

This appendix includes meeting agendas, sign-in sheets and minutes (where applicable and as available) for meetings convened during the development of the 2015 Dutchess County Hazard Mitigation Plan.



DUTCHESS COUNTY HAZARD MITIGATION PLAN
Pre-Project Kick-Off Meeting – Agenda
January 29, 2015



- Introductions
- Project Schedule
 - February 2015: Project Initiation
 - February 2015: First Steering Committee Meeting
 - March- April 2015: Municipal Kick-Off Meeting(s)
 - May-June 2015: Regional Data Collection Meetings
 - September 2015: FEMA Mitigation Strategy Workshops
 - October 2015: Regional Annex Completion Workshops
 - January 2016: Presentation of Final Plan
 - February 2016: Submission of Final Plan to NYS DHSES/FEMA Region II
- Municipal Participation – Letters of Intent to Participate (sent to County previously)
- Steering Committee – Composition
 - Departments of Planning and Development
 - Central and Information Services
 - Public Works
 - Soil and Water Conservation District
 - Other key stakeholders?
- Information and Data Collection
 - GIS Point of Contact for Critical Facilities
 - Web Site Point of Contact or Tetra Tech to create a Web Site?
 - Point of Contact for disseminating Public Information (e.g. press releases, surveys, announcements)
 - Collect and review plans (and existing HMPs) – Regional, County, Local
- Public and Stakeholder Outreach
 - Public Survey (online)
 - Stakeholder surveys (online)) - Develop list of County stakeholders (flood advisory commission, academia, commerce, hospitals, transportation, school districts, fire districts, police, utilities, etc.)
 - Project website - Web Site Point of Contact or Tetra Tech to create a Web Site?
 - Press releases from County in newspapers and social media - Point of Contact for disseminating Public Information (e.g. press releases, surveys, announcements)



Steering Committee Meeting #1
392 Creek Road, Poughkeepsie, NY
February 9, 2015

- Project Scope of Work and Schedule

Municipal Kick-Off Meeting:	3/9/15
Municipal Data Collection:	March – May, 2015
FEMA Mitigation Workshop:	May 2015
First Draft to NYS DHSES:	6/18/15
Municipal Annex Completion Workshop:	Late Summer 2015
Posting of Draft to Public Website:	TBD
Final Draft to County:	12/1/15
Final Draft to NYS DHSES and FEMA Region II:	12/18/15

Plan Expiration Dates:

Dutchess County	9/24/2013
Eastern Dutchess Consortium	5/10/2016
Town of East Fishkill	10/1/2018

- Municipal Planning Partnership

- Letter of Intent to Participate – already distributed
- Status of Municipal Commitment to Participate
- Kick Off Meeting for Municipal Planning Partnership: March 9th, 2pm and 6pm
- Local Data Collection Meetings: March – May, 2015

- Public and Stakeholder Outreach (website, surveys, meetings, etc.)

- Proposed content for county-served project website – Handout
- Single page format:
 - Chenango County: <http://www.co.chenango.ny.us/hazard-mitigation-plan>
- Multiple page format:
 - Putnam County: County links to TT-served site: <http://www.putnamcountyny.com/putnam-county-along-with-its-towns-and-villages-are-in-the-process-of-developing-a-hazard-mitigation-plan-hmp/>
 - Westchester County: TT-served site: <http://www.westchesterhmp.com/>

- Citizen Preparedness and Mitigation Survey, online - Handout
- Stakeholder Surveys, online – Handouts – Need to identify/develop distribution lists for each stakeholder group
- Social Media
- Print Media

- Data Collection
 - County Level Data and GIS (data “Wish List”) – working with GIS/IT
 - Relevant Existing Studies and Reports
 - Review of Municipal Data/Information Collection Worksheets
 1. Events and Losses Worksheet
 2. Capability Assessment Worksheet
 3. NFIP Floodplain Administrator Survey
 4. Review of Progress on Mitigation Strategy (applies to jurisdictions with prior HMPs)
 5. Plan Integration Worksheet
 6. New Development Worksheet



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
SIGN-IN SHEET



TOPIC: Steering Committee Meeting
MEETING DATE: February 9, 2015

Name	Title	Agency/Municipality/Department	Phone Number	E-mail
LARRY BRUDY	GIS Tech	DC EA	845 486-2709	lbrudy@dutchessny.gov
WILLIAM H. BEALE	EMERGENCY MANAGER	DUTCHESS COUNTY	845 486-2082	wbeale@dutchessny.gov
DANIEL SMITH	Commissioner	Dutchess County	545-486-2080	dsmit14@dutchessny.gov
LAURIE COLGAN	CONF JST	DC ER	845 486 2488	lrcolgan@dutchessny.gov
BOB WRATNER	ACTING CHIEF	DC PLANNING	845 486-3616	ewratner@dutchessny.gov
BOB BALKIND	DEP. COMM.	D.C. DPW	(845) 486-2925	rbalkind@dutchessny.gov
RON HICKS	DEP. COMM	DC P	(845) 486-2565	RHICKS@DUTCHESSNY.GOV
BRIAN SCORALECK	ACTING EXEC. DIRECTOR	DC S.W.O.D	(845) 677-8011	brian.scoraleck@ny.nacnet.net
JONATHAN CAREL	PRESIDENT MGR.	TETRA TECH	(973) 630-8012	JONATHAN.CAREL@TETRA TECH.COM



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Municipal Kick-Off Meeting – Agenda
Monday March 2, 2015



- Welcoming Remarks and Introductions
- Updating the Mitigation Plan – Why?
- Schedule
- Role of the Municipal and County Participants
- Planning Process
 - Organize Resources
 - Re-assess Risk
 - Review and Update HMP
 - Implement Plan and Monitor Progress
- In-Kind Tracking
- Action Items
 - Return Letter of Intent to Participate
 - Confirm Local Floodplain Administrator and Contact Information Today
 - Worksheets – Found on your CD; Complete electronic Word versions and send to Jonathan Raser by March 27, 2015
- Upcoming Mandatory Meetings
 - Municipal Workshops – Spring 2015
 - FEMA Mitigation Strategy Meeting – late Spring/Summer 2015
- Questions and Answers

Project Contacts

Tetra Tech:

Jonathan Raser, CFM

Tetra Tech, Inc.; 1000 The American Road; Morris Plains, NJ 07950

(973) 630-8042

jonathan.raser@tetrattech.com

HAZARD MITIGATION KICK-OFF - SESSION 1

March 2, 2015

NAME	REPRESENTING	E-MAIL
1. Rich Prentice	Town of Poughkeepsie	prentice@optimum.net
2. Dana Smith	Dutchess County	dsmith@dutchessny.gov
3. Edmund J Matjk	TOWN OF RHINEBECK	Town.BUILDINGINSPECTOR@RHINEBECK-NY.GOV
4. Thomas W Starbuck	NDP EMS	thomas.w.starbuck@gmail.com
5. Ray Oberly	Town of Clinton	oberlyr@optonline.net
6. Erin Wrafter	DC Planning	erin@redhouseny.gov
7. Julie Crane	Towns of Red Hook	scrane@redhook.org
8. JOHN KUHN	TOWN OF RED HOOK	JKUHN@REDHOOK.ORG
9. VINCENT COLUCCIO	TOWN OF RED HOOK	VCOLUCCIO@HVC.RR.COM
10. Henry A. Campbell	Town Village of Rhinebeck	chieffac@col.com
11. George A. Lab	T/O Union Vale	building@unionvalenys
12. JONAS CASER	TETRA TECH	jonas.caser@tetratech.com
13. Heather Appgar	Tetra Tech	heather.appgar@tetratech.com
14. John Merwin	Town of West Essex	ne-supervisor@ta.com
15. Bob Stevens	Town of North East	nehwy@optimum.net
16. Michael Appolonia	TOWN OF CLYNTON	MDA2660@small.com
17. MARK LIEBERMAN	T/WAPPINGER	MUEBER.MARK@TOWNOFWAPPINGER.US
18. Peter W. ...	RPD	pdwan@rhinebeckfd.com

HAZARD MITIGATION KICK-OFF - SESSION 1

MARCH 2, 2015

NAME	REPRESENTING	E-MAIL
19. Travis Ewald	Wappingers Falls	tewald@kcepc.com
20. Brandee Nelson	Red Hook	brandee@crowfordandassociates.com
21. Michele Greig	Red Hook	greig@hvc.rr.com
22. P. Hildenbrand	Red Hook	p.hildenbrand@redhookpublic.com
23. Goddards	Red Hook	
24. Mary Anne	Washington	mary@washingtonny.org
25. Bob Fenwick	Clinton	Bob.Fenwick@adl.com
26. El Spitzer	Rt 31	TDW, Supervisor @ Almeda, ny, gov
27. Karly Kinsella	Rhinebeck	town.highway@rhinebeck-ny.gov
28. Bob Balkind	Dut. Co. Dow	rbalkind@dutchessny.gov
29. Brad Wilson	Village of Fishkill	BRAD@VofFishkill.com
30. Tom VanTine	" " "	Tam@VofFishkill.com
31. Victoria Bessette	Town of Amenia	sperritt@amoenia.ny.gov
32. J. J. J.	Town of Amenia	ufenton@amoenia.ny.gov
33. Barb Guttle	T/Wappingers	bsguttle@townofwappingers.us
34. Barbara Robesti	T/Wappingers	brobesti@townofwappingers.us
35. Sara-Corn	FLIPING PLUM	sut@flippingplumny.gov



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Municipal Kick-Off Meeting - March 2, 2015
 Sign-In Sheet



Name	Title	Agency/Municipality	Phone Number	E-mail
ARIS GONF	Comm. of DPW	CITY OF FOLK.	(845) 451-4100	CLIENT@CITYOF-FOLK.NY.GOV
Auber Sack	Asst. Treasurer	Village of Ulster	845 285 4489	Client@VillageofUlster.ny.gov
Bobbi En	Tom Brad	Town of Milk	845 758 5733	superuser@milknny.gov
b. Gailor Cur	Deputy Mayor	" "	758-5733	" "
J. GRIFFITH	Deputy Mayor	Village Tivoli	845 757 4214	jroberty@titho@yahoo.com
K. Godwin	Deputy Mayor	" "	" "	Coop@ulster.ny.gov
Carol Campbell	Supervisor	T/O Pleasant Valley	845-635-3598	plsp@pleasantvalley-ny.gov
TOM FAZIO	Chief	T/O Fishkill	845 831 1110	T.FAZIO@FISHKILL.NY.GOV
Bob Lyons	Supv.	T/O Fishkill	845 831 7800	BLAYTON@FISHKILL-NY.GOV
SOEL PETERS	T/Fishes Bldg Insp	T/O Fishkill	845-580-8629	JLP@fishkill-ny.gov
TIM DEXNS	C/Beacon	C/Beacon	845-838-5009	TDEXNS@CityofBeacon.ny.gov
Scott Williams	V/Wapp Falls	Wapp Falls	845-297-8773	Swilliams@wappfalls.ny.gov
Matt Alexander	Mayor	" "	" "	mayor@wappfalls.ny.gov
Carl Calabres	Comm. Member	" "	" "	" "
LARRY PAGES	Tom Emerson	Union Vale	845-897-2375	LPAGES@unionvale.ny.gov
BARBARA CALHOUN	Supervisor	Town of Beekmantown	845 249-8448	B2@calhounbeekmantown.ny.gov
RONALD EWING	Zone 1 Admin	T/Fishkill	845-876-6296	ron.ewing@fishkill-ny.gov



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Dutchess County Hazard Mitigation Plan

March 2, 2015





Today's Topics

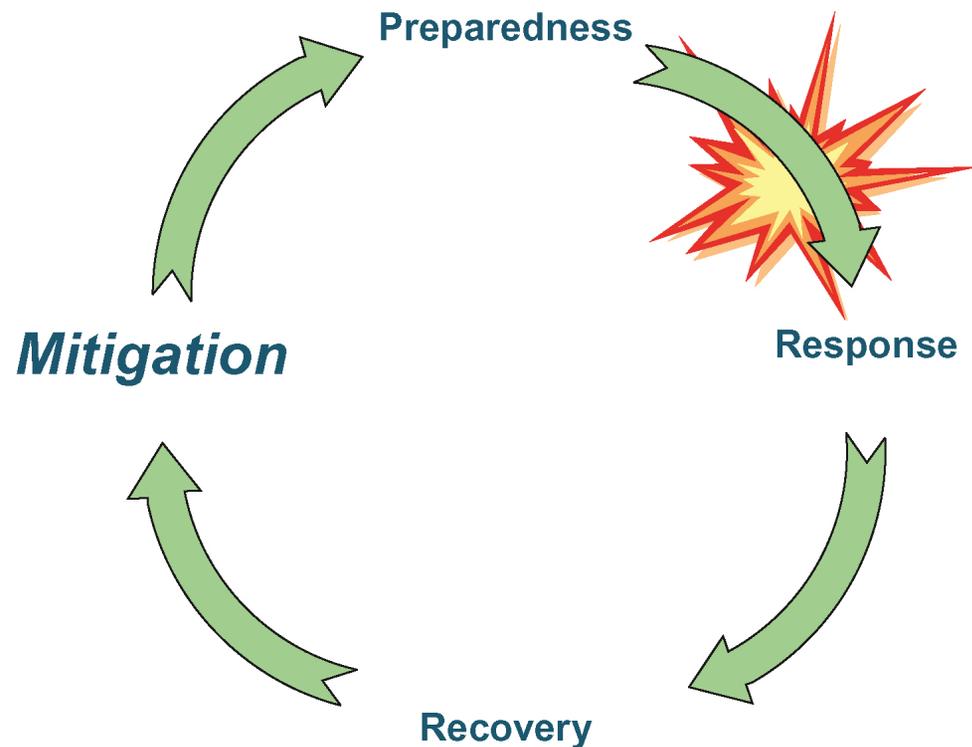
- Introductions
- Purpose for a Hazard Mitigation Plan
- How to accommodate those with HMPs and those currently without
- Schedule
- Participation Expectations
- Planning Process
- Action Items



Hazard Mitigation

“Mitigation” -

Sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event



“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



Dutchess County and DMA 2000

The mitigation plan update will:

- Help the County prepare for and mitigate the effects of disasters.
- Continue to allow the county and participating partners to be eligible for pre- and post-disaster recovery and mitigation funding.
 - Public Assistance Funding
 - Post-Disaster Reimbursement for Permanent Work (Categories C-G)
 - Post-Disaster Mitigation for Damaged Structures/Infrastructure (406 Mitigation)
 - Pre-Disaster Mitigation Grant Funding (404 Mitigation)
- Existing HMP expiration dates:
 - Dutchess County 9/24/2013
 - Eastern Dutchess Consortium 5/10/2016
 - Town of East Fishkill 10/1/2018
- Support CRS participation/rating of municipalities

A **Local Mitigation Plan** demonstrates the jurisdiction's commitment to reducing risk and serves as a guide for decision makers as they commit resources to minimize the effects of natural hazards.



Requirements for Local Mitigation Plan Updates

- Include the opportunity for public comment and for relevant agency and stakeholder involvement
- Updated Risk Assessment - a factual basis for activities proposed in the Mitigation Strategy section include:
 - Overview of hazards (type, location, probability)
 - Vulnerability analysis (impact on buildings, infrastructure, economy, development trends)
 - Multiple jurisdictions (specific to each town/village/city)
- Updated Mitigation Strategy – a blueprint for reducing losses identified in the risk assessment
- Plan Maintenance and Adoption Processes



Plan Document

- Volume 1 will contain all information that applies to the whole planning area (county) such as description of the planning process, risk assessment, goals and objectives, County/multi-jurisdictional mitigation strategies and a plan maintenance program.
- Volume 2 will contain those elements that are “jurisdiction specific”. Your community’s chapter. These annexes will meet DMA requirements for each jurisdiction.



Organization of the Planning Group

- County Management Team (Department of Emergency Response)
- Contract Consultant (Tetra Tech)
- Steering Committee
- Municipal Planning Partnership
- Stakeholders (e.g. academic, police, fire, health care, business/industry, utilities)
- General Public



Municipal Planning Partnership

- All municipalities are encouraged to participate to maintain or earn DMA2000 coverage.
- FEMA has greatly expanded their scrutiny of “participation”... Municipalities are required to actively participate.
- All municipalities who wish to join the update process **must formally indicate their intent to participate** with an LOIP.

