) Worksheet will help to identify potential hazard mitigation actions needed to lessen the effect of natural hazards. The worksheets below will serve as the framework for developing a comprehensive MAP specifically aimed at the needs of your jurisdiction. Later, information gathered in this survey will be incorporated into the SCRCOG Hazard Mitigation Plan and will play an important role in helping to reach the overall mitigation objectives.

Please review the following worksheet and consult with other representatives in your jurisdiction to identify no less than five proposed mitigation actions. Please complete each section of the worksheet to the best of your ability. **Email the completed worksheet to Eugene Livshits at elivshits@scrcog.org by April 30th.** In the meantime, if you have any questions, please contact Jamie@jamiecaplan.com.



Mitigation Action Plan Worksheet

Please complete a separate mitigation action worksheet for each action being proposed

Community Name:
Name of Person Completing Worksheet:
Action Item: Please describe risk reduction measures - these may be in the form of policy, program or structural mitigation projects. If implemented, this action will reduce vulnerability.
Category: i.e. prevention, property protection, natural resource protection, structural projects, emergency services, public education and outreach.
Hazard(s): List the hazard(s) the proposed action is designed to mitigate against.
Lead Agency/Department Responsible: Identify the agency or department most suited to implement the proposed action.
Estimated Costs: Give a general estimate for anticipated costs. This may include "local staff time" for those projects not requiring direct monetary funding.
Funding Source(s): This may include any known state or federal funding source or it may include any local sources such as capital improvement programs, stormwater or utility fees or general jurisdiction funds.
Implementation Schedule: Please give a specific month and year as the start date and the target completion date for the proposed action.
Priority Level: List as "High," "Medium" or "Low." Those actions listed as "High" are the most urgent, cost-effective and compatible with your jurisdiction's needs.
Rank your 5 or more mitigation actions (1 is the highest priority)

West Haven Watershed Restoration Committee FAQs

What is the West Haven Watershed Restoration Committee (WHWRC)?

We are a group of West Haven residents who live in the southeastern corner of the city. We are concerned that continued flooding due to erosion, poor drainage and global warming are contributing to the slow deterioration of our neighborhood. We have decided to do something rather than stand by and watch. Many of us, along with our neighbors, have suffered flood damage due to recent storms Irene and Sandy. We are looking for short-and long-term solutions to the flooding.

The WHWRC steering committee members are Carol Soter, Ruth Torres, Connie Eberle, Shari Roy, Carol Ludington, Cindy Gilbane, Barbara Cavallaro and ecology activist Mary Head. Collectively, this group has lived in West Haven for more than 250 years. We are invested in our community. A few members are lifelong residents, having attended West Haven schools, raised families and worked here.

Is the West Haven Watershed Restoration Committee a non-profit organization?

Although the work we do is not for profit, we are not registered as a 501(c)3 organization under IRS tax code nor with the Connecticut Secretary of State's office. We are simply a grassroots organization comprised of local residents. We are your neighbors. We are volunteers.

What is the mission of the West Haven Watershed Restoration Committee?

The West Haven Watershed Restoration Committee is dedicated to identifying and utilizing every available resource to protect our neighborhood and preserve our shoreline and wetlands from flooding, pollution, structural damage and decline. We will promote best practices in environmental stewardship, urban planning and conservation through advocacy, research, partnerships and education.

How did the West Haven Watershed Restoration Committee get started?

Our group's founding was organic and spontaneous. After Sandy flooded entire streets and people were forced to evacuate, Carol Soter and Connie Eberle surveyed property damage in the southeastern corner of West Haven and decided they needed to take action. These two residents made an appointment to meet Mayor Picard so that city officials would understand the extent of the flooding problem and the gravity of our neighborhood's collective losses. The news of this opportunity to speak with the mayor spread by word-of-mouth and by an informational flyer which was hand-delivered throughout the neighborhood. Carol Soter and Connie Eberle expected only a handful of neighbors at the mayor's meeting in December 2012. Instead, they were joined by more than fifty angry, frustrated and confused people looking for answers. Word of the WHWRC activities continues to spread and new people are joining.

What kind of activities is the West Haven Watershed Restoration Committee involved in?

Starting with the December 2012 meeting with Mayor Picard, we have done a considerable amount of work. The steering committee meets monthly and usually invites a guest speaker or public official. Our guests have included the City Councilors William Conlon (2nd District), Gail Burns (10th District) and John Lewis (3rd District). At City Hall the WHWRC met Congresswoman Rosa DeLauro and state representative Stephen Dargan for a listening session, which was arranged by Mayor Picard. In our effort to learn about available resources, identify partners, and understand the various stakeholders, we have met with representatives of the City's departments of Public Works, Public Health, Finance and the City Engineer. Some members of the group have met with experts in other Connecticut coastal towns in an attempt to identify models for successful flood mitigation. We are encouraging city officials to

identify and apply for grants. We are ready to volunteer our efforts in securing these grants. The WHWRC is also a dynamic volunteer operation, having participated in City Councilor Gail Burns' annual beach clean-up. We collected garbage and debris from along the borders of Old Field Creek near Blohm Street. We have an active research project to identify salt-water-resistant plants and trees for future planting.

What expertise do the members of the West Haven Watershed Restoration Committee possess?

We are energetic volunteers with backgrounds in real estate, social work, nursing, ornithology, banking, law enforcement, public administration, and fine arts. We are relying on diligent research and the expertise of others to guide our work. We use the information we collect to engage and educate our neighbors. We are not civil engineers, environmental professionals, urban planners or elected officials.

How is the West Haven Watershed Restoration Committee getting the word out about its work?

Most of our communication is through neighborhood outreach efforts and word of mouth. We are working on a website, a Facebook presence and considering a blog but we are very sensitive to the fact that not everyone uses the Internet. Some of our neighbors prefer a face-to-face connection, a flyer or a phone call. We rely heavily on the telephone for now. People should know that we will try to keep them in the loop through whatever methods they prefer.

Where exactly is the West Haven Watershed Restoration Committee focusing its attention?

We are concentrating our efforts on the neighborhoods where homes and businesses are loosely bound by First Avenue, Beach Street, Washington Avenue and Brown Street.

Some comments from the WHWRC steering committee:

Connie Eberle:

"I've lived in this neighborhood since 1948. Aside from Hurricane Carol in 1954, I cannot recall such severe flooding. I know all my neighbors' basements were flooded. The water in one basement made the oil tank float. This caused oil to seep out into the street. The fire department treated the area as a hazardous material site. I really fear for my neighbors. I felt like I had gotten to the point where I had to do something. My husband and I are trying to enjoy our retirement and we can't. We have a lot of seniors living in the area. We're all good people down here; we followed the rules, paid our taxes. It's very stressful. As soon as we hear the word STORM we are fearful of what will come next."

Mary Head:

"My objective is to see the Old Field Creek flood plain returned to its natural state. What I envision is the restoration of this beautiful watershed so that nature lovers can enjoy the birds, animals and plants. Once completely restored, this salt marsh and flood plain will be a prime attraction for academics and environmental stewards alike."

Ruth Torres:

"West Haven residents are smarter, more affluent and know much more about how the earth is changing than many people who once lived along the city's shoreline, tributaries and wetlands. When it comes to making the best use of our tax dollars, though, sometimes we are not so smart. The WHWRC is asking tough questions. We know there will be many who will not like hearing the answers but until the community is ready for a frank discussion about how best to manage the effects of climate change, we are destined not only to repeat past mistakes but to compound them by not responding to the

environmental changes guaranteed to occur. It's not whether we will have more floods; it's only a matter of when. We have to use our influence as engaged citizens to press our public officials to face these problems honestly and directly. I have lived in West Haven for only 29 years but I have witnessed Mother Nature's way of winning back that which she wishes to reclaim. I understand that the Old Field Creek marsh was once a dump and that many years before I moved here, the wetlands were filled so that this part of West Haven could be developed. That was before my time and was contrary to Mother Nature's original plan. The WHWRC is trying to figure out how to work with her, not in opposition to her. That is why the group has RESTORATION in its name."

Barbara Cavallaro:

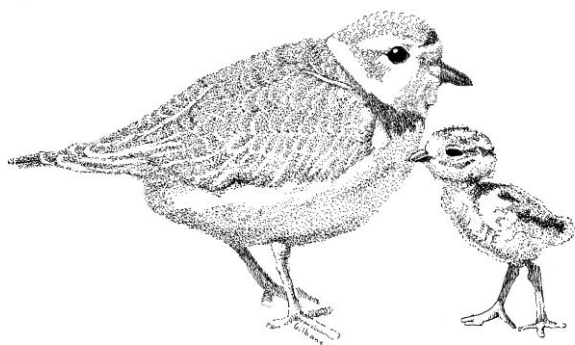
"I have lived in West Haven all my life and plan on staying here. When I bought my "retirement home" in 1996, I was unaware of the threat of flooding from the wetlands. Now I realize that all low-lying areas near wetlands are threatened by floods. Maybe 100 or more families were impacted by Irene and Sandy. I fear this number will double or triple in years to come."