Letters of Intent to Participate

Your Letter of Intent to Participate (LOIP) for your community are due ASAP to the Department of Emergency Response! Copies will be included in the HMP.



Municipal Participation

- Attend planning partnership meetings/workshops
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Provide outreach and encourage involvement of property owners in floodplains
- Assist with the development of your jurisdictional annex
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – Governing Body must pass an Adoption Resolution once the plan is approved by FEMA
- Implement and Maintain the Plan



Assemble Your Municipal Mitigation Team

*Here is who we suggest you include as part of your
Hazard Mitigation Planning team:*

- Floodplain Administrator
- Building Code Official
- Municipal Engineer
- Land Use Planner
- Municipal Clerk
- Municipal Mayor/Administrator
- Municipal CFO/Fiscal Rep
- Public Works Director
- Police Official
- Fire Official

Data Collection Worksheets



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Outline of Worksheets on the CD
Due to Tetra Tech by March 27, 2015



Please send completed Word electronic versions of worksheets by March 27, 2015 to:
Jonathan Raser
Phone: (973) 630-8042 Email: jonathan.raser@tetrattech.com

#	Worksheet Name	Who is Responsible to Complete and Submit this Worksheet?	Where do you find the requested information?
1	Events/Losses	OEM, Police, Fire, DPW, Engineer	FEMA Project Worksheets (PWs) DPW records, Police response records
2	Capability Assessment	Code Official, Planner, CFO/Fiscal Rep, Clerk	Code Book, e-Code, Municipal ordinances, Master Plan
3	NFIP Floodplain Administrator	Floodplain Administrator	NFIP Records
4	Mitigation Action Progress	HMP Main POC – see ‘Responsible Party’ column in the table provided for guidance	LOIs, NYS DHSES Grants, Capital Improvement records
5	Plan Integration Questionnaire	HMP Main POC	Discuss with Engineer, Clerk, Administrator, Planner, CFO, and Municipal Mayor/Administrator
6	New Development Table	Engineer, Planner, Building Department	Redevelopment Plans, Permits

Plan Update Process Steps

- Organize Resources
- Re-Assess the Risk
- Review and Update the Mitigation Plan
- Develop Procedures for Plan Implementation, Monitoring and Update
- NYS DHSES / FEMA Approval
- Adopt the Plan

Engage a Wide Range of “Stakeholders”

- Federal, State, Regional and Local Agencies
- Business and Civic Groups
- Academic Institutions
- Other “local governments”
- The Public





Organize the Resources

- Steering Committee oversees the Municipal Planning Partnership organizational structure
- Letter Of Intent to document municipal participation
 - Identifying municipal participation expectations
 - Authorizing a Steering Committee to act on their behalf as appropriate

Municipal Involvement will be encouraged and promoted by:

- Three to four formal municipal planning partnership meetings (Kick-Off, FEMA Mitigation Strategy, Annex Workshop)
- Data collection and annex tools, templates, surveys
- Completion of Municipal Annex supports “buy in” and “ownership”
- Planning process execution and municipal training programs builds local capability
- Local public outreach including RL/SRL flood structure outreach

Re-Assess the Risk



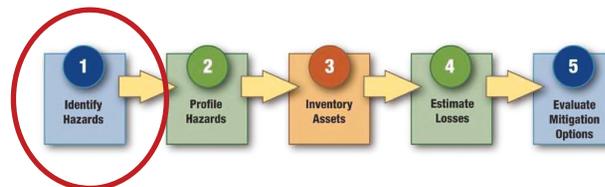
These are the Five Steps to Assess Risk:

1. Identify Hazards
2. Profile Hazards
3. Inventory Assets
4. Estimate Losses
5. Evaluate Mitigation Options

Assess the Risk – Hazard of Concern Identification

Hazards of Concern (HOCs)- Those natural hazards that pose significant risk to the Planning Area – and we can address through mitigation rather than only through preparedness, response and recovery.

- Review and update the “hazards of concern” that we will carry through the planning process.
- Our effort should be proportional to the risk the hazards pose.
- Each municipality has differing risk to the HOCs.
- We are generally limiting this plan to natural hazards.



Hazards of Concern Exercise

(see handout)



DUTCHESS COUNTY HAZARD MITIGATION PLAN 2015 UPDATE

Hazards of Concern Review Exercise



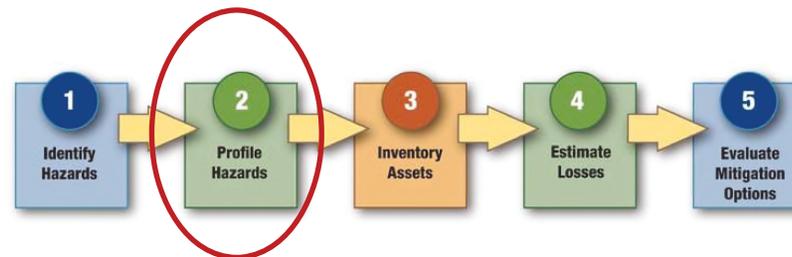
2014 NYS HMP – HOC Identified for Dutchess County	Dutchess County HMP (2010)	Eastern Dutchess HMP	Town of East Fishkill HMP	Proposed 2015 Plan Update
Avalanche	Not Identified in Plan	Not Identified in Plan	Not Identified in Plan	Not Proposed in 2015 Plan Update
Climate Change	Not Identified in Plan	Not Identified in Plan	Not Identified in Plan	Not Proposed in 2015 Plan Update
Coastal Erosion	Not Identified in Plan	Not Identified in Plan	Not Identified in Plan	Not Proposed in 2015 Plan Update
Drought	Drought	Drought	Not Identified in Plan	Drought
Earthquake	Not Identified in Plan	Earthquake	Earthquake	Earthquake
Extreme Temperature	Not Identified in Plan	Extreme Temperatures	Extreme Temperatures	Extreme Temperatures
Flood (riverine overbank flooding, flash floods, alluvial fan floods, mudflows or debris floods, ice-jams, dam- and levee-break floods, local draining or high groundwater levels, fluctuating lake levels, and coastal flooding)	Flood	Flood (storm surge, wave action)	Flood (riverine, flash flooding, ice jam, dam failure)	Flood (riverine, flash, ice jam, and dam failure)
	Dam Failure	Dam Failure	Dam Failure	
		Ice Jams		
Hail	Not Identified in Plan	Lightning	Severe Storm (hail, wind, lightning, thunderstorm, tornado, tropical storm, hurricane)	Severe Weather (hail, wind, lightning, thunderstorm, tornado)
High Winds (tomado, straight-line)	Tornado	Extreme Wind Tornado		
Hurricane (tropical storm, coastal storms, Nor'Easter)	Hurricane Severe Storm	Hurricane and Tropical Storm Nor'Easter		
Land Subsidence / Expansive Soil	Not Identified in Plan	Not Identified in Plan	Not Identified in Plan	Geological Hazards (land subsidence/expansive soil, landslide)
Landslide	Not Identified in Plan	Landslides	Not Identified in Plan	
Severe Winter Storm (snow, sleet, freezing rain, blizzard)	Severe Winter Storm	Winter Storm	Severe Winter Storm (heavy snow, blizzard, sleet/freezing rain, ice storm, Nor'Easter)	Severe Winter Storm (heavy snow, blizzard, sleet/freezing rain, ice storm)
Tsunami	Not Identified in Plan	Not Identified in Plan	Not Identified in Plan	Not Proposed in 2015 Plan Update
Wildfire	Not Identified in Plan	Wildfire	Not Identified in Plan	Wildfire
	Groundwater Contamination			
	Epidemic			
	Surface Water Contamination			
	Oil Spill			
	Utility Failure			

Assess the Risk – Hazard Profiling (Worksheet #1 on your CD)

- Hazards are profiled (characterized) according to:
 - Background and local conditions
 - Historic frequency and probability of occurrence
 - Severity
 - Historic losses and impacts
 - Designated hazard areas

- What hazard events have occurred since the 2010 Plan?

- What County and local losses have occurred as a result of these events?



Worksheet #1 on CD Events and Losses

Homework

Complete Worksheet #1 (Events/Losses) and send
Word electronic version via email by March 27th



DUTCHESS COUNTY HAZARD MITIGATION PLAN 2015 UPDATE
Worksheet #1 – Events and Losses



Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 973-630-8044 E-mail: jonathan.raser@tetratech.com

Municipality: _____

Who can provide information about events and losses: OEM Coordinator, Police, Fire, DPW, and municipal Engineer. Refer to FEMA Project Worksheets (PWs), DPW records, police response records, etc.

In the table below, please identify events in which your community suffered significant damages/losses and describe these losses (e.g., flooded roads, road closures, DPW/Police overtime, debris management, opened shelter for two days, etc.). Please add other non-declared events that affected your community that are not listed.

Then, please fill out an 'Event and Loss Summary Sheet' for Hurricane Irene and Hurricane Sandy. Feel free to add additional sheets for other major events in your community.

Dates of Event	Event Type	FEMA Declaration	Dutchess County Designated?	Did your community suffer losses/costs from this event? (Yes/No - If "yes" please complete an Event Loss Summary Sheet for this event.)
<i>EXAMPLE</i>				<i>Main Street was closed due to flooding for 3 days; DPW and Police overtime for 3 days to detour traffic, collect debris, assist at shelter; Shelter at High School open for 1 day</i>
January 25-26, 2010	Widespread Flooding	N/A	N/A	
February 24, 2010	Heavy Snow	N/A	N/A	

For example

Main Street closed for 3 days; Police/Fire/DPW overtime; Shelter at High School open for 1 day

Worksheet #1 on CD Events and Losses *(Continued)*



DUTCHESS COUNTY HAZARD MITIGATION PLAN 2015 UPDATE
Worksheet #1 - Events and Losses



Event and Loss Summary Sheet
Hurricane Irene

Event Date and Description (incl. DR# if applicable): _____

Life Safety (evacuation, sheltering, injuries, deaths):

Loss of Service (e.g. road closures, utility outages, commercial closures – include location, time of closure and/or number of affected):

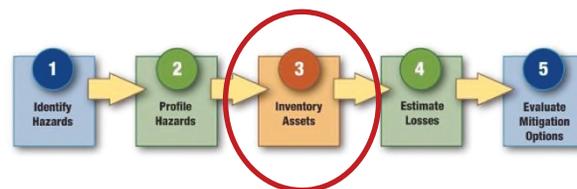
Infrastructure Damage (e.g. roads, bridges, culverts, treatment facilities, lift stations, etc.):

Facility/Structural Damage – Public (e.g. police, school, etc.):

Assess the Risk – Inventory Assets

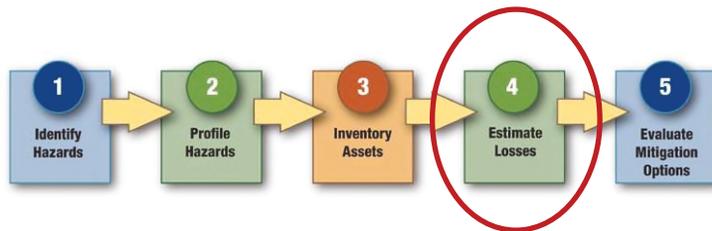
What is at risk? People, Property, Economy, Environment

- Population and Demographics – Has this changed since 2010?
- Building Stock (Residential, Commercial, Industrial, Educational, etc.) – Has this changed since 2010?
- Facilities (critical and essential facilities, utilities, transportation features, high-potential loss facilities and user-defined facilities)
 - Police, Fire, Emergency Services
 - Hospitals and Medical Care Facilities
 - Schools and Care Facilities
 - Sheltering Facilities
 - Infrastructure (Transportation Systems, Utilities)



Assess the Risk – Estimate Losses

- Vulnerability Assessment - What do we predict our suffering to be if we do nothing to mitigate our risk:
 - Given current conditions, which have changed since 2010?
 - Given our improved understanding of risk, and tools to assess that risk, which have changed since 2010?

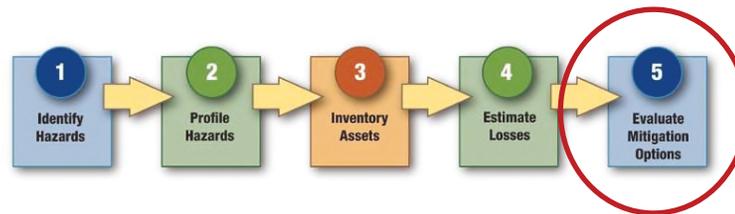


Assess the Risk – Evaluate Mitigation Options

➤ Re-evaluate Hazard Mitigation Goals and Objectives

Goals: General guidelines that state what we want to achieve.
Should be consistent with the State goals and other local goals.
Example: “Protect property”

Objectives: Define strategies or implementation steps to attain a stated goal.
Example: “Enact or enforce regulatory measures that ensure new development will not increase flood threats to existing properties”.





Assess the Risk – Evaluate Mitigation Options

➤ Evaluate Capabilities

What resources do we have at our disposal to Mitigate Risk?

“Proposed mitigation actions will be evaluated against the backdrop of what is feasible in terms of your government’s legal, administrative, fiscal and technical capacities”
(FEMA 386-3)

- Serve to identify legal authority and administrative, technical and fiscal capabilities in the state, county and jurisdictions that will facilitate or hinder hazard mitigation goals and objectives.
- State Capability Assessment is in the State HMP
- Part of this Planning Process is to build County and Local Mitigation Capabilities
- Training, Workshops and Seminars

Capability Assessments (Worksheet #2 on CD)

Homework

Complete Worksheet #2 and send Word version via email by March 27

- Building Code Official
- Municipal Engineer
- Land Use Planner
- Municipal Clerk
- Floodplain Administrator
- CFO/Fiscal Representative



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet #2 – Municipal Capability Assessment



Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 973-630-8044 E-mail: jonathan.raser@tetrattech.com

Municipality: _____

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation. In addition, indicate the code chapter, and name of plan including any explanation of authority in the right-most column.

Who can assist with completing this table: Municipal Planner, Clerk, Code Official. Refer to your municipal codes and ordinances, Master Plan.

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan				
Capital Improvements Plan				
Floodplain Management / Basin Plan				
Stormwater Management Plan				
Open Space Plan				

NFIP Compliance

We need the NFIP Floodplain Administrator Involved!

- We need to know specific information about the NFIP program in your community.
- Your NFIP Floodplain Administrator (FPA) MUST be actively involved in the update process.
- Please verify name and contact information today – see sheet next to the sign-in sheets
- **Homework:** NFIP Administrator to complete **Worksheet #3**

 <p>DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet #3 - NFIP Floodplain Administrator Questionnaire</p> 
<p>Please send completed Word electronic versions of worksheets by March 27, 2015 to: Jonathan Raser Phone: (973) 630-8042 Email: jonathan.raser@tetrattech.com</p>
<p>Municipality: _____</p> <p>NFIP Floodplain Administrator Name/Title: _____</p> <p>Flood Vulnerability Summary</p> <ol style="list-style-type: none">1. Does the municipality maintain lists/inventories of properties that have been flood damaged? If so, does this inventory identify property owners who are interested mitigation (e.g. elevation, acquisition)?2. Characterize/quantify the number of structures damaged during Sandy or other events. If possible, can you provide a table of these structures indicating the number of residential/commercial/industrial?3. Do you make Substantial Damage estimates, and how many were declared for Sandy or other events?

Update, Identification and Analysis of Mitigation Actions

- Mitigation strategies need to be realistic, achievable and action-oriented.
- Will include both regional (county-wide) strategies, as well as jurisdiction-specific.
- For each proposed mitigation strategy, the following will be identified:
 - Implementation timeline
 - Estimated budget
 - Potential funding sources
 - Lead agency or department
 - Supporting agencies
 - Priority
 - For prior/old strategies provide update of status
- Proposed mitigation activities are evaluated using a Cost-Benefit Screening





Update Progress on 2010 Actions

- Identify progress made on mitigation actions identified in 2010 plan.
- If an action wasn't completed, why not?
- This strategy review process is NOT meant to blame or punish. The answer can reveal things that need to be addressed to allow mitigation to progress (new initiatives), for example:
 - Obstacle: We do not have the technical resources to prepare a grant application.
 - Possible Action: Develop a county-level support team trained in application development.