Sharie Roy:

"When the flood came from Irene, I didn't think I needed to evacuate. Within thirty minutes of high tide my home was an island. Water was everywhere. I lost a car. Then Sandy came. Sandy was worse than Irene. The water came up another foot higher than Irene and I was evacuated again. My house was condemned for four weeks. For ten years I worked so hard on house and my yard. I planted every single tree, bush and bulb. The beauty has been all washed away. I fear the next time a storm hits and worry about how high the water will come."

Carol Soter:

"I like to tell people that I am like the piping plovers, those little birds on the endangered species list who insist on living in West Haven. They could fly away. I could move but I want to live in West Haven. I choose West Haven!"



This is the copyrighted logo for the West Haven Watershed Restoration Committee. It shows a female piping plover and her chick. It is the work of West Haven artist Cindy Gilbane. For more about Cindy and her work, visit www.artbygilbane.com

FOR MORE INFORMATION ABOUT THE WHWRC:
West Haven Watershed Restoration Committee
45 Third Avenue Ext., West Haven, CT 06516
203-937-8686 or West.Haven.Watershed@gmail.com

Linden Shore District Projects

1.) From House Number 70 ending at house number 103, a distance of 900 feet, this is the area that was most severely damaged by T.S. Irene.

The District and Town worked together to restore this area. At the time of the repair, the idea was to use armor stones on the bank and build some type of new wall at the base to protect the road for the future. The cost of this repair was somewhere between 3 and 4 hundred thousand dollars. Two problems still exist: 1) the quarry was not ready to produce armor stones, so the stones used for much of this repair are small; 2) The wall along the base of this area was not built. The District could not come up with the funding for the building of this wall. An estimated cost would be \$1,500.00 per linear foot. This estimate is based on a concrete wall just to the north of district property. **(Fourth)**

2.) The Meffert's Pier stairs are the last of three staircases that lead to the beach. This area was eroded following Sandy placing the stairs and Linden Avenue in jeopardy. The fix is in progress and will be completed by the time the mitigation plan will be in effect. Lyons construction is building a six foot by forty foot wall on top of the masonry wall that already exists here. Then fill in behind it changing the slope of the bank thus protecting the stairs and road. The cost of this project was \$22,000.00. **(Done)**

3.) The next area of concern is from Meffert's Pier south to the newly constructed Mafia Block wall, a distance of 260 feet. This is an area that is made up of boulders that were placed here at some point in our history. It is the highest point on our property, approximately 40 feet, and has stood the test of time until recently. During both Irene and Sandy some of these boulders have begun to move, placing some of them on the marshy area at its base. The fix

for this area has not been determined, but will require DEEP permitting. **(Fifth)**

4.) The mafia block wall constructed in front of house 109 is approximately 130 feet long. This was a temporary fix for the area which began to erode in Irene and continued with Sandy. If we did not do this, Linden Avenue would have collapsed. The blocks weigh hundreds of pounds but given the magnitude of either storm may come down. The original plan called for the mafia blocks, then two feet of concrete pinned to the ledge and then a granite face. When this plan was accepted, we thought the town would help with the cost. They decided that they could not help. The mafia block wall cost the district \$25,000.00. FEMA was involved with the concrete block portion of this site. **(Done)** The granite and concrete face would cost another \$139,000.00. **(First)**

5.) The next area that needs attention is in front of houses/lot 117, 1, and Montgomery Parkway for a distance of 130 feet. This area has been eroded in both storms. It needs to have a masonry wall built around it preventing further erosion approximately four feet high. This wall would connect to the masonry wall (Brad Leete) that already exists and the mafia block wall.
Cost: App. \$22,750.00 (based on \$175.00 per foot) **(Sixth)**

6.) The next area is in front of houses 133 and 139 above Sauer's Cove for a distance of 80 feet. This area has eroded severely in both storms. When you look at this area it is obvious that this has happened by the discolored granite that has been exposed. At one point this erosion is within three feet of the road.
Cost: app. \$14,000.00 (based on \$175.00 per foot) **(Second)**

7.) The next area is in front of houses 139, 141, and 145 for a distance of 160 feet. This wall would range in height from one foot to two feet. This is designed to stop the erosion that is taking place here. Note: the small Hackberry tree in this area has a similar masonry wall protecting it.

Cost: App. \$12,000.00 (based on \$75.00 per foot) **(Eleventh)**

8.) The next area is in front of houses 145, 147, and 151 for a distance of 120 feet. This is an area that currently has boulders around the top of it, but wave action has found its way between them causing erosion. At one point the top of this area was covered in honey suckle. Much of this vegetation has been taken away by the storms. This wall would need to be on an average of five feet tall.