Update Progress on 2010 Actions (Worksheet #4 on CD)

Homework

Complete **Worksheet #4** (Custom to your Municipality) and send via email by March 27 to Jonathan Raser



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet #4 - Mitigation Action Review Worksheet for XXXX



Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 973-630-8044 E-mail: jonathan.raser@tetrattech.com

Who can provide you information about past mitigation actions: See the 'Responsible Party' column in the table below which identifies who put this action in the 2011 HMP (e.g., DPW, Engineer, Code Official, Planner, OEM Coordinator).

Please use the following table to indicate progress and next steps on your community's mitigation strategy identified in the 2010 HMP. Please be as detailed as possible.

2010 Mitigation Action	Responsible Agency	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2015 HMP or Discontinue)	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
<i>Example:</i> Elevate Main Street Bridge	DPW	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2015 HMP	1. Elevate Main Street Bridge above the base flood elevation. 2. (If you chose 'Discontinue,' here is an example: The Town does not have the authority to retrofit this bridge; it is owned by the State.
		Choose an item.	1. 2. 3.	Choose an item.	1. 2.

New Mitigation Actions for 2015 HMP Update

- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- We will go over this at our next meeting – date to be announced in Spring
- FEMA's Mitigation Workshop – date to be announced



*"At the first sign of a flood, you
just push this little button."*



Types of Mitigation Actions

- **Plans and/or Regulations.** Measures such as zoning and building code, ordinances, planning (comprehensive/master plans, stormwater management plans, open space), hazard/risk insurance (e.g. NFIP).
- **Property Protection.** Measures such as acquisition, elevation, relocation, structural retrofits, storm shutters, rebuilding, barriers, floodproofing.
- **Public Education and Outreach.** Measures such as public awareness projects, real estate disclosure, hazard information centers, technical assistance.
- **Natural Resource Protection.** Measures such as erosion and sediment control, stream corridor protection, vegetative management, wetlands preservation.



Mitigation Action Example

General Action: Retrofit Vulnerable Infrastructure

Detailed Action:

The Village will replace the Jefferson Avenue Bridge, located in the center of the Village to avoid river flow restrictions created by the current design of the bridge. The current bridge has suffered extensive structural damage during past flooding events. The center piling of the bridge is located mid-stream in the Mamaroneck River and contributes to debris back-up and reduced flow capacity of the river.

Action Words to Use: Replace; Retrofit; Reconstruct; Improve Design; Increase Capacity; Acquire; Elevate



Plan Implementation

- Your mitigation strategy section provides a “blueprint” to follow for progressively reducing your community’s natural hazard risk.
- It will includes two type of initiatives/projects – those that your community can “self fund”, and those that will require outside (e.g. grant) funding.
- Mitigation grant opportunities open regularly:
 - The annual HMA grant window opens in June of each year.
 - HMGP funding comes in the wake of Declared Disasters in the State.



Integration with Other Plans and Programs

The Hazard Mitigation Plan should complement and support other Plans and Regulatory Mechanisms

- Emergency Operations Plan (EOP) / Comprehensive Emergency Management Plans (CEMP)
- Master Plans (regional and local) – these plans guide and direct land use and development
- Community Recovery and Redevelopment Programs
- Stormwater Management Plans
- Capital Improvement Plans (some of these projects are grant eligible)
- Higher Regulatory Standards (e.g. increased free-board, cumulative substantial damages)

Plan Integration (Worksheet #5 on your CD)

- For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. We need to gather an understanding of your community's progress in plan integration, as well identify potential integration opportunities that you may pursue in the future.
- Circulate to your "team"

	DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet #5 – Capability Assessment and Plan Integration	
<p>Please complete responses below and send electronic Word version by March 27, 2015 to: Jonathan Raser Phone: 973-630-8044 E-mail: jonathan.raser@tetrattech.com</p>		
Municipality: _____		
<p>For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. We would like to gather an understanding of your community's progress in plan integration, as well identify potential integration opportunities that your community may pursue in the future.</p>		
<p>Who can assist with completing this table: The HMP main point of contact should discuss with the Engineer, Clerk, Mayor/Administrator, Planner, CFO</p>		
Applicable Department/Agency	Plan, Program, Mechanism, etc.	
Planning		
Planner (staff or contract); Planning Board; Zoning Board of Adjustments	Does your municipality have a Master/Comprehensive Plan (land-use plan), or are you currently working on an update of your Master/Comprehensive Plan?	
	If so, does it include, or are you considering, areas of natural hazard risk (e.g. flood-prone areas, steep slopes)?	
	Does your Master/Comprehensive plan refer to a local or Countywide Hazard Mitigation Plan?	

New Development (Worksheet #6 on your CD)

- Please indicate any major new development since 2010 AND any known or anticipated major new residential/commercial development and major infrastructure development that are identified for the next five (5) years in your municipality.



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet #6 - Potential New Development



Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 973-630-8044 E-mail: jonathan.raser@ttratech.com

Municipality: _____

Please indicate any recent development within your community from 2010 to present. Additionally, please indicate known or anticipated major residential and/or commercial development and major infrastructure development that are identified for the next five (5) years in your community.

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and Block/Lot	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to Present					
Known or Anticipated Development in the Next Five (5) Years					



Other Planning Tasks

- Assuring wide involvement and public participation
 - Notices and News Releases on planning effort (newspapers)
 - HMP Webpage detailing effort, providing downloadable drafts of the plan, and providing a way for public input (local contact information and email link)
 - Invite Stakeholder and Public Participation
 - Citizen Survey
 - Stakeholder Surveys
 - Participate in County Comprehensive Economic Development Strategic Committee (County and Stakeholder Involvement)
 - Public access to draft and final plan documents
- Documentation of the Planning Process
- Plan implementation and maintenance procedures
- Adoption by local governments



We Need You Engaged and Involved!

Outreach

- Link to County's HMP Web Page – *in process of being updated*
- Social Media Blasts
- Local Announcements of HMP Update
- Local public meetings – *send us the agendas*

More Homework – All due March 27th via email to Tetra Tech

- Plan Integration (**Worksheet #5** on CD)
- New Development (**Worksheet #6** on CD)



Schedule

- Municipal Kick-Off Meeting: March 2, 2015
- Municipal Data Collection –
Local Support Meetings: March – May, 2015
- FEMA Mitigation Workshop: Early May 2015
- First Draft to NYS DHSES: June 18, 2015
- Municipal Annex Completion Workshop: Late Summer 2015
- Posting of Draft to Public Website: October, 2015
- Final Draft to County: December 1, 2015
- Final Draft to State and FEMA Region II: December 18, 2015

Worksheets #1 – #6

Due in electronic format by **March 27th**
via email to Jon

All electronic templates are on your CD in the
'Worksheets' folder.

Call with any questions!

#	Worksheet Name	Who is Responsible to Complete and Submit this Worksheet?	Where do you find the requested information?
1	Events/Losses	OEM, Police, Fire, DPW, Engineer	FEMA Project Worksheets (PWs) DPW records, Police response records
2	Capability Assessment	Code Official, Planner, CFO/Fiscal Rep, Clerk	Code Book, e-Code, Municipal ordinances, Master Plan
3	NFIP Floodplain Administrator	Floodplain Administrator	NFIP Records
4	Mitigation Action Progress	HMP Main POC – see 'Responsible Party' column in the table provided for guidance	LOIs, NYS DHSES Grants, Capital Improvement records
5	Plan Integration Questionnaire	HMP Main POC	Discuss with Engineer, Clerk, Administrator, Planner, CFO, and Municipal Mayor/Administrator
6	New Development Table	Engineer, Planner, Building Department	Redevelopment Plans, Permits

In-Kind Tracking

- Local and County portion will be covered through in-kind services
- Please keep track of your time using the tool on your CDs.

	A	B	C	D	E	F	G	H	I	J
1							Labor Rate			
2							Title			
3	Event	Date	Time - Start	Time - End	Notes	# of Hrs.	Name			
4										
5	Kick-Off Meeting							0	0	
6										
7	Municipal Workshops							0	0	
8										
9	Mitigation Strategy Workshop							0	0	
10										
11	Completing Worksheets							0	0	
12										
13										
14										
15										
16										
17										
18										



Thank you!

Jonathan Raser, CFM
Tetra Tech, Inc.

jonathan.raser@tetratech.com



Steering Committee Meeting #2
392 Creek Road, Poughkeepsie, NY
March 2, 2015

- Municipal Planning Partnership
 - Letter of Intent to Participate – Status of returns, identification of planning points of contact and NFIP FPA
 - Kick Off Meeting for Municipal Planning Partnership: March 9th, 2pm and 6pm – Turnout for first session, expectations for second session
 - Local Data Collection Meetings: March – May, 2015 – How best to accommodate?
 1. Workshops for several communities at a time – morning and afternoon sessions
 2. On-site meetings with larger (e.g. cities) and other interested communities

- Public and Stakeholder Outreach (website, surveys, meetings, etc.)
 - Proposed content for county-served project website – Status of website development – single page format being used, example: Chenango County: <http://www.co.chenango.ny.us/hazard-mitigation-plan>
 - Comments on Citizen/Public and Stakeholder Surveys
 1. New DPW Survey prepared by Robert Balkind
 2. Project presentation to Town DPW Supervisors?
 - Outreach to NGO's (Dana Smith question)
 - Need to identify/develop distribution lists for each stakeholder group

- Data Collection
 - County Level Data and GIS (data "Wish List") – Alison Miskiman working with GIS/IT – DVD to be provided with data that couldn't be downloaded
 - Relevant Existing Studies and Reports – TT currently reviewing and incorporating what we have found online (county and municipal websites) –
 - Are there other plans, programs, documents that we should be reviewing that may not be obvious or readily found online?

- Hazards of Concern - Finalization



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
SIGN-IN SHEET



TOPIC: Steering Committee Meeting
MEETING DATE: March 2, 2015

Name	Title	Agency/Municipality/Department	Phone Number	E-mail
Jonathan Rafter	Prof. Mar.	Tetra Tech	973-630-8042	
Dana Smith	Commissioner	Emergency Resp	486-7080	dsmith@dutchessny.gov
William H. Beale	Emergency Manager	Emergency Response	486-2082	wbeale@dutchessny.gov
Rob Hicks	Dep. Commr	Planning		
Erin Wrafter	Acting Commr	Planning and Development	486-3600	erin@tetra.dutchessny.gov
Bob Balkind	Deputy Commr	Dot. Co. DPW	(845) 484-2925	rbalkind@dutchessny.gov
Laurie Colgan	Conf Administrator	DEP		
Heather Apgar	Env. Scientist	Tetra Tech	973-630-8046	heather.apgar@tetratech.com



Dutchess County Hazard Mitigation Plan Update Meeting Minutes

Purpose of Meeting:	Steering Committee Meeting #2	
Location of Meeting:	392 Creek Road, Poughkeepsie, New York	
Date of Meeting:	March 2, 2015	
Attendees:		
<p>Dana Smith, Commissioner – Dutchess County Dept. of Emergency Response William Beale, Emergency Manager - Dutchess County Dept. of Emergency Response Ron Hicks, Dep. Commissioner – Dutchess County Dept. of Planning and Development Eoin Wrafter, Acting Commissioner – Dutchess County Dept. of Planning and Development Bob Balkind, Dep. Commissioner – Dutchess County DPW Laurie Colgon, Admin. Assistant – Dutchess County Dept. of Emergency Response Jonathan Raser, Project Manager – Tetra Tech Heather Apgar, Mitigation Specialist – Tetra Tech</p>		
Agenda Summary:		
The purpose of this meeting was to discuss the status of the HMP update process.		
Item No.	Description	Action By:
1	<p>Municipal Planning Partnership</p> <ul style="list-style-type: none"> • LOIP – almost all municipalities have sent in; Dutchess County will forward to Tetra Tech • Municipal Kick Off Meeting – great turn out for the 2pm meeting; only a handful of municipalities coming to 6pm meeting • Local Data Collection Meetings – there will be 4 regional meetings in two days the first week of April; County will finalize the location of these meetings and will notify Tetra Tech the dates and locations 	Steering Committee
2	<p>Public and Stakeholder Outreach (website, surveys, meetings, etc.)</p> <ul style="list-style-type: none"> • The County HMP website will be live by March 6th • Surveys – County is reviewing and will get back to Tetra Tech • Outreach to Non-Government Organizations • Need to finalize the distribution list for each stakeholder group 	Steering Committee
3	<p>Data Collection</p> <ul style="list-style-type: none"> • Tetra Tech was given a DVD with GIS data • The County's flood maps have just been updated 	Steering Committee and Tetra Tech



Dutchess County Hazard Mitigation Plan Update Meeting Minutes

4	Hazards of Concern – Finalization <ul style="list-style-type: none">• The hazards will include: drought, earthquake, extreme temperature, severe weather, geological hazards (this may be dropped), flood (coastal, riverine, SLR, flash, ice jam and dam failure), coastal (erosion, storm surge, hurricane, tropical storm), winter storm (w/ nor'easter), and wildfire	Steering Committee and Tetra Tech
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LOCAL SUPPORT MEETING
TOWN OF BEERMARSH - 4/7/15 - 2PM

<u>NAME</u>	<u>TITLE</u>	<u>PHONE</u>	<u>EMAIL</u>
Andrew J. Forman	Comptroller	845 724-5300 x231	aforman@townofbeer ^{sh} .ny.gov
Barbara Wulff	Supervisor	845-24-5805 ext 205	bwulff@TownofBeer ^{sh} .ny.gov
Michael J. White	Administrator Zoning Administrator	845-635-8395	mwhite@pleasantvalley ^{ny} .gov
Carol Campbell	Supervisor	845-635-3598	pc@pleasantvalley ^{ny} .gov
Brian Scorsone	DCSWCO		

LOCAL SUPPORT MEETINGS
 Town of Amenia - April 7, 2015 - 10:00AM

<u>NAME</u>	<u>POSITION</u>	<u>PHONE</u>	<u>EMAIL</u>
STAN Whitehead	Hwy Supt.	845-373-9922	TOWND@optimum.com
Victoria Perotti	Supervisor	845-235-2499	vperotti@ameniany.gov
Susan Metcalfe	Zoning	845-373-8860	Smetcalfe@ameniany.gov
Linda French	Councilwoman	845-208-1854	LFRENCH@TOWN OF DOVER N.Y US -
BRIAN SCORALFICK	DUTCHESS SWCD		
BILL BEALE	DC EMER MGMT		
LARRY BRADY	DC EMER MGMT		



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Municipal Support Meeting - 10 AM April 14, 2015
 Sign-In Sheet



Name	Title	Agency/Municipality	Phone Number	E-mail
Heather Appai	Env. Scientist	Tetra Tech	973-630-8046	heather.appai@tetratech.com
Kathleen Moss	Zoning Admin	Town of Hyde Park	845-229-5111 x2	zoneadmin@hydeparkny.us
Scott Williams	Grant writer	Town of Wappingers Falls	203-725-6766	swilliams@wappingersfallsny.gov
Emily Svenson	Town Council member	Town of Hyde Park	845-489-2280	esvenson@hydeparkny.us
Susan Dow	Code Enforcement Officer	Town of Wappingers	845-297-6256	SDAO@TownofWappingers.ny.us
Barbara Roberti	Zoning Admin. Flood Plain Admin	Town of Wappingers	845-297-1373	broberti@townofwappingers.ny.us
Joel Petrus	Big Fire Flood Plain Admin	Town of Fishkill	845-831-7800	JPETRUS@Fishkill-NY.gov
Glenn Scofield	H.W. Superintendent	Town of Fishkill	845-896-6013	Highway@Fishkill-NY.gov
Kathy Goodnow	H/W	Town of Fishkill	845-896-6013	"
William H. Deace	Emergency Manager	Dutchess County	(845) 486-2022	Wbceace@dateki.ny.gov
Ryan Conklin	Planner	Tetra Tech		



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Municipal Support Meeting - 2 PM April 14, 2015
 Sign-In Sheet



Name	Title	Agency/Municipality	Phone Number	E-mail
JOEL GRIFFIN	MAYOR	TIVOLI	845 757 2021	jrobertgriffith@yahoo.com
Robin L Bruno	Deputy Mayor	Tivoli	845 235-2190	robin.tivoli@aol.com
Kathy Kinseella	Highway Supt	T/Rhinebeck	845-876-6263	Kathy.Kinseella@nyo.com
Ed Matulk	Building Inspector	T/Rhinebeck	845-876-6296 EXT 21	
RENAUD EVANGELISTA	Zoning ADMIN	T/Rhinebeck	845-876-6296	town.zo@rhinebeck-ny.gov
William H. Beale	Emergency Manager	Dutchess County	(845) 406-2002	wbeale@dutchessny.gov
Dana Smith	Commissioner	Dutchess County	845-486-2080	dsmith@dutchessny.gov
Heather Apper	Env. scientist	Tetra Tech		
Ryan Conklin	planner	Tetra Tech		

LOCAL DATA COLLECTION MEETING
 TOWN OF Poughkeepsie - 5/13/15

<u>NAME</u>	<u>TITLE</u>	<u>EMAIL / PHONE</u>
Jonathan Rasor	Planner; Tetra Tech	JJonathan.Rasor@TetraTech.C. (973) 630-8042
Max Pfeifer	Highway Supv	mpfeifer@townofpoughkeepsie-ny.gov (845) 452-1750
Franco Zani	WASTEWATER COLLECTION DEPT.	fzani@townofpoughkeepsie-ny.gov 845.462.2286
Brian Coons	JR PLANNER	845-485-3657 bcoons@townofpoughkeepsie-ny.gov
Thomas Wlasek	Deputy Buildg Inspector / Flood Plain Administrator	845-485-3655 twlasek@townofpoughkeepsie-ny.gov

NAME

TITLE

EMAIL

CHRIS GENT

Com. DPW

CGENT@CITYOFPOUGHKEEPSIE.COM

JOE CHENIOR

Asst. Civil Engineer

jchenior@ " " "

JOSEPH KANE

DRAFTING TECH.