Cost: App. \$24,000.00

9.) In front of House Number 151 around the top of playhouse rocks, for a distance of 60 feet.

This wall would be 1-3 feet high.

Cost: App \$4500.00 (Based on 75.00 per foot) **(Twelfth)**

10.) In front of 163, 165, and 171 for a distance of 110 feet.

This area has been eroded in both storms actually exposing some of the roots to the oak tree that is in this area. As much as 10 feet of land has been lost here. This is the area above Clark's Rock.

The wall itself would average 4 feet tall. A set of stone steps would connect it to the new wall in front of House number 155.

Cost: App. \$20,000.00 (based on \$200.00 per foot) **(Eighth)**

11.) In front of House number 195, this is the area above the kayak racks at Pebbly Beach, for a distance of 110 feet.

Currently this area is made up of large rocks that allow water through causing erosion. This wall would be on average of 6 feet high. The large rocks can be used in other areas.

Cost: app. \$20,000.00 (based on \$175.00 per foot) **(Tenth)**

12.) From Bayberry Lane and in front of houses 223, 227, 231, and 235.

This is an area that was repaired by the town following T.S. Irene and again after Sandy. The main problem with the fix is that the large granite stones used to support the road do not have mortar or concrete between them this allows water to blow through them and continue to undermine the road. Some of these large stones moved during Sandy. Then riprap was used between the support stones and the road. This creates an unsightly look to the area, and it is dangerous to walk on. The best fix is to remove the riprap and pour a concrete wall behind the support stones. This would prevent the water from going through damaging the road. Then dirt and grass could be used between the road and concrete wall.

Cost: Between 40 and 50 thousand dollars. (Based on two earlier bids) **(Third)**

13.) Aluminum safety Rails are needed in front of 243, 247, 251, 255, and 259. The distance is 170 feet.

Cost: \$9,180.00 (based on \$54.00 per foot) **(Seventh)**

14.) In front of 271, this is the area that had the granite wall destroyed during Sandy. Lyon's Construction Company has been employed to repair this area. FEMA is involved in this site. It will be completed by the time that the mitigation report is finished.

Cost: \$6,500.00 **(Done)**

MPOA Input to the SCRCOG Hazard Mitigation Plan

To: Jamie Caplan, Consultant on the SCRCOG (South Central Regional Council of Governments) Hazard Mitigation Planning

- **Having attended the public meeting on May 23, 2013, I am submitting these ideas on behalf of MPOA (Madison Property Owners Association) to aid your development of our regional plan for Hazard Mitigation.**
 - **MPOA is a civic organization founded in 1928 dedicated to serving the interests of all Madison property owners.**
 - **We understand the purpose of this regional plan is to provide a basis for the individual towns to qualify for FEMA funds in anticipation of hazardous events. Madison would have to apply for the appropriate funds prior to the event.**
 - **Please refer to Madison's 2013 Town POCD (Plan of Conservation and Development) which highlights certain disaster planning elements. (Contact: David Anderson, Madison Town Planner)**
-

- **These are MPOA's inputs to the SCRCOG Hazard Mitigation Plan, submitted on behalf of Madison residents:**
 - 1. Effective public and interagency communications facilities.**
 - 2. Adequate public shelters throughout the town equipped with: backup power sources, proper heating/ cooling, stores of food and drinking water, cooking and meal serving facilities, emergency sleeping arrangements, personal security, first aid supplies, communications, transportation, etc.**
 - 3. Properly trained town and volunteer personnel to manage public shelters.**
 - 4. Pre-arranged transportation resources to facilitate required public evacuations, both at the shoreline and throughout the town.**

MPOA Input to the SCRCOG Hazard Mitigation Plan

- 5. Equipment for clearing of streets and public spaces: snow, ice , water, tree limbs and debris.**
 - 6. Special services and facilities to serve the elderly and infirmed during hazardous conditions.**
 - 7. Provide a means for self- reporting to town emergency agencies by any resident who requires medical supplies and/ or special medical or emergency services in event of a hazardous situation.**
 - 8. Communications systems and other electronic facilities for authorities to readily locate the aged and infirmed.**
 - 9. Effective storm protection along our coastline: seawalls, drainage facilities, protective vegetation, etc.**
 - 10. Power generators should be provided for selected gasoline service stations, grocery stores, drug stores, etc. , throughout the town, so they can provide continuous services during extended power outages. Also, Service Stations on the Connecticut Turnpike should have backup power. Moreover, it should be mandated that these enterprises have a week's worth of supplies to serve the public during an extended power outage situation.**
- We have noted that the SCRCOG website has direct links to each of the town websites; we urge all town websites also directly link to the SCRCOG site now and when the plan is finalized.**

Thank you for considering these ideas,

Bill Shauck, Acting Secretary, MPOA

CC: John Bowers, Madison Director of Emergency Services and David Anderson, Madison Town Planner

Appendix K: Sources for Hazard Analysis

Table	Data
4.3	Major Disaster and Emergency Declarations, 1953–2012
4.4	Effects of Extreme Heat on the Human Body
4.5	Effects of Extreme Cold on the Human Body
4.6	Saffir-Simpson Hurricane Wind Scale
4.7	Classification Scale for Severe Winter Storms/Nor'easters
4.8	Enhanced Fujita Scale
4.9	State-Regulated Dams in South Central Region, by Hazard Class
4.10	Classification of Hazard Potential for Connecticut Dams
4.11	Palmer Drought Severity Index
4.12	Periods of Severe or Extreme Drought in South Central Region, 1895–2012
4.13	NFIP Statistics on Flood Losses and Claims Payments
4.14	Classification of Earthquake Magnitude and Intensity
4.15	Statistics on Wildfire Occurrences in Planning Area

Hyperlink

<http://www.fema.gov/disasters>

<http://www.nws.noaa.gov/om/heat/index.shtml>

<http://www.nws.noaa.gov/os/windchill/index.shtml>

<http://www.nhc.noaa.gov/aboutsshws.php>

[http://journals.ametsoc.org/doi/pdf/10.1175/1520-0477\(2002\)083%3C0037%3AACSFWS%3E2.3.CO%3B2](http://journals.ametsoc.org/doi/pdf/10.1175/1520-0477(2002)083%3C0037%3AACSFWS%3E2.3.CO%3B2)

<http://www.spc.noaa.gov/efscale/ef-scale.html>

http://www.ct.gov/deep/cwp/view.asp?a=2698&q=322898&deepNav_GID=1707

http://www.ct.gov/deep/lib/deep/water_inland/dams/guidelinesforinspectionandmaintenanceofdams.pdf

<http://www.drought.noaa.gov/index.html>

http://www.nrcc.cornell.edu/page_drought.html

<http://www.fema.gov/policy-claim-statistics-flood-insurance/policy-claim-statistics-flood-insurance/policy-claim-13>

http://earthquake.usgs.gov/learn/topics/mag_vs_int.php

Not available online. Received spreadsheet by email from Sheila Hoefle at DEEP upon request (sheila.hoefle@ct.gov)

Page	Source Cited
Throughout	"NOAA historical records"
Throughout	Connecticut's State Hazard Mitigation Plan
1	United States Global Change Research Program
6	NOAA historical records for hurricane/tropical storm tracks
21	National Performance of Dams Program
21	Association of State Dam Safety Officials
36	SILVIS Laboratory at the University of Wisconsin

Description

Generally refers to NOAA's Storm Events Database
Connecticut's 2010 Natural Hazards Mitigation Plan Update, prepared by DEP (now DEEP)
Global Climate Change Impacts in the United States
Historical Hurricane Tracks

Hyperlink

<http://www.ncdc.noaa.gov/stormevents/>

http://www.ct.gov/deep/lib/deep/water_inland/hazard_mitigation/2010_nhmp.pdf

<http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>

<http://csc.noaa.gov/hurricanes/#>

<http://npdp.stanford.edu/>

<http://www.damsafety.org/>

<http://silvis.forest.wisc.edu/>

Appendix L: Municipality Adoptions

**A RESOLUTION OF THE (TOWN OF BETHANY)
ADOPTING THE SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD
MITIGATION PLAN (2014)**

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

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

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

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

WHEREAS, adoption of this Plan will make the Town of Bethany eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Bethany
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 3 in favor and 0 against, this 12th day of May, 2014

Attested to by:

Name: Nancy A. McCarthy, cmc

Title: Bethany Town Clerk
(City/Town Clerk)

Date: August 18, 2014

BOARD OF SELECTMEN

BRANFORD, CONNECTICUT

JAMES B. COSGROVE
First Selectman

JOSEPH E. HIGGINS, JR.
BRUCE E. STORM, Ed.D.



1019 MAIN STREET
POST OFFICE BOX 150
BRANFORD, CT 06405
(203) 488-8394
FAX: 481-5561
www.branford-ct.gov

A RESOLUTION OF THE TOWN OF BRANFORD ADOPTING THE SOUTH CENTRAL REGION MULTI--JURISDICTION HAZARD MITIGATION PLAN 2014

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

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

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

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

WHEREAS, adoption of this Plan will make the Town of Branford eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Branford
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

Adopted by a vote of 3 in favor and 0 against, this 7 of May, 2014.