JKANE@CITYOFPOUGHKEEPSIE.COM

MEETING w/ Town of Hyde Park
August 25, 2015

<u>NAME</u>	<u>POSITION</u>	<u>EMAIL</u>
Kathleen (Tad) Moss	Zoning Administrator	zoneadmin@hydepark.us
Emily Svenson	Ward 1 Councilmember	esvenson@hydeparkny.us
RICH PERKINS		richperkins@optonline.net
Peter Sestaro	Town Engineer	psestaro@morrisengineers.com

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Dutchess County Hazard Mitigation Plan

April 14, 2015

Today's Topics

- Introduction to Plan
- Completing Worksheets
- Evaluate actions in your 2011 Plan (Worksheet #4)
- Address risk findings
 - See NFIP statistics
 - Risk assessment results to be provided
- Analyze a range of actions
- Assess community capabilities
- Evaluate identified actions
- Prepare implementation plan

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Dutchess County and DMA 2000

The mitigation plan update will:

- Help the County prepare for and mitigate the effects of disasters.
- Continue to allow the county and participating partners to be eligible for pre- and post-disaster recovery and mitigation funding.
 - Public Assistance Funding
 - Post-Disaster Reimbursement for Permanent Work (Categories C-G)
 - Post-Disaster Mitigation for Damaged Structures/Infrastructure (406 Mitigation)
 - Pre-Disaster Mitigation Grant Funding (404 Mitigation)
- Existing HMP expiration dates:
 - Dutchess County 9/24/2013
 - Eastern Dutchess Consortium 5/10/2016
 - Town of East Fishkill 10/1/2018
- Support CRS participation/rating of municipalities

A Local Mitigation Plan demonstrates the jurisdiction's commitment to reducing risk and serves as a guide for decision makers as they commit resources to minimize the effects of natural hazards.

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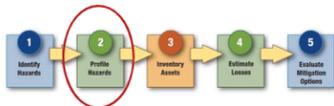
Plan Document

- **Volume 1** will contain all information that applies to the whole planning area (county) such as description of the planning process, risk assessment, goals and objectives, County/multi-jurisdictional mitigation strategies and a plan maintenance program.
- **Volume 2** will contain those elements that are "jurisdiction specific". Your community's chapter. These annexes will meet DMA requirements for each jurisdiction.

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Assess the Risk - Hazard Profiling (Worksheet #1)

- Hazards are profiled (characterized) according to:
 - Background and local conditions
 - Historic frequency and probability of occurrence
 - Severity
 - Historic losses and impacts
 - Designated hazard areas
- What hazard events have occurred since the 2010 Plan?
- What County and local losses have occurred as a result of these events?



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Worksheet #1 Events and Losses

Homework

Complete Worksheet #1 (Events/Losses) and send Word electronic version via email by **March 27th**

DUTCHESS COUNTY HAZARD MITIGATION PLAN 2015 UPDATE
Worksheet #1 - Events and Losses

Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 977-630-8044 | Email: jonathan.raser@tcitech.com

Municipality: _____

Who can provide information about events and losses: OEM Coordinator, Police, Fire, DPW, and municipal Engineer. Refer to FEMA Project Worksheets (PWs), DPW records, police response records, etc.

In the table below, please identify events in which your community suffered significant damages/losses and describe those losses (e.g., flooded roads, road closures, DPW/police overtime, debris management, opened shelter for two days, etc.). Please add other non-declared events that affected your community that we not listed.

Then, please fill out an "Event and Loss Summary Sheet" for Hurricane Irene and Hurricane Sandy. Feel free to add additional sheets for other major events in your community.

Date of Event	Event Type	FEMA Declaration	Dutchess County Designated?	Did your community suffer losses/damage from this event? (Yes/No - If "yes" please complete an Event Loss Summary Sheet for this event. Attach to your completed and printed PW. Police and Fire overtime, etc. - also to document traffic, school delays, event at shelter, Shelter at High School open for 1 day.
EXAMPLE January 25-26, 2010	Widespread Flooding	N/A	N/A	
February 24, 2010	Heavy Snow	N/A	N/A	

For example
Main Street closed for 3 days; Police/Fire/DPW overtime; Shelter at High School open for 1 day

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Worksheet #1 Events and Losses (Continued)

DUTCHESS COUNTY HAZARD MITIGATION PLAN 2015 UPDATE
Worksheet #1 - Events and Losses

Event and Loss Summary Sheet
Hurricane Irene

Event Date and Description (incl. DR# if applicable): _____

Life Safety (evacuation, sheltering, injuries, deaths): _____

Loss of Service (e.g. road closures, utility outages, commercial closures – include location, time of closure and/or number of affected): _____

Infrastructure Damage (e.g. roads, bridges, culverts, treatment facilities, lift stations, etc.): _____

Facility/Structural Damage – Public (e.g. police, school, etc.): _____

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Capability Assessments (Worksheet #2)

Homework

Complete Worksheet #2 and send Word version via email by March 27

- Building Code Official
- Municipal Engineer
- Land Use Planner
- Municipal Clerk
- Floodplain Administrator
- CFO/Fiscal Representative

DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet #2 - Municipal Capability Assessment

Please complete responses below and send electronic Word version by March 27, 2015 to:
Jonathan Raser
Phone: 973-630-8044 E-mail: jonathan.raser@tetratech.com

Municipality: _____

1. **Planning and Regulatory Capability:** Please indicate whether the following planning or regulatory tools and programs are currently in place or under development for your jurisdiction by placing an "X" in the appropriate box, followed by the date of adoption/update. Then, for each particular item in place, identify the department or agency responsible for its implementation. In addition, indicate the code, chapter, and name of plan including any explanation of authority in the right-most column.

Who can assist with completing this table: Municipal Planner, Clerk, Code Official. Refer to your municipal codes and ordinances, Master Plan.

Tool / Program (only, ordinance, plan)	Do you have this? (Yes/No)	If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. / Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Master Plan					
Capital Improvements Plan					
Floodplain Management / Basin Plan					
Stormwater Management Plan					
Open Space Plan					

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NFIP Compliance

We need the NFIP Floodplain Administrator Involved!

- We need to know specific information about the NFIP program in your community.
- Your NFIP Floodplain Administrator (FPA) **MUST** be actively involved in the update process.
- Please verify name and contact information today – see sheet next to the sign-in sheets
- **Homework:** NFIP Administrator to complete **Worksheet #3**

DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Worksheet #3 - NFIP Floodplain Administrator Questionnaire

Please send completed Word electronic versions of worksheets by March 27, 2015 to:
Jonathan Raser
Phone: (973) 630-8042 Email: jonathan.raser@tetratech.com

Municipality: _____

NFIP Floodplain Administrator Name/Title: _____

Flood Vulnerability Summary

1. Does the municipality maintain lists/inventories of properties that have been flood damaged? If so, does the inventory identify property owners who are interested mitigation (e.g. elevation, acquisition)?
2. Characterize/quantify the number of structures damaged during Sandy or other events. If possible, can you provide a table of these structures indicating the number of residential/commercial/industrial?
3. Do you make Substantial Damage estimates, and how many were declared for Sandy or other events?

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Update Progress on 2010 Actions

- Identify progress made on mitigation actions identified in 2010 plan.
- If an action wasn't completed, why not?
- This strategy review process is NOT meant to blame or punish. The answer can reveal things that need to be addressed to allow mitigation to progress (new initiatives), for example:
 - Obstacle: We do not have the technical resources to prepare a grant application.
 - Possible Action: Develop a county-level support team trained in application development.

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Update Progress on 2010 Actions (Worksheet #4)

Homework

Complete **Worksheet #4** (Custom to your Municipality) and send via email by **March 27** to Jonathan Raser

DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet #4 - Mitigation Action Review Worksheet for XXXX				
Please complete responses below and send electronic Word version by March 27, 2015 to: Jonathan Raser Phone: 973-639-0044 Email: jonathan.raser@clearsolutions.com				
Who can provide you information about past mitigation actions: See the 'Responsible Party' column in the table below which identifies who put this action in the 2011 HMP (e.g., DPW, Engineer, Code Official, Planner, OEM Coordinator).				
Please use the following table to indicate progress and next steps on your community's mitigation strategy identified in the 2010 HMP. Please be as detailed as possible.				
2010 Mitigation Action	Responsible Agency	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays occurred? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMP grant, local budget)?	Describe Next Step 1. If including action in the 2011 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Example: Elevate Main Street Bridge	DPW	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	1. Elevate Main Street Bridge above the base flood elevation. 2. If you chose 'Discontinue,' here is an example: 'The Town does not have the authority to retrofit this bridge; it is owned by the State.'
		Choose an item	1. 2. 3.	1. 2.

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Update Progress on your 2010 Actions (Worksheet #4)

Any projects identified with a Next Step 'to include in HMP' will appear in this update.

Worksheet #4 Mitigation Action Review Worksheet				
Who can provide you information about past mitigation actions: See the 'Responsible Party' column in the table below which identifies who put this action in the 2011 HMP (e.g., DPW, Engineer, Code Official, Planner, OEM Coordinator).				
Please use the following table to indicate progress and next steps on your community's mitigation strategy identified in the 2011 HMP. Please be as detailed as possible.				
2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays occurred? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMP grant, local budget)?	Describe Next Step 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Example: Elevate Main Street Bridge	DPW	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	1. Elevate Main Street Bridge above the base flood elevation. 2. If you chose 'Discontinue,' here is an example: 'The Town does not have the authority to retrofit this bridge; it is owned by the State.'

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New Mitigation Actions for 2015 HMP Update

- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- We will go over this at our next meeting – date to be announced in Spring
- FEMA's Mitigation Workshop – date to be announced



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Types of Mitigation Actions

- **Plans and/or Regulations.** Measures such as zoning and building code, ordinances, planning (comprehensive/master plans, stormwater management plans, open space), hazard/risk insurance (e.g. NFIP).
- **Property Protection.** Measures such as acquisition, elevation, relocation, structural retrofits, storm shutters, rebuilding, barriers, floodproofing.
- **Public Education and Outreach.** Measures such as public awareness projects, real estate disclosure, hazard information centers, technical assistance.
- **Natural Resource Protection.** Measures such as erosion and sediment control, stream corridor protection, vegetative management, wetlands preservation.

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Mitigation Action Example

General Action: Retrofit Vulnerable Infrastructure

Detailed Action:

The Village will replace the Jefferson Avenue Bridge, located in the center of the Village to avoid river flow restrictions created by the current design of the bridge. The current bridge has suffered extensive structural damage during past flooding events. The center piling of the bridge is located mid-stream in the Mamaroneck River and contributes to debris back-up and reduced flow capacity of the river.

Action Words to Use: Replace; Retrofit; Reconstruct; Improve Design; Increase Capacity; Acquire; Elevate

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Plan Implementation

- Your mitigation strategy section provides a “blueprint” to follow for progressively reducing your community’s natural hazard risk.
- It will include two types of initiatives/projects – those that your community can “self fund”, and those that will require outside (e.g. grant) funding.
- Mitigation grant opportunities open regularly:
 - The annual HMA grant window opens in June of each year.
 - HMGP funding comes in the wake of Declared Disasters in the State.

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Integration with Other Plans and Programs

The Hazard Mitigation Plan should complement and support other Plans and Regulatory Mechanisms

- Emergency Operations Plan (EOP) / Comprehensive Emergency Management Plans (CEMP)
- Master Plans (regional and local) – these plans guide and direct land use and development
- Community Recovery and Redevelopment Programs
- Stormwater Management Plans
- Capital Improvement Plans (some of these projects are grant eligible)
- Higher Regulatory Standards (e.g. increased free-board, cumulative substantial damages)

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Plan Integration (Worksheet #5)

- For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. We need to gather an understanding of your community’s progress in plan integration, as well identify potential integration opportunities that you may pursue in the future.
- Circulate to your “team”

DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE Worksheet #5 - Capability Assessment and Plan Integration	
Please complete responses below and send electronic Word version by March 27, 2015 to: Jonathan Raser Phone: 875-430-0044 E-mail: jonathan.raser@stateofny.com	
Municipality: _____	
For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. We would like to gather an understanding of your community's progress in plan integration, as well identify potential integration opportunities that your community may pursue in the future.	
Who can assist with completing this table: The HMP main point of contact should discuss with the Engineer, Clerk, Mayor/Administrator, Planner, CTO	
Applicable Department/Agency	Plan, Program, Mechanism, etc.
Planning	
Does your municipality have a Master/Comprehensive Plan (land use plan), or are you currently working on an update of your Master/Comprehensive Plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Please list or attach Planning Board, Zoning Board of Adjustments	If so, does it include, or are you considering, areas of natural hazard risk (e.g. flood-prone areas, steep slopes)?
	Does your Master/Comprehensive plan refer to a local or Countywide Hazard Mitigation Plan?

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New Development (Worksheet #6)

- Please indicate any major new development since 2010 AND any known or anticipated major new residential/commercial development and major infrastructure development that are identified for the next five (5) years in your municipality.

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Action Worksheets (Worksheet #7)

- **NEW** to Update – Every action needs a worksheet (#7)
- Generators – If you requested a generator through HMGP funding, this needs to be included as an action
- If you have RL/SRL properties – It is strongly advised that you have a ‘*Support mitigation of vulnerable structures via retrofit or acquisitions...*’ action – See General Mitigation Strategies on CD for language
- 2010 Actions carried forward
- Projects already identified in Capital Plans and Stormwater Plans

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Action Worksheets (Worksheet #7)

- An action worksheet needs to be completed for each mitigation action in the 2015 update.
- A tool to link the Risk Assessment and Mitigation Strategy, as well as Plan Implementation and Progress Updates.

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Let's Go Through an Example

Problem: Structural damage to Jefferson Avenue Bridge as a result of past flooding events.

General Action: Retrofit Vulnerable Infrastructure

Detailed Action:

The Village will replace the Jefferson Avenue Bridge, located in the center of the Village to avoid river flow restrictions created by the current design of the bridge. The current bridge has suffered extensive structural damage during past flooding events. The center piling of the bridge is located mid-stream in the Mamaroneck River and contributes to debris back-up and reduced flow capacity of the river.