Attested to by:



Lisa E. Arpin, Town Clerk

5-12-2014

Date



TOWN OF HAMDEN, CONNECTICUT 06518
OFFICE OF THE LEGISLATIVE COUNCIL
(203) 287-2577 Fax (203) 287-7165

COUNCIL PRESIDENT
James Pascarella

COUNCIL MEMBERS-AT-LARGE
Austin T. Cesare
Al Gorman
Jack Kennelly
Berita Rowe-Lewis
Carol L. Noble
Elizabeth S. Wetmore

DISTRICT COUNCIL MEMBERS
Michael McGarry
First District

Harry Gagliardi, Jr.
Second District

Oswald Brown
Third District

Eric Annes
Fourth District

Kathleen M. Schomaker
Fifth District

R. Thomas Rousseau
Sixth District

Michael R. Colaiacovo, Jr.
Seventh District

James Pascarella
Eighth District

Marjorie M. Bonadies
Ninth District

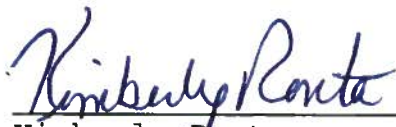
**LEGISLATIVE COUNCIL
ADMINISTRATOR &
CLERK OF THE COUNCIL**
Kimberly A. Renta

CERTIFICATION

I, the undersigned, Clerk of the Legislative Council for the Town of Hamden, a Connecticut Municipality, do hereby certify that the following is a true and correct copy of the Resolution adopted at a meeting of the Legislative Council of the Town of Hamden, duly held and convened on August 4, 2014 at which meeting a duly constituted quorum of the Legislative body was present and acting throughout and that such Resolution has not been modified, rescinded or revoked.

I further certify that the attached "Resolution adopting the South Central Regional Multi-Jurisdictional Hazard Mitigation Plan (2014)", is the same presented and passed at said meeting of the Legislative Council, which was held in accordance with the law with due and proper notice given.

Dated: August 11, 2014



Kimberly Renta
Clerk of the Council



**TOWN OF HAMDEN
LEGISLATIVE COUNCIL**

**RESOLUTION ADOPTING THE SOUTH CENTRAL REGIONAL MULTI-
JURISDICTIONAL HAZARD MITIGATION PLAN (2014)**

PRESENTED BY: Carol Noble

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

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

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

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


WHEREAS, adoption of this Plan will make the Town of Hamden eligible for funding to alleviate the impacts of future hazards.

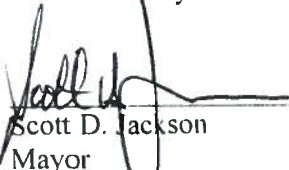
NOW THEREFORE BE IT RESOLVED by the Legislative Council:

1. The Plan is hereby adopted as an official plan of the Town of Hamden.
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of 5 years from the date of this resolution.

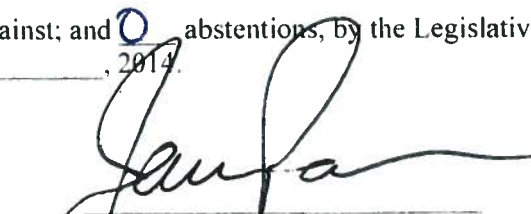
Adopted by a vote of 11 in favor; 0 against; and 0 abstentions, by the Legislative Council at its meeting held on August 4, 2014.

APPROVED AS TO FORM:


Sue Green
Town Attorney


Scott D. Jackson
Mayor

DATE: 8/5/14


James Pascarella, President
Legislative Council


Kim Renta, Clerk
Legislative Council



TOWN OF MADISON
CONNECTICUT 06443-2563

RESOLUTION

**A RESOLUTION OF THE TOWN OF MADISON
ADOPTING THE SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD
MITIGATION PLAN 2014**

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

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

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

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

WHEREAS, adoption of the Plan will make the Town of Madison eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Madison.
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 4 in favor and 1 against, this 12th day of May, 2014

Attested to by:

Name: Nancy J. Martucci
Nancy J. Martucci

Title: Town Clerk

Date: May 12, 2014

MAYOR
ANTHONY S. CANDELORA

DEPUTY MAYOR
JOANNE S. WENTWORTH

TOWN MANAGER
MICHAEL T. PAULHUS



COUNCIL MEMBERS
ROSE MARIE ANGELONI
VINCENT P. CAPRIO
MARIE E. DIAMOND
ANDREW ESPOSITO, III
JOSEPH E. FAUGHNAN
DONALD J. FUCCI, II
ALFRED D. ROSE