Action Words to Use: Replace; Retrofit; Reconstruct; Improve Design; Increase Capacity; Acquire; Elevate

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Plan Integration (use Worksheet #5 as a guide)

- An effective way to reduce risk is to make mitigation part of your daily operations.
- One way to do this is by integrating actions into existing planning mechanisms.
- **Action Items:**
 - Review 'Integration' section of draft annex and enhance to highlight what you have done and are doing with integrating mitigation into planning mechanisms.
 - Identify at least one plan integration mitigation action for this update

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FEMA Examples of Planning Mechanisms

Comprehensive Plan / Zoning code

Direct new development to safe areas and identify suitable areas for land development
Add a hazard mitigation goal to your comprehensive plan
Review and utilize the hazard mitigation plan to update your Master Plan

Capital Improvements Plan

Add Mitigation Action to retrofit EOC to plan so that funding is allocated for local match

Stormwater Management Plan

Increase size of culverts
Require stormwater detention ponds

Flood Damage Prevention Ordinance

Specify elevation requirements above BFE in anticipation of increased flood risk

Studies

Stony Creek study provides flood hazard data for Benefit-Cost Analysis for acquiring repetitive loss properties.

Staff

Allow planner to take online course on Hazard Mitigation Planning and attend next ASFPM meeting.

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Reminders

- Worksheet #7
 - One worksheet per action
 - 2011 Previous Actions
 - Include one plan integration action
 - If you have RL/SRL properties, include action to address

- Worksheets #1 through #6 need to be completed ASAP

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Thank you!

Heather Apgar, CFM
Ryan Conklin, PP, AICP
Tetra Tech, Inc.

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DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Hazard Mitigation Strategy Workshop - May 28, 2015
 Sign-In Sheet

10 am



Name	Title	Agency/Municipality	Phone Number	E-mail
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KATHY GOODNOW	Hw Secertary	FISHKILL	845-896-6013	Highway @Fishkill.ny.gov
VIN COLUCCIO	CEO	TOWN FED HOOK	845-835-8047	VCOLUCCIO@HVC.RR.NY.GOV
John Fenton	CEO	Vill of Wadswick	845 876-1922	Villmcr.2EO@thwadswick.ny.gov
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Tom Vautine	BOE INFORMATI OFFICER	" " "	" " "	Tom@Vofishkill.com
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DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Hazard Mitigation Strategy Workshop - May 28, 2015
 Sign-In Sheet



AM

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Heather Appgar	Env. Scientist	Tetra Tech	973-630-8046	heather.appgar@tetratech.com



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
 Hazard Mitigation Strategy Workshop - May 28, 2015
 Sign-In Sheet



R.M.

Name	Title	Agency/Municipality	Phone Number	E-mail
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EL SPRING	SUPERVISOR	T.O. RICK	876-3408	
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Andrew Learn	Town Engineer	Town HP	845-454-3411 x20	allearn@morriseengineers.com
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Mitigation Strategy Workshop Notes



Welcome!

FEMA Region II has prepared this workshop to present the key points needed for each town and village to prepare or update their mitigation strategy. The mitigation strategy is the section in the hazard mitigation plan where goals are set, actions are listed, and a sketch plan for implementing each mitigation action is specified.

Any workshop, including this one, can only cover the essential points in brief. A more thorough explanation is available in FEMA's publication, *Local Mitigation Planning Handbook*. You are encouraged to review the *Handbook*: <http://www.fema.gov/media-library/assets/documents/31598?id=7209>

Beyond the Basics is essentially that same information in a format some find more user friendly. It is a website designed by the University of North Carolina at Chapel Hill (UNC) to help guide local communities through the process of developing or updating their local hazard mitigation plan. In addition to covering the material from the FEMA *Handbook*, it includes additional material on best practices and addresses weaknesses or shortfalls commonly found in hazard mitigation plans. Suggestions are given on ways plans could be strengthened; hence the name, *Beyond the Basics*. <http://mitigationguide.org/>



The Mitigation Strategy section of the hazard mitigation plan is the heart of a mitigation plan, but there is a larger goal that FEMA hopes to accomplish. FEMA’s overarching goal for mitigation is: *“Mitigation becomes a way of doing business in the community”* and as a result, *“The community becomes less susceptible to losses from natural hazards.”* Mitigation needs to be more than something that is thought about every fifth year when plan updates are required.

Mitigation Plans – include specific mitigation actions to address specific vulnerabilities.

Mitigation Planning (when done correctly) – creates an ongoing appreciation for mitigation. “Ongoing” is a long time. Over the long haul there will be hundreds of decisions made by a town or village where it would be appropriate to include a consideration of mitigation in the decision process.



There are two purposes for today’s workshop:

- First, to begin or continue on the process of developing a Mitigation Strategy. Developing a Mitigation Strategy involves a systematic process that ensures the selection of the best mitigation action for the problem (specific vulnerability) at hand, and builds support for and facilitates implementation.
- Second, the workshop is to emphasize the importance of government officials in each town and village having an ongoing appreciation for mitigation. This should be an appreciation shared by all key village and town employees. When they have this appreciation, daily decisions for years to come will consider mitigation.

Typical Mitigation Plan

- Section 1: Planning Process
 - General Introduction / Describes the Community
 - Describes Planning Process—Meetings, public involvement, etc.
- Section 2: Risk / Vulnerability Assessment
 - Identifies Hazards of Concern / Profiles Hazards
 - Assesses Risk / Vulnerabilities—Summarize Vulnerabilities by Jurisdiction
- **Section 3: Mitigation Strategy**
 - Goals / Actions / Action Plan
- Section 4: Plan Maintenance
 - Monitoring / Evaluating Implementation
 - Keeping the Plan Current

While today's workshop focuses on the Mitigation Strategy Section of the plan, there are other sections in a typical hazard mitigation plan. The other sections are important, but the Mitigation Strategy is the heart of the mitigation plan because the first two sections of the plan provide the information necessary to develop the Mitigation Strategy, and the fourth section explains how implementation of the Mitigation Strategy will be monitored and evaluated, so the plan can be kept current.

Mitigation Strategy Framework

The heart of a Hazard Mitigation Plan

Goals

- What long-term outcomes do you want to achieve?

Actions

- What specific actions will local governments, community organizations, and others take to reduce their risk to hazards?

Action Plan

- How will the actions be prioritized and implemented?



The Mitigation Strategy includes goals, actions, and an action plan.

Mitigation goals represent visions for reducing or avoiding losses from the identified hazards.

- For example – *Protect vital communication and transportation infrastructure, which if damaged by a natural hazard could cause widespread hardship.*
- Often communities choose to develop specific objectives to supplement their goals.

Mitigation actions are specific projects or activities that help advance the goals and address vulnerabilities.

- For example – *Elevate County Route 12 from Chapman Street to Maple Road to ensure this evacuation route remains open during flood events.*

The **action plan** describes how mitigation actions will be implemented, including how they will be prioritized, administered, and incorporated into the community's existing planning mechanisms.

Goals

- **Goals represent a global vision for all Jurisdictions**

Example:

Goal: Protect life, property, economic viability, and the environment from the consequences of natural hazards

- *Objective: Prevent (or discourage) new development in hazard areas, or ensure building in hazard areas is done in a way to minimize risk.*

- **There are no right or wrong goals!**

- *However, Goals/Objectives should help with selecting and prioritizing mitigation actions.*

A Hazard mitigation plan must have a set of common goals. The goals must be adopted for all the participating jurisdictions when a multi-jurisdictional plan is prepared.

While there are no wrong goals, the best goals help guide the selection of mitigation actions. If a goal simply states that a given hazard will be mitigated, there is not much value being added by the goal.

The examples in this slide are shown to demonstrate the desired structure for a Goal Statement. It is up to local jurisdictions to decide what their goals should be.

Mitigation Strategy

The systematic process

Summarize Risk Assessment

- 1st: Identify Problems / Vulnerabilities

Mitigation Actions

- 2nd: Brainstorm Potential Actions
- 3rd: Evaluate Potential Actions
- 4th: Select the Best Action

Action Plan

- 5th: Prepare for Implementation

Once goals are established or the goals from the previous plan confirmed as remaining valid, these are the steps that will lead to the best mitigation actions and an action plan that prepares the actions for implementation. Following these steps ensures no preferable mitigation action is overlooked because it was not thought of immediately. In other words, the systematic process guards against “top of the head decisions” dominating the decision process.

Mitigation Strategy The Team

• A Functionally Diverse Team Is Critical

- **Elected Officials** – mindful of whole community
- **Emergency Managers / Police / Fire** – know of disasters and problems
- **Local Planners** – aware of trends and land use policies
- **Public Works Staff** – experts on infrastructure and problems
- **Floodplain Administrator / Code Official** – know ordinances
- **GIS Specialist** – can help with analysis and understanding by producing maps



Planning in its purest sense is thinking. It is critical that within each town and village a functionally diverse team be involved in gathering and analyzing information, weighing alternatives, and making informed decisions. This slide goes over the types of people that should be on the team and why. Citizens could be included as well.

The lead person for the village / town will know best how to involve the members of their jurisdiction's team. It may involve one-on-one discussions with various team members, supplemented by meetings of the entire team. For example, identifying current problems could be done through one-on-one discussions, while brainstorming is always done as a group.

A diverse team improves decision-making and will build support for the decisions made. Potential members of the team at the very least must be invited to participate and the extending of this invitation must be documented in the plan. FEMA has a handout that can be completed to document the invitation and hopefully the participation of a diverse team.

Action Worksheet Documenting the process

- **One worksheet for each problem**
- **Links each problem with mitigation actions considered and selected**
 - Documents the consideration of a comprehensive range of actions.
 - Builds support for the action selected.
- **Provides prompts for an Action Plan.**
 - Facilitates Implementation



Action Worksheet

FEMA Region II created an *Action Worksheet* that the New York State Department of Homeland Security – Emergency Services adopted and now requires in all hazard mitigation plans. Tetra Tech uses a slightly different version of this worksheet, which is acceptable. The format is not critical. It is the documentation of the thought process that goes into selecting mitigation actions that is important.

Updating Your Mitigation Strategy – Step 1

Summarize Risk Assessment

1st: Identify Problems / Vulnerabilities

Mitigation Actions

2nd: Brainstorm Potential Actions

3rd: Evaluate Potential Actions

4th: Select the Best Action

Action Plan

5th: Prepare for Implementation

Step 1 is identifying current problems. There are several potential sources for identifying vulnerabilities or current problems. We will cover these in the next few slides.

Identify Problems Public / Stakeholder Input

What Concerns the Public and Stakeholders?

What is being done to capture their views?

- Document outreach process (required)
- Document how concerns were addressed (required)



Stakeholders include:

- Other Town or Village Employees - your *Jurisdictional Team*
- Local Schools, Colleges, Businesses, Utilities, Non-Profits, etc.
- Neighboring Communities – adjacent counties

The public and stakeholders are a good source for identifying specific problems and concerns.

Inviting the public and other stakeholders to participate in the planning process is required by FEMA. The plan must provide documentation that a genuine offer to participate was made. For example, press releases and public notices might have been issued, hearings held, or surveys distributed. Having received comments, document in the plan what issues were raised and how they were dealt with in the plan. Some of these issues may rise to the level of requiring a mitigation action.

What problems have been cited by the public?

What problems have been cited by stakeholders? Stakeholders include other officials in the jurisdiction as well as outside stakeholders, like local colleges, local businesses, and external regulatory agencies.

Finally, because problems and/or solutions can be regional, neighboring jurisdictions should also be given the opportunity to review and comment on the draft plan. That is, when the plan is a County led multi-jurisdictional effort, neighboring counties must be offered this opportunity.

Identify Problems

Conduct a Risk Assessment

Review Risk Assessment
 Updated using the Best Available Information

- Review Specific Impact of Recent Hazards
 - Consider *areas repeatedly damaged*
 - Consider *NY Rising Reconstruction Plans*
- Are *critical facilities* at risk?
- Consider *risks* to recent and and planned development
- Think beyond the most recent disaster
 - Fully *consider all hazards of concern*



FEMA Region II 12 RiskMAP

Each plan must include a formal risk assessment. At this point in your planning process the Risk Assessment should be nearly complete. Summarize the general assessments of risk and vulnerabilities by describing specific vulnerabilities or problems.

One strong indicator of a problem is when damage repeatedly occurs at the same location. Give these areas due consideration. And, take care not to overlook hazards that occur less frequently, but nevertheless present a risk.

A Risk Assessment should also determine if there are critical facilities that should be mitigated? NYS requires mitigation actions / projects for any critical facility that has ever sustained flooding, regardless of whether it is in a 100-year floodplain. Critical facilities should be protected to a 500-year flood event.

Identify Problems

Assess Capabilities – any problems?

Planning Mechanisms – governance structures used manage land use development and community decision-making.

- **Plans** – Land use plan
- **Policies** – Review of building applications
- **Ordinances** – Zoning Code
- **Programs - NFIP**
- **Studies** – Flood studies
- **Staffing / Equipment**
 - Skills / Abilities
 - Number of Staff / Equipment
- **Financial Resources**

Capabilities Worksheet
 Handout for later use



FEMA Region II 14 RiskMAP

The planning process requires an assessment of local capabilities. This is for two reasons.

- First, communities are not expected to go beyond their capabilities when determining the number of mitigation actions to take on and the amount of work required carrying out those actions.
- Second, steps taken to strengthen local capabilities are mitigation actions.

Capabilities are existing authorities, policies, programs, and resources, which are sometimes called “planning mechanisms.” This slide includes a generic list of capabilities that local communities might have. For example:

- Plans, like Land Use Plans, or Comprehensive Plans, or Master Plans – whatever plans you have, use the formal name of the plan when describing it.
- Policies, like those that indicate who is to be conclude in the review of building applications. Give the official name for the policy and describe how it works relative to mitigating hazards.
- Ordinances – For example, the zoning code.
- Programs – again the National Flood Insurance Program will be among the programs cited for most communities in New York State.
- Studies – give the name of studies that have been completed or are underway
- Staffing / Equipment – skills/abilities and the number of staff and equipment.
- Financial Resources – this could be the annual budget, taxing authority, etc.

The description of local capabilities provides a foundation for mitigation planning. It can describe what measures are already in place to manage risk and it allows small jurisdictions with limited resources and capabilities to distinguish themselves from larger and more capable communities. Since each jurisdiction is unique, their capabilities are unique and should be described jurisdiction by jurisdiction. A generic list of capabilities is not appropriate.

Identify Problems

Assess Capabilities – any problems?

Assess Capabilities

plans, policies, programs, etc.

- **Any gaps or problems? For example:**
 - Inconsistent enforcement of ordinances
 - Outreach misses non-English speaking citizens
 - Major gaps in information
 - Out of date Plans
- **Always assess NFIP program (required)**



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RiskMAP

Once having described the community’s capabilities, these capabilities should be assessed to determine if there are gaps or deficiencies. These might be articulated as problem statements.

For example, problems such as:

- *Inconsistent enforcement of ordinances* - This is the problem. The root cause of the problem should be determined before brainstorming possible solutions. In this case, perhaps the procedures are unclear, or staff has not been trained, or there is not enough staff to perform the enforcement.
- *Outreach misses non-English speaking citizens* - The root cause could be the method by which educational media is delivered, or the need to produce written material in a second language.
- *Major gap in information* - For example, maybe it is unknown whether critical facilities have reinforced masonry. A structural study might be called for to fill in the gaps.
- *Out of date Plan* - could also be a problem.

Identify Problems

Assess NFIP Program /Administration – any problems?



National Flood Insurance Program

Each jurisdiction must independently assess

Might describe:

- Floodplain Administrator: name / contact info.
- Floodplain requirements
- Floodplain enforcement and monitoring procedures
- Status of floodplain mapping and studies
- Outreach efforts to promote insurance
- Other assistance provided
- Opportunities for Improvement



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RiskMAP

The National Flood Insurance Program (NFIP) is an important program and the community’s ability to effectively administer this program is an important capability. It is a federal requirement that for jurisdictions that participate in National Flood Insurance Program, they must describe the program and its administration. Each jurisdiction will have its own write-up because each jurisdiction is unique in how it administers the program.

For example, the write-up might discuss:

- Name and contact information for the floodplain administrator
- Adoption and enforcement of floodplain requirements, including regulating new construction in the floodplain
- Floodplain identification and mapping, including the status of map updates
- Describe the jurisdiction’s assistance and monitoring activities
- It is not enough the plan to say “we will continue to comply with NFIP”

Vulnerabilities

Summarize as Problem Statements



Problem Statements

Mountaintop Road near County Route 12 has repeatedly washed-out during severe storms, causing the road to be closed.

The downtown business district is subject to spring flooding from melting snow coupled with spring rains.

The southern border of the Town includes a wooded area that in drought conditions presents a wildfire risk to the nearby Margaret Williams Assisted Living facility.

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Having determined what the most pressing problems are, they should be summarized as clear and specific problem statements. These problem statements should be used to summarize your updated Risk Assessment and the statements should be included on the Action Worksheet for reference.

This slide provides examples of a few problem statements.

Identifying Problems Questions?

- Each Jurisdiction identifies problems in their community

- Review each hazard of concern.
- State the problem, not the solution. Be specific.
- Each problem statement is added to its Action Worksheet. [One worksheet for each problem]



- Identify “real problems”

- Something that deserves action



This slide recaps the “Identify Problems” step in the process and pauses for discussion and questions.

“Real problems” is a reminder that a mitigation plan should not be a verbose plan with vague statements that no-one wants to take the time to work on. We are all too busy for that. The mitigation plan should be a straight forward description of problems that deserve attention. Real problems deserve attention, which will be the mitigation actions we will discuss shortly.

Updating Your Mitigation Strategy

Summarize Risk Assessment

1st: Identify Problems / Vulnerabilities

Mitigation Actions

2nd: Brainstorm Potential Actions

3rd: Evaluate Potential Actions

4th: Select the Best Action

Action Plan

5th: Prepare for Implementation

Problem statements are the starting point for deciding on mitigation actions. The process includes brainstorming potential alternative mitigation actions, evaluating these potential actions, and selecting the best action to address the problem. The Action Worksheet is the place to document the actions considered and why they were or were not selected for implementation.

Mitigation Actions - Defined

Mitigation Actions are any sustained action taken to reduce long-term risk to life and property from a hazard event



Mitigation
elevated home by the river



Mitigation
property acquisition



Preparedness & Response
purchase of a police command vehicle

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RiskMAP

Before brainstorming potential actions, the next few slides explain that mitigation actions (as defined by federal regulations) are different from other emergency management actions, such as emergency preparedness actions and emergency response actions. The official definition of mitigation actions is provided on the slide. Mitigation actions should be specific actions/projects/activities.

Elevating or acquiring a home for removal is a mitigation action. Purchasing equipment to be used to respond to an emergency is not a mitigation action. It is a preparedness & response action.

Mitigation actions lessen or eliminate the need for preparedness & responses actions.

When analyzing risk and identifying mitigation actions, the planning team may also identify emergency preparedness and response actions and these may be included in the plan. However, preparedness and response actions may not be a substitute for mitigation actions. Federal mitigation planning requirements call for each jurisdiction in a multi-jurisdictional plan to have mitigation actions specific to their jurisdiction and vulnerabilities.

Range of Mitigation Action

			
STRUCTURAL PROJECTS Acquisition Elevation Retrofits Drainage	PLANS and/or REGULATIONS Zoning Codes Ordinances Open Space Plan NFIP	EDUCATION & OUTREACH Public Awareness Outreach Educational Programs	NATURAL RESOURCE PROTECTION Stream and Wetland Restoration Erosion Control

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Federal regulations also require that a comprehensive range of mitigation actions be considered when selecting the mitigation actions to be implemented. To help jurisdictional teams think broadly when brainstorming, it may be helpful to consider four potential categories for actions.

It is possible that for some problems the potential actions brainstormed may all fall under a single category (e.g., education and awareness). This is acceptable so long as potential actions from other categories are considered for other problems. In the end meeting the intent of the federal requirement is

the important thing. The intent is to have jurisdictional teams think comprehensively when identifying potential actions.

It is also important that teams consider future development when identifying potential actions. What actions might be taken to improve the resilience of new construction? For example it could involve stronger building codes or land use policies that keep new construction out of harm's way.

Brainstorm Potential Actions

Brainstorming Potential Actions:

- As a jurisdictional team
 - Review the *problem statements*
 - Review your assessment of *capabilities*
 - *Brainstorm* potential mitigation actions or projects
- Try to identify more than one type of action
 - Consider a *Comprehensive Range of Actions*

The next step is to brainstorm mitigation actions or projects. Gather a jurisdictional team to review the problem statements and assess local capabilities. Then, brainstorm mitigation actions or projects for each problem.

Brainstorm Potential Actions Questions?

Brainstorm Potential Actions

- Consider a range of action types
 - ✓ Structure / Infrastructure projects
 - ✓ Plans and/or Regulations
 - ✓ Educational & Outreach
 - ✓ Natural Resource Protection
- Identify a few potential actions for each problem
- Be specific
- Add to Action Worksheet



This slide recaps the “Brainstorming” step and provides a pause for discussion and questions.

Updating Your Mitigation Strategy

Summarize Risk Assessment

1st: Identify Problems / Vulnerabilities

Mitigation Actions

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Action Plan

5th: Prepare for Implementation

Step 3 is to evaluate the potential actions. Step 4 is the result of the evaluation, the selection of the best action or project. These steps are covered together since they are so closely tied to each other.

Evaluate Potential Actions

The Selection Process:

- **Must consider benefits and costs**
 - **Benefit-Cost Review** (rough estimate)
 - **Not a formal Benefit-Cost Analysis (BCA)**
- **Also consider other factors**

Potential Actions Identified



Mitigation Actions to Implement

The evaluation of potential actions is the process used to select the best action or project for a given problem. The evaluation criteria used are up to the jurisdictional team, except that federal requirements state that benefits versus costs of a mitigation action must be considered. Naturally, many other factors should be used as well.

In considering costs versus benefits, rough estimates may be used. FEMA refers to this as a *Benefit-Cost Review* to distinguish it from a formal *Benefit-Cost Analysis (BCA)*. When applying for grants a formal Benefit-Cost Analysis may be required, but it is not a requirement when preparing a hazard mitigation plan.

As the reasons for not selecting a project become apparent, document this consideration by adding a note on the Action Worksheet next to the potential action. This will complete the required documentation that a range of potential actions was considered.

Benefit-Cost Review Is it cost-effective?

• **Benefits: Losses Avoided**

- Lives saved/ Injuries Avoided
- Structural Damage Avoided
- Business Downtime Avoided
- Additional Costs Avoided (e.g., long detours)



• **Costs:**

- Pre-Construction and Construction Costs
- Ancillary Costs (e.g., permit and review fees)
- Annual Maintenance Costs

Benefits are the savings from losses avoided. For example:

- Lives saved / injuries avoided
- Structural damage avoided
- Business downtime avoided (or any negative impacts from the loss of a function)
- Additional costs avoided, like avoiding long detours or avoiding emergency management costs

Costs are the total cost for the action or project. For example:

- Pre-construction costs and non-construction costs like design costs
- Construction costs
- Ancillary costs like permit and review fees
- Annualize maintenance costs

Costs are not just the cost to the jurisdiction (e.g. the match for a grant). They are the total cost.

Other Considerations

- Technical Feasibility
- Political Support
- Legal Authority
- Environmental Impacts
- Social – positive or negative
- Willing & Able (local champion & capable)
- Other Community Objectives



In addition to considering the benefits and costs, other factors should be considered.

- **Technical** – is it technically feasible
- **Political** – Will the public support? Is there political will?
 - Communities may want to include an action even if political will is currently lacking. Political will often changes immediately following a disaster and if the project is in the plan, it can be quickly endorsed and implemented. *Where money was not previously available, it may be made available.*

- **Legal Authority** – Is this action or project something that you have the legal authority to do?
 - If it is up to some other entity to do, then they might be consulted as the plan is being prepared or the action could be to lobby them in some specific way to encourage the action to be taken.
- **Environmental Impacts** – Obvious negative impacts could be a fatal flaw. Even if not obvious, many mitigation actions may require environmental reviews as the project is developed. There could also be positive environmental impacts from some actions, such as stream restorations.
- **Social** – Positive social impacts are good, like creating a park in a floodplain by removing structures located there. Actions could also be negative, like adversely affecting one segment of the population or disrupting neighborhoods.
- **Willing & Able** – Is there a local champion for the project? Is the jurisdiction or responsible department administratively able to take on this project?
- **Other** – Communities are unique and may want to consider other factors.

Evaluate an Action Questions?

- **Cost-Benefit Review**
 - Describe and Estimate Losses Avoided
 - Describe Cost Elements and Estimate
- **Other Criteria**
 - Technical Feasibility
 - Political Support
 - Legal Authority
 - Environmental Impacts
 - Social - positive or negative
 - Willing & Able - Champion & Capable
- **Select “Real Solutions” for “Real Problems”**




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RiskMAP

The important part of planning is the thinking that goes into the decisions made. Keeping this in mind, the purpose of this slide is to recap the critical decision of deciding what action to take and to provide a pause for discussion and questions.

When it says select “real solutions” for “real problems”, the point to be made is that the Plan should not become an academic exercise. Earlier we stressed the need to identify “real” problems, which means problems you really want to mitigate. “Real solutions” would be actions you really want to take. A mitigation plan should not be a verbose plan with vague statements that no-one wants to take the time to work on. We are all too busy for that. The mitigation plan should be a straight forward description of problems that deserve attention and actions that the local community wants to take to make itself more resistant to future hazards.

Updating Your Mitigation Strategy

Summarize Risk Assessment

1st: Identify Problems / Vulnerabilities

Mitigation Actions

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4th: Select the Best Action

Action Plan

5th: Prepare for Implementation

The 5th and final step is preparing for implementation.

Step 5 Prepare for Implementation

Action Plan:

- **Responsible Organization (lead organization)**
 - This is an agency or department, not the jurisdiction
- **Action / Project Priority**
 - Involve the Jurisdictional Team
 - Numerical Rank; Tier 1/Tier 2/Tier 3; chronological by start date or completion date (Method is optional)
- **Timeline for Completion** – best estimate
- **Potential Funding Source** – List multiple, if applicable
- **ID Local Planning Mechanism to Facilitate Implementation**

An *Action Plan* is the final element of a *Mitigation Strategy*. It prepares the actions for implementation.

- **Responsible Organization** – An agency or department should be selected to take the lead with implementation. Most actions or projects naturally fall within the purview of an agency or department. It is this organization that will periodically provide status reports. The jurisdiction itself should not be assigned the responsibility for implementation because this leaves it unclear who will manage implementation on a day-to-day basis. Only one agency can have the lead. If other agencies are to be involved, they may also be listed so long as it is clear which agency is in the lead.
- **Action/Project Priority** – The jurisdiction's team is best suited for setting priorities. The criteria used should be documented in the body of the plan. The consideration of benefits versus costs must be a consideration. In addition to other selection criteria used, the team might also consider factors like:
 - How much can a particular agency or department manage?
 - Would it be better overall to do some easy to implement actions first to build support for the entire mitigation plan?
 - The output is a priority designation for each action, which should be listed on the Action Worksheet. This could be:
 - Numerical ranking – list actions in priority order

- Triage Actions: Tier 1 / Tier 2 / Tier 3 - be careful not to make everything a top priority, because that defeats the purpose of prioritizing.
- **Timeline for Completion** – The project manager from the responsible organization may be in the best position to estimate when the action will be completed. The target completion date should be added to the Action Worksheet. The start date could also be added, as could target dates for significant milestones.
- **Potential Funding Sources** – NYS requires that plans include a list of potential Local, State, and Federal fund sources that apply to the project, as well as public-private partnerships worth pursuing. This should include a brief description of the programs and links to webpages for those opportunities.
 - NYS notes that the lack of an identified funding source or program should not prevent the project’s inclusion in a community’s list of possible mitigation actions.
- **Local Planning Mechanisms** – *are covered by the next slide*



Planning Mechanisms are governance structures used by local jurisdictions to manage land use development and community decisions-making, such as comprehensive plans, capital improvement plans, and other long-range plans.

Using Local Planning Mechanisms to Facilitate Implementation

Examples: Actions & Planning Mechanism Used

- Increase culvert size on River Road – add this project to the capital improvement plan
- Acquire severe repetitive loss properties on Meadow Street – Amend the town Land Use Plan to include the vacated land as a town park.
- Conduct an engineering study to determine the vulnerability of critical facilities to earthquakes – add consultant funding to the annual town budget

Where possible, the community should implement mitigation actions through existing plans and policies, which already have the support of the community and policy makers. The Action Worksheet has a space to name the local planning mechanism to be used in implementation.

For example, if the action selected for implementation was, “Increase Culvert Size on River Road,” then on the line for local planning mechanisms you might have, “Add this project to the capital improvement plan. Other examples are included on the slide.

Action Worksheet

Recap:

- **Problems / Vulnerability**
 - Risk Assessment - problem statements
 - Assessment of Capabilities – need to improve
- **Potential Actions**
 - Potential Projects Listed
 - Include a comment under each potential action on why it was not selected.
- **Action Selected**
 - Action # and Name
 - Describe the specific Action
 - Summarize the evaluation of this action
- **Plan for implementation**



Problems / Vulnerabilities:

- First we described the risks or vulnerabilities as problem statements, doing our best to be specific.

Potential Actions

- Next we brainstormed potential actions and evaluated them. Those potential actions considered and rejected (at least for the time being) are described and a short explanation is given as to why they were not chosen for implementation.

Action or Project Intended for Implementation

- This is where the selected action or project is added to the worksheet. There will be one worksheet for each action.
 - Assign a number and name to each action - This way in the body of the plan (Action Worksheets will likely be in an appendix.) can succinctly list the actions. In multi-jurisdictional plan it is best to make the jurisdiction's initials part of the action number so the number 1 action, etc. for various jurisdictions do not get confused. For example, the actions for the City of Syracuse might be numbered Syr-1, Syr-2, etc.

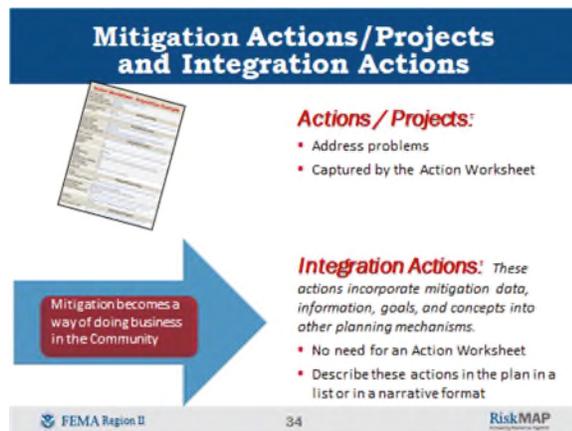
- Describe the specific mitigation action – Some actions are regulatory or educational actions, while others may be projects.
- Summarize the evaluation of the mitigation action - The body of the plan will probably describe the generic consideration of benefits and costs. The Action Worksheet should document the specific reason for selecting the action or project.

Plan for Implementation

- The final section of the Action Worksheet is the Plan for Implementation. In this section information is added explaining which department or agency will be responsible for implementation, the priority category assigned to the actions, an estimate of how long it will take to implement the actions (subject to budget and environmental reviews), potential fund sources, and existing

Progress Report

- Although not covered during the workshop, the final section of the Action Worksheet may be used when periodically reporting progress as overall implementation of the plan is monitored and evaluated for effectiveness. [Five years after a plan is approved it must be updated in order for a community to remain eligible for certain mitigation grants. At that time the status of each action from this plan will need to be summarized in the updated plan.]



Up to this point in the workshop we have been focused on mitigation actions that address specific problems. These are very important and the Action Worksheet was designed to accommodate these projects.

Integration Actions are another important type of mitigation action. These are actions to integrate mitigation data, information, goals, and concepts into existing planning mechanisms. Thus they integrate mitigation with the fabric of governing. For example, when appropriate, mitigation may be integrated with the jurisdiction’s comprehensive plan or its capital improvement plan.

Integration Actions do not go on an Action Worksheet because they are fairly simple to implement. They should be included in the plan as a simple list. An explanation of why Integration Actions are important and sample listing of Integration Actions follow on the next two slides.

Integration Actions

"Integration increases efficiency and avoids conflicting outcomes."

- **Existing Plans, Studies, Reports, etc.**
 - Reviewed at the outset of hazard mitigation planning
 - What information do these plans, studies, and reports contain that should be reflected in the Hazard Mitigation Plan?
- **Hazard Mitigation Plan**
 - Review the Hazard Mitigation Plan - What mitigation info/concepts should be integrated in other planning mechanisms?
 - Identify potential candidates (other planning mechanisms) for integration
 - Describe process for bringing about integration
 - Best way to meet this requirement is to describe the *integration actions*

Integration increases efficiency and avoids conflicting outcomes.