TOWN OF NORTH BRANFORD

TOWN HALL 909 FOXON ROAD NORTH BRANFORD, CONNECTICUT 06471-1290
Building Department (203) 484-6008 Engineering Department (203) 484-6009 Planning & Zoning (203) 484-6010
Department Fax (203) 484-6018

June 13, 2014

Eugene Livshitz
Regional Planner
South Central Regional Council of Governments
127 Washington Avenue
North Haven, CT 06473

RE: North Branford Adoption of Hazard Mitigation Plan

Dear Eugene,

The North Branford Town Council, at its June 3, 2014 meeting, adopted the South Central Regional Multi-Jurisdiction Hazard Mitigation Plan. Attached is a copy of page 6 and Attachment 5 of the North Branford Town Council minutes with the vote and resolution as approved.

If you require any additional information, please contact me at your convenience.

Sincerely,

Kurt A. Weiss, P.E.
Town Engineer

cc: Michael Paulhus, Town Manager



the narrowbanding radio project and the public works roof replacement project in its entirety. (Attachment #2)

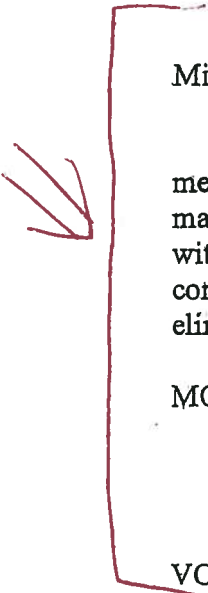
VOTE: Passed 9-0 in a roll call vote

(2) Unexpended Bond Proceeds to Fund Certain Costs Associated with Public Improvements – Resolution

MOTION: Councilor Faughnan moved, seconded by Councilor Angeloni, to consider and act upon the proposed resolution entitled: Resolution authorizing the transfer of unexpended bond proceeds to fund certain costs associated with the appropriation of \$5,556,000 for various public improvements as authorized in the capital improvements programs 2012-13 to 2014-15, inclusive and authorizing the issuance of \$5,556,000 bonds of the town to meet said appropriation and pending the issuance thereof the making of temporary borrowings for such purpose in its entirety. (Attachment #3)

e. AT&T (SmartLink) Response Letter (Attachment #4)

f. Local Adaptation of South Central Regional Multi-Jurisdiction Hazard Mitigation Plan



This Plan covers 10 towns in Connecticut. There was a question at the last meeting regarding the resolution section 2. which reads "Future revisions and Plan maintenance required". Town Engineer Weiss reported that there is an annual review with all participating towns, and Plan is updated or requires maintenance. Mr. Weiss confirmed that the resolution can be modified to delete the paragraph in its entirety, or eliminate the provision for future revisions.

MOTION: Councilor Faughnan moved, seconded by Councilor Diamond, to adopt the attached Resolution amending it by deleting from clause 2 the phrase "future revisions and" and adopting the remainder of the Resolution as printed. (Attachment #5)

VOTE: Passed 9-0 in a roll call vote

g. OPEB – Approval of Investment Policy Statement

Finance Director Esposito explained that OPEB is a requirement to fund post-retirement medical benefits. RBC Wealth Management was chosen to handle OPEB assets, and create an Investment Policy Statement.

MOTION: Councilor Angeloni moved, seconded by Councilor Faughnan, to approve the attached Investment Policy Statement for the assets of the Other Post Employment Benefits (OPEB) trust fund, subject to the review of the Town Attorney's office. (Attachment #6)

Attachment # 5

SUGGESTED MOTION

I move to approve the following resolution:

A RESOLUTION OF THE TOWN OF NORTH BRANFORD

ADOPTING THE SOUTH CENTRAL REGIONAL MULTI-JURISDICTION HAZARD MITIGATION PLAN

WHEREAS, the Town of North Branford has experienced severe damage from natural hazards and it continues to be vulnerable to the effects of natural hazards, resulting in loss of life and property, economic hardship, and threats to public health and safety; and

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

WHEREAS the Plan addresses hazard mitigation strategies and Plan maintenance procedure for the Town of North Branford and

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

WHEREAS, adoption of this Plan will make the Town of North Branford eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Town of North Branford:

1. The Plan is hereby adopted as an official plan of the Town of North Branford.
2. ~~Future revisions and~~ Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