At the start of the planning process existing plans, studies and reports should have been reviewed to determine what information they contained should be incorporated into the Hazard Mitigation Plan. Now that the Hazard Mitigation Plan is nearly complete, the reverse consideration should take place. Each jurisdiction should ask *what information in the Hazard Mitigation Plan should be incorporated into other planning mechanisms*.

The integration actions will be unique to each jurisdiction. They should be listed in the plan by jurisdiction, where the planning mechanism that will incorporate the information is named and a brief explanation is given stating how the integration will take place.

Examples are given on the next slide.

Integration Actions

Examples:

- **Village Ordinance 231** – This zoning ordinance will be updated each time Flood Insurance Rate Maps (FIRMS) are updated.
- **Master Plan for XYZ** – The town's Master Plan will be updated to include the mitigation goals from the Hazard Mitigation Plan.
- **Capital Improvement Program** – A mitigation criterion will be added to other criteria used to rate the priority of capital improvements.
- **Highway Superintendent Job Description** – Amend the Superintendent's job description to include hazard mitigation as a measure of performance.



Here are some examples of Integration Actions.

Take Aways

The Goal:

Mitigation is a way of doing business

Functionally Diverse Team



Mitigation Strategy is the heart of the plan:



Problem Statements
Action Worksheets



Capabilities



- Specific Mitigation Actions
- Integration Actions

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In summary, some of the key point we hope you take away from today’s workshop are:

- The overarching goal is for Mitigation to become a way of doing business in all jurisdictions.
- Involve a diverse team in making key judgments and decisions for your jurisdiction.
- The Mitigation Strategy is the heart of the Mitigation plan. Other sections of the plan support the decisions reflected in the Mitigation Strategy.
 - Make sure there is a link between the Risk Assessment section in the plan and the Mitigation Strategy.
 - Problem Statements, when used to summarize the Risk Assessment, are a powerful link to the mitigation actions
- Assess Capabilities – Opportunities to strengthen capabilities can be mitigation actions.
 - The NFIP program is very important. Make sure it is well described and working well.
- Finally, write specific mitigation actions and include integration actions in the plan.

Questions?

Thank you for your attention!

Questions?




Mitigation Planning Contacts

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Thank you for your attention and commitment to mitigation planning.

This can be confusing. Rely on your consultant and FEMA publications for guidance, and do not hesitate to contact New York State with questions. The State is your primary contact. FEMA is here to support the State and County in any way we can.

DEPARTMENT OF EMERGENCY RESPONSE

Dutchess County
Hazard Mitigation Plan
June 4, 2015

Dutchess County Hazard Mitigation Plan

The Dutchess County Department of Emergency Response is leading a project to develop a Multi-Jurisdictional County-Wide Hazard Mitigation Plan. All municipalities in Dutchess County have committed to this planning project, which is anticipated to be complete by the end of 2015.



The goal of a Hazard Mitigation Plan is to identify projects that can reduce damages from future natural hazards. The plan will include a risk assessment and hazard-mitigation strategy. This is a federal grant funded project.

A public project website has been established at www.DutchessMitigation.net to provide information on the project, post draft sections of the plan as they become available, and support public and stakeholder outreach.

Surveys have been established to collect data and are available on the project website, targeting the General Public, Police, Fire, EMS, Hospital & Healthcare, Academia, Utility, Commerce/Business, and Highway/DPW.

Dutchess County Hazard Mitigation Plan

“Hazard Mitigation” describes **sustained** actions that can help reduce or eliminate long-term risks caused by hazards or disasters such as:



- **floods**
- **severe storms**
- **severe winter storms**
- **wildfires**

Dutchess County Hazard Mitigation Plan

TIMELINE

- **February** – Project began
- **March through April** – Meetings with municipalities
- **May** – FEMA Workshops with municipal representatives
- **June** – First Draft to be submitted to New York State
- **June through December** – Revisions and Updates in cooperation with NYS
- **December** – Submission to FEMA for approval
- **2016** – Adoption by Dutchess County Legislature *and each municipality*

Dutchess County Hazard Mitigation Plan

Objectives & Benefits:

- Reduce Loss of Life, Damage to Property (public and private), Infrastructure, and Critical Facilities, Loss/Disruption of Essential Services, and Economic Hardship
- Reduce short-term and long-term recovery and reconstruction costs
- Increase cooperation and communication within the community through the planning process
- Increase potential for state and federal funding for recovery and reconstruction projects
- **Gain/maintain eligibility for federal mitigation & mitigation projects (Annual grant program opens)**



DEPARTMENT OF EMERGENCY RESPONSE



Questions?

CRS/NFIP Workshop

Rising tides, falling funds
The National Flood Insurance Program (NFIP) has received record payouts for damages related to floods and storms, and accumulated a record \$17.7 billion in debt.

Year	Funds Available	Debt
2007	~18	0
2008	~16	~1
2009	~14	~2
2010	~12	~3
2011	~10	~4
2012	~8	~5

NATIONAL FLOOD INSURANCE PROGRAM

NFIP/CRS

June 30th – July 2nd

What are we going to talk about?

- *The NFIP-an overview*
- *Flood Insurance reform-why?*
- *The Community Rating System*
 - *An overview-How it works*
 - *Application prerequisites*
 - *The CRS activities*
 - *Uniform Minimum Credit*

The National Flood Insurance Program An Overview



**NATIONAL
FLOOD
INSURANCE
PROGRAM**

Module 1

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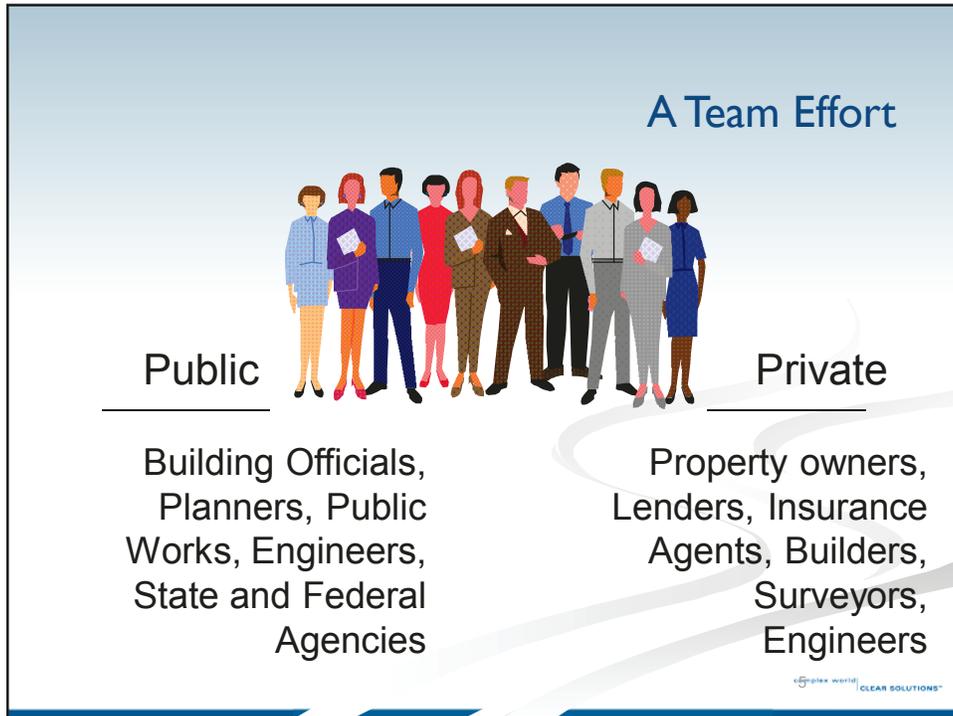


The National Flood Insurance Program (NFIP)

- Federal program that provides flood insurance to participating communities.
- Based on an agreement between local communities and the Federal Government that:
 - ✓ *a community will adopt and enforce a floodplain management ordinance.*
 - ✓ *The Federal Government will make flood insurance available within the community as a financial protection against flood losses.*
- Private insurers write the policies based on an agreement with the federal Government

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TL TETRA TECH

Reasons for the NFIP

- ✓ Reduce emphasis on structural flood control measures; increase emphasis on nonstructural FPM measures
- ✓ Reduce Federal disaster costs: shift burden from general taxpayers to floodplain occupants
- ✓ Provide insurance coverage not generally available on the private market.

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More reasons for the NFIP

- ✓ Requires new floodplain development to meet construction standards that protect buildings against future flood damage
- ✓ Promotes sound floodplain management practices
- ✓ Provide a better form of assistance to flood victims



“At the first sign of a flood, you just push this little button.”

Is NFIP Participation Mandatory?

- ✓ Community participation in the NFIP is voluntary.
- ✓ However, there are ramifications of non-participation:
 - *Federal flood insurance not available*
 - *Non-eligibility of post-disaster financial assistance.*
 - *NFIP participation will be a condition of receiving Federal assistance.*

NFIP Participation Requirements

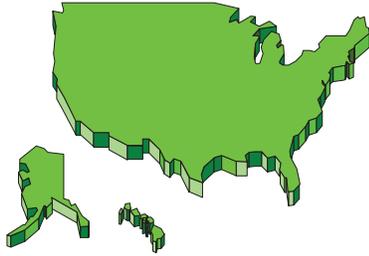
- ✓ Participating communities are required to adopt and enforce a floodplain management ordinance that meets or exceeds requirements specified under section 60.3 of the Code of Federal Regulations (CFR).
- ✓ Continued eligibility is based on maintaining compliance, which is based on enforcement of the provisions of the Floodplain management ordinance.
- ✓ Compliance is monitored by FEMA via an audit process called a Community Assistance Visit (**CAV**).

“An ordinance is the key!”

The NFIP Nationally

(As of October 2013)

Nationally...



- 22,112 participating communities
- 5.2 million flood insurance policies
- \$1.273 Trillion in flood coverage
- \$3.7 Billion in annual premium
- Average premium about \$708

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NFIP Policies and Losses (1978 – 8/31/2014)

Rank	State	# of Policies	# of Claims
1	Florida	1,996,682	244,433
2	Texas	604,627	242,017
3	Louisiana	472,626	412,325
4	California	238,931	45,010
5	New Jersey	238,595	188,188
6	South Carolina	191,581	28,151
7	New York	190,206	164,397
8	North Carolina	135,829	75,563
9	Virginia	112,734	43,831
10	Georgia	93,348	16,222
11	Maryland	72,349	17,724

Roles and Responsibilities

The Community Role:

- Issuing or denying floodplain development/building permits.
- Inspecting all development to assure compliance with the local regulations.
- Maintaining records of floodplain development.
- Assisting in the preparation and revision of flood maps.
- Assisting residents in obtaining information on flood hazards, map data, flood insurance and proper construction measures.



Clark Fork River, outside of Plains, Montana. Originally house was 30-40 feet from river bank and 1" above BFE.

Compliance

- *“Compliance”* means holding up your end of the agreement, most notable: enforcing your ordinance.
- FEMA has recourse for non-compliance through 3 approaches:
 - 1) Reclassification under the Community Rating System (CRS).
 - 2) Probation
 - 3) Suspension

Probation

- ☑ Represents formal notification that a community's program is non-compliant.
- ☑ All policy holders will pay an additional \$50 in premium during the probationary period.
- ☑ Probation can remain in effect for up to 1 year, or until the community satisfactorily addresses its violations.

Suspension

- ◆ This means the community is no long in the NFIP.
- ◆ Is invoked if a community does not adequately address its deficiencies within the probation period.
- ◆ FEMA will provide a community 30 days to show why it should not be suspended.
- ◆ A suspended community can re-apply to the NFIP, if deficiencies have been remedied to the "*maximum extent possible*".

Sanctions for Non-Participation

- Flood Insurance will not be available.
- Existing Flood Insurance Policies will not be renewed.
- No federal grants or loans for development within the SFHA.
- No federal disaster assistance
- No Federal mortgage insurance or loan guarantees may be provided in SFHA.



What is a CAV?

Community Assistance Visit

- Are performed by FEMA and State Coordinating Agency
- Intent is to visit a community every 3-5 years
- Involves field work and cross-checking with communities regarding cases observed
- Findings re ordinances can result in quick suspension from the NFIP if not corrected
- Findings re enforcement cases can lead to probation (suspension if not remedied)

Typical CAV Findings

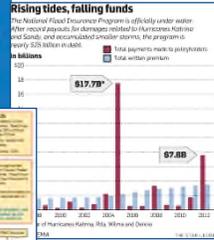
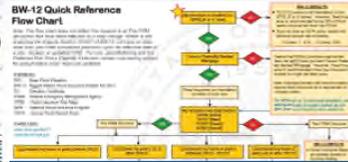
- ✓ Inadequate record-keeping systems
- ✓ Not requiring permits for “other” development
- ✓ As-built lowest floor elevations often not obtained (finals can’t be based on construction drawings)
- ✓ Definition of lowest floor
- ✓ Enclosures below lowest floors
- ✓ Encroachments in the floodway are found
- ✓ Allowance of wet flood-proofing of buildings that exceed the low-damage potential threshold
- ✓ Inadequate documentation of altered watercourse
- ✓ Manufactured homes not anchored (or adequately)

Typical CAV Remedies

- ✓ Removal of fill, other materials from the floodway
- ✓ Development of detailed step-backwater hydraulic analysis for fills not removed from floodway
- ✓ Removal or relocation of floodway structures
- ✓ Re-configuration of altered watercourse, or development of detailed study showing changes
- ✓ Re-conversion of enclosures (removal of solidly filled openings, finished walls, plumbing, electrical, heating, etc., equipment) to unfinished area for access, storage, parking
- ✓ Retrofit manufactured homes with adequate anchors
- ✓ Develop adequate record-keeping system (maintain flood cases in separate files)
- ✓ Elevation of buildings not properly elevated, or re-rating, or Section 1316 declaration by local official



Homeowner Flood Insurance Affordability Act of 2014



Flood Insurance Reform

Why reform the NFIP?

- The NFIP is over \$25 billion in debt to the US treasury.
- Over **19%** of NFIP policies were pre-FIRM, with rates that were subsidized by the other NFIP rate payers.
- Over **45%** of the claims paid are on pre-FIRM properties.
- The exposure of the flood insurance fund was increasing as maps were being updated due to grandfathering.

Biggert-Waters 2012 (BW-12)

- Passed May of 2012
- Eliminated the pre-FIRM Subsidy
- Eliminated Grandfathering
- Move towards actuarial rates (elevation rated) for all policies to be phased in over a time frame.
- Increased funding for hazard mapping

Homeowner Flood Insurance Affordability Act

- Repealed and modified provisions of BW-12
 - Many BW-12 provisions remained
 - Lowered rate increases (no more that 18% annually).
 - Increased surcharge for pre-FIRM properties (\$25 for primary residence, \$250 for all others)
 - Tasked FEMA to perform and affordability study on flood insurance rates within 5 years.
 - Revised grandfathering rules until a new rate structure is put in to place based on recommendations from affordability study.
 - Instituted higher deductible options.
 - Rates cannot exceed 1% of the Coverage amount

The Flood Insurance Advocate

- HFIAA requires FEMA to designate a Flood Insurance Advocate.
- The Advocate will:
 - Educate property owners and policyholders on individual flood risks; flood mitigation; measures to reduce flood insurance rates through effective mitigation; the flood insurance rate map review and amendment process; and any changes in the flood insurance program as a result of any newly enacted laws;
 - Assist policy holders and property owners to understand the procedural requirements related to appealing preliminary flood insurance rate maps and implementing measures to mitigate evolving flood risks;
 - Assist in the development of regional capacity to respond to individual constituent concerns about flood insurance rate map amendments and revisions;
 - Coordinate outreach and education with local officials and community leaders in areas impacted by proposed flood insurance rate map amendments and revisions; and
 - Aid potential policy holders in obtaining and verifying accurate and reliable flood insurance rate information when purchasing or renewing a flood insurance policy.

So in conclusion.....

- The NFIP is not going away.
- Congress is fully supportive of the program.
- Flood losses will continue to increase as the climate continues to change.
- Rates will go up!
- Mapping needs to get better
- ***These changes will impact communities!***

Slide 25

TS4

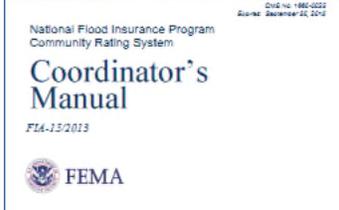
Too dense

Tony Subbio, 11/17/2014



CRS, the Savior???????