Motion by: J. Faughnan

Second by: M. Diamond

Vote: 9-0

**NORTH HAVEN, CONNECTICUT
RESOLUTION NO. A**

**A RESOLUTION OF THE TOWN OF NORTH HAVEN
ADOPTING THE SOUTH CENTRAL REGION MULTI---JURISDICTION
MITIGATION PLAN 2014**

WHEREAS, the Town of North Haven has experienced severe damage from natural hazards and it continues to be vulnerable to the effects of natural hazards, resulting in loss of life and property, economic hardship, and threats to public health and safety; and

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

WHEREAS, the Plan addresses hazard mitigation strategies and Plan maintenance procedure for the Town of North Haven; and

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

WHEREAS, adoption of this Plan will make the Town of North Haven eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of North Haven.
2. Future revision and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 3 in favor and 0 against, this day of May 1, 2014

Attested to by:

Name:



Title:

Town Clerk / Tax Collector
North Haven Town Clerk

Date:

May 8, 2014

(LOCAL COMMUNITY) CONNECTICUT
RESOLUTION NO. _____

**A RESOLUTION OF THE (LOCAL COMMUNITY)
ADOPTING THE SOUTH CENTRAL REGION MULTI---JURISDICTION HAZARD
MITIGATION PLAN (year)**

WHEREAS, the City/Town of Orange has experienced severe damage from natural hazards and it continues to be vulnerable to the effects of natural hazards, resulting in loss of life and property, economic hardship, and threats to public health and safety; and

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

WHEREAS, the Plan addresses hazard mitigation strategies and Plan maintenance procedure for the City/Town of _____; and

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

WHEREAS, adoption of this Plan will make the City/Town of Orange eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the City Council/Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the City/Town of Orange
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 6 in favor and 0 against, this day of May 14, 2014.

Attested to by:

Name: [Signature]

Title: Orange Town Clerk
(City/Town Clerk)

Date: May 15, 2014

PATRICK B. O'SULLIVAN, TOWN CLERK
617 ORANGE CENTER ROAD
ORANGE, CT 06477-2423



Town of Wallingford, Connecticut

A RESOLUTION OF THE TOWN OF WALLINGFORD ADOPTING THE SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN 2014

Whereas, the Town of Wallingford has experienced severe damage from natural hazards and it continues to be vulnerable to the effects of natural hazards, resulting in loss of life and property, economic hardship, and threats to public health and safety; and

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

Whereas, the Plan addresses hazard mitigation strategies and Plan maintenance procedure for the Town of Wallingford; and

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

Whereas, adoption of this Plan will make the Town of Wallingford eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Town Council:

1. The Plan is hereby adopted as an official plan of the Town of Wallingford
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 8 in favor and 0 against, this 13 day of May 2014

Attested to by:

Name: Babara Morgan

Title: Town Clerk

Date: May 20 2014

**WEST HAVEN, CONNECTICUT
RESOLUTION NO.**

**A RESOLUTION OF THE CITY OF WEST HAVEN
ADOPTING THE SOUTH CENTRAL REGION MULTI-JURISDICTION
HAZARD MITIGATION PLAN 2014**

WHEREAS: the City of West Haven has experienced severe damage from natural hazards and it continues to be vulnerable to the effects of natural hazards, resulting in loss of life and property, economic hardship and threats to public health and safety; and

WHEREAS: the City of West Haven has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan under the requirements of 44 CFR 201.6; and

WHEREAS: the Plan addresses hazard mitigation strategies and Plan maintenance procedures for the City of West Haven; and

WHEREAS: the Plan recommends hazard mitigation actions/projects that will provide mitigation and natural hazards that impact the City of West Haven; with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS: adoption of this Plan will make the City of West Haven eligible for funding to alleviate the impact of future hazards,

NOW THEREFORE BE IT RESOLVED by the City Council

1. The Plan is hereby adopted as an official plan of the City of West Haven
2. Future revision and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 13 in favor and 0 against, this day of 27th May, 2014.

ATTESTED to by:

NAME:

Deborah Collins

TITLE:

Town & City Clerk
City/Town Clerk

DATE:

June 4 2014

**A RESOLUTION OF THE TOWN OF WOODBRIDGE ADOPTING THE
SOUTH CENTRAL REGION MULTI-JURISDICTION
HAZARD MITIGATION PLAN 2014**

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

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

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


WHEREAS, adoption of this Plan will make the Town of Woodbridge eligible for funding to alleviate the impacts of future hazards;

NOW THEREFORE, BE IT RESOLVED by the Town of Woodbridge Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Woodbridge
2. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

ADOPTED by a vote of 6 in favor and 0 against, this 20 day of May, 2014.

Attested to by:

Signed: 
Stephanie Ciarleglio
Town Clerk

Date: May 21, 2014