- Flood insurance reform shed a new light on CRS.
- While the CRS could not mitigate all the impacts from the move to full actuarial rates, it could soften the blow.
- Politicians feeling the need to do something!
- Communities that had passed on CRS in the past, are now thinking maybe!



The Community Rating System (CRS)

CRS Overview

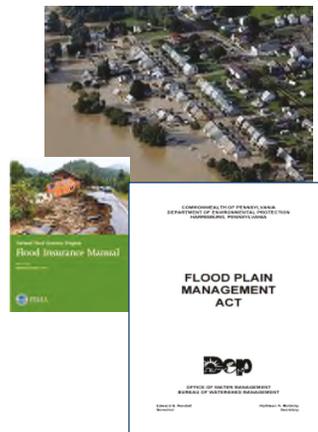


CRS Basics

- Part of the National Flood Insurance Program (NFIP)
 - Administered by FEMA
- Provides for reduced flood insurance premiums where there is better floodplain management.
- Promotes floodplain management practices above and beyond the minimum NFIP requirements.
- Administered by the Insurance Services Office (ISO)
 - ISO/CRS Specialist

CRS program Goals

- Reduce flood damages to insurable Property
- Strengthen and support the insurance aspects of the NFIP
- Promote a comprehensive approach to floodplain management



CRS Features

- 19 creditable activities in four categories
- Can get credit from 94 elements
- Flood insurance discounts ranging from 5-45%
- Class 4 and above particularly strenuous requirements

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000-4,499	40%	10%
3	3,500-3,999	35%	10%
4	3,000-3,499	30%	10%
5	2,500-2,999	25%	10%
6	2,000-2,499	20%	10%
7	1,500-1,999	15%	5%
8	1,000-1,499	10%	5%
9	500-999	5%	5%
10	0-499	0	0

Series 300 Public Information	Series 400 Mapping and Regulations	Series 500 Flood Damage Reduction	Series 600 Flood Preparedness
Elevation Certificates Map Information Service Outreach Projects Hazard Disclosure Flood Protection Information Flood Protection Assistance Flood Insurance Promotion	Floodplain Mapping Open Space Preservation Higher Regulatory Standards Flood Data Maintenance Stormwater Management	Floodplain Mgt. Planning Acquisition and Relocation Flood Protection Drainage System Maintenance	Flood Warning Program Levee Safety Dam Safety

How does the CRS work?

- ✓ Has Application prerequisites
- ✓ Community activities are scored based on a schedule.
- ✓ Performance of activities is verified
- ✓ Classification (1-10) assigned.
- ✓ 5% reduction in flood insurance/class
- ✓ Classifications are recertified annually.
- ✓ Classifications are re-verified on a 3-5 cycle depending upon classification.

CRS Point Awards

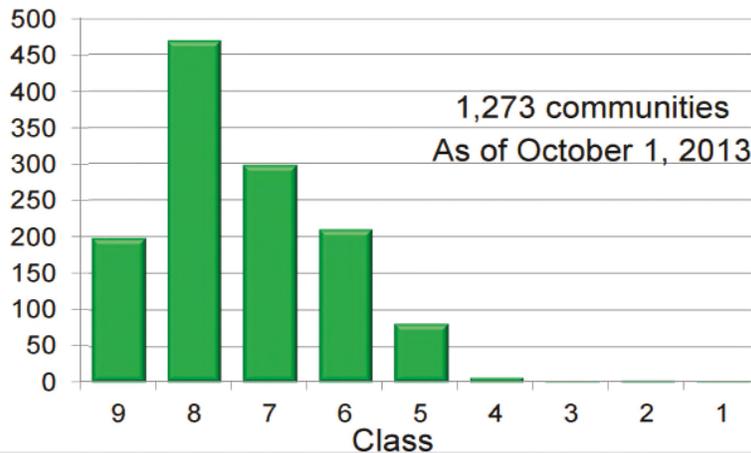
Community Rating System

- ✓ For every CRS classification there is a corresponding rate reduction in flood insurance premiums.
- ✓ 5% per classification.
- ✓ Some rate reductions are capped due to the flood zone.

Rate Class	Discount	Points Needed
10	0 %	0 - 499
9	5 %	500 - 999
8	10 %	1000 - 1499
7	15 %	1500 - 1999
6	20 %	2000 - 2499
5	25 %	2500 - 2999
4	30 %	3000 - 3499
3	35 %	3500 - 3999
2	40 %	4000 - 4499
1	45 %	4500 +

note: The maximum possible discount for B,C,D and X zone flood insurance policies is 10%.

CRS Status



Slide 34

TS5 Do we have stats for this year?
Tony Subbio, 11/17/2014

Application Prerequisites

- Must be in regular phase of the NFIP for at least 1 year
- Must be in full compliance with the minimum requirements of the NFIP
- Agree to maintain FEMA Elevation Certificates.
- Assess and address FEMA identified repetitive loss properties (If applicable)
- Maintain flood insurance coverage of community owned buildings within the floodplain.
- Coastal communities agree to show LiMWA on their FIRM

What is Compliance?

- *“Compliance”* means holding up your end of the agreement, most notable: enforcing your ordinance.
- FEMA has recourse for non-compliance through 3 approaches:
 - 1) Reclassification under the Community Rating System (CRS).
 - 2) Probation
 - 3) Suspension

What a Repetitive Loss?

- Any flood insured property with 2 or more claims paid in excess of \$1000 in any rolling 10-year period since 1978.
- 3 categories of repetitive loss communities under the CRS:
 - *Category A-No RL Properties*
 - *Category B- 1-9 RL Properties*
 - *Category C-10 or more RL properties*
- Severe Repetitive Loss-are those 1–4 family properties that have had four or more claims of more than \$5,000 or two to three claims that cumulatively exceed the building’s value

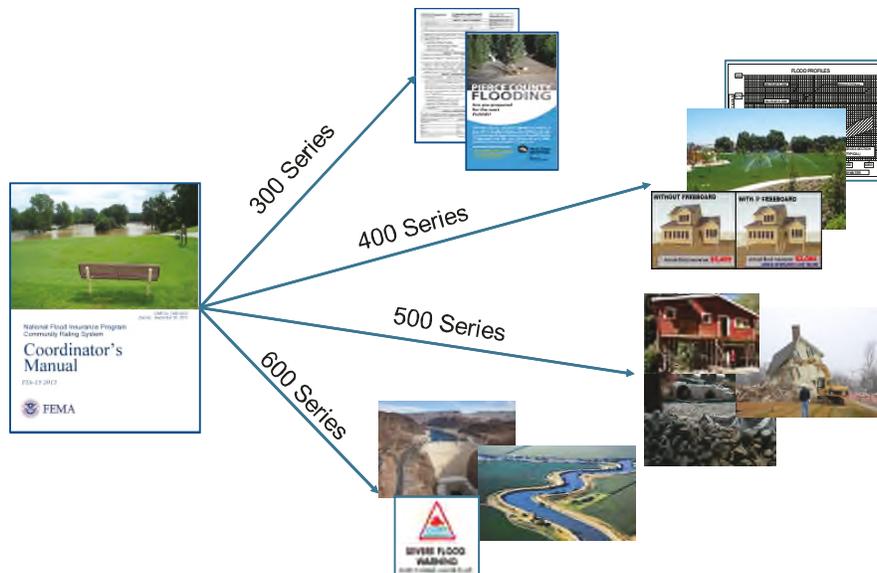
Municipal Participation

- Designate a CRS Coordinator
- Implement activities
- Maintain records
- Recertify each year
- Participate in verification visits

Benefits to the Municipalities and Residents

- Lower the costs of flood insurance premiums (can mitigate some of the impacts for flood insurance reform)
- These savings stay in the community
- Insurance savings can offset costs (taxes, rates)
- Better organized programs
- Communities can measure themselves against national standards
- Public information components builds constituency
- Makes floodplain management “programmatically”-incentive to keep implementing

The CRS Activities



The 300 Series

Public Information Activities

- This series credits programs that advise people about the flood hazard, encourage the purchase of flood insurance, and provide information about ways to reduce flood damage. These activities also generate data needed by insurance agents for accurate flood insurance rating. They generally serve all members of the community.
 - 7 Activities
 - 29 creditable elements

Activity 310

Elevation Certificates

- **Maximum Credit = 116 points**
- *The OBJECTIVE of this activity is to maintain correct FEMA elevation certificates and other needed certifications for new and substantially improved buildings in the SFHA.*
- 3 creditable elements:
 - *Mandatory Post CRS elevation certificates-**38 points***
 - *Post-FIRM elevation certificates-**48 points***
 - *Pre-FIRM elevation certificates-**30 Points***
- Is a Participation Prerequisite
- More on this later!

Activity 320 Map Information

- **Maximum Credit = 90 Points**
- *The OBJECTIVE of this activity is to provide inquirers with information about the local flood hazard and about flood-prone areas that need special protection because of their natural functions.*
- Credit is based upon the information that can be provided to an inquirer
- Must Publicize the Service
- Must keep logs and records of the information provided

- *Basic FIRM information = 30 points*
- *Additional FIRM information = 20 points*
- *Problems no shown in the FIRM = 20 points*
- *Flood Depth Data = 20 points*
- *Special flood related hazards = 20 points*
- *Historical flood information = 20 points*
- *Natural Floodplain Function = 20 points*



Activity 330 Outreach Projects

- **Maximum credit = 350 points**
- *The OBJECTIVE of this activity is to provide the public with information needed to increase flood hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains.*
- To receive credit under this activity, a community may do one or more of the following types of projects:
 - *Designing and carrying out public outreach projects.*
 - *Having a pre-flood plan for public information activities ready for the next flood. A pre-flood plan is a collection of outreach projects prepared in advance, but not delivered until a flood occurs.*
 - *Implementing an ongoing public information effort to design and transmit the messages that the community determines are most important to its flood safety and the protection of its floodplains' natural functions. This public information plan is reviewed and updated annually.*
 - *Having outreach projects that are conducted or endorsed by stakeholder organizations.*

Activity 340 Hazard Disclosure

- **Maximum credit = 80 points**
 - *The OBJECTIVE of this activity is to disclose a property's potential flood hazard to prospective buyers before the lender notifies them of the need for flood insurance.*
 - Can gain extra credit if disclosure program is part of a PPI under activity 330
- ➔ Disclosure of the flood hazard (DFH): 25 points
 - ➔ Other disclosure requirements (ODR): 25 points
 - ➔ Real estate agents' brochure (REB): 8 points
 - ➔ Disclosure of other hazards (DOH): 8 points

Activity 350 Flood Protection Information

- **Maximum Credit = 125 points**
- *The OBJECTIVE of this activity is to provide the public with information about flood protection that is more detailed than that provided through outreach projects.*
- 3 creditable elements include:
 - Flood Protection Library=10 points
 - Locally pertinent documents= 10 points
 - Flood Protection Website= 76 points
- Can gain extra credit if website is part of a PPI under activity 330

Activity 360

Flood Protection Information

- **Maximum Credit = 110 points**
 - *The OBJECTIVE of this activity is to provide one-on-one, property-specific help to people who are interested in protecting their property from flooding.*
 - Must publicize service and keep logs and records of services provided.
 - Can gain extra credit if the assistance program is part of a PPI under activity 330
- Property protection advice: Up to 25 points for providing one-on-one advice about property protection (such as retrofitting techniques and drainage improvements).
 - Protection advice provided after a site visit (PPV): Up to 30 points if the property protection advisor makes a site visit before providing the advice.
 - Financial assistance advice (FAA): 10 points for providing advice on financial assistance programs that may be available.
 - Advisor training (TNG): 10 points if the person providing the advice

Activity 370

Flood Insurance Promotion

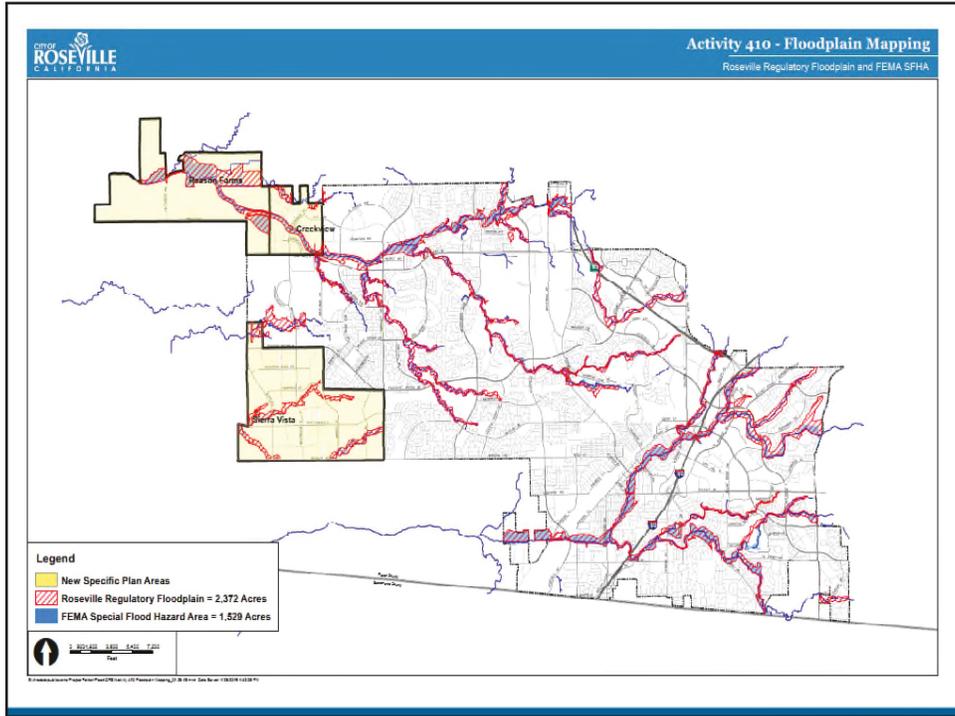
- **Maximum credit = 110 points**
- *The OBJECTIVE of this activity is to improve flood insurance coverage in the community.*
- 4 creditable elements include:
 - Flood insurance coverage assessment (FIA): Up to 15 points
 - Coverage improvement plan (CP): Up to 15 points
 - Coverage improvement plan implementation (CPI): Up to 60 points
 - Technical assistance (TA): Up to 20 points
- Must publicize the service and keep logs and records of assistance provided.
- Can gain extra credit if the assistance program is part of a PPI under activity 330

The 400 Series Mapping and Regulations

- This series credits programs that provide increased protection to new development. These activities include:
 - *mapping areas not shown on the FIRM*
 - *preserving open space and protecting natural floodplain functions*
 - *enforcing higher regulatory standards*
 - *managing stormwater.*
- The credit is increased for growing communities.
 - *5 Activities*
 - *37 Creditable elements*

Activity 410 Floodplain Mapping

- **Maximum credit = 802 points**
 - *The OBJECTIVE of this activity is to improve the quality of the mapping that is used to identify and regulate floodplain development.*
 - Credit is based on impact adjustments based on the area studied vs. area of the SFHA.
 - Credit can be increased by a growth rate adjustment
 - Mapping must meet FEMA's guidelines and specifications
 - Can gain up to 1.5 times the credit points for mapping and regulating areas outside FEMA's SFHA
- New study (NS): Up to 290 points
 - Leverage (LEV): The points for NS are multiplied by a ratio that reflects how much of the study was financed by non-Federal Emergency Management Agency (FEMA) funds.
 - State review (SR): Up to 60 points
 - Higher study standards (HSS): Up to 160 points
 - More restrictive floodway standard (FWS): Up to 110 points
 - Floodplain mapping of special flood-related hazards (MAPSH): Up to 50 points
 - Cooperating Technical Partner (CTP): Up to 132 points



TETRA TECH

Activity 420

Open Space Preservation

- **Maximum credit = 2020 points**
- *The OBJECTIVES of this activity are to:*
 - Prevent flood damage by keeping flood-prone lands free of development.
 - Protect and enhance the natural functions of floodplains.
- Credit is based on impact adjustments based on the % of SFHA in an open space use
- Credit can be increased by a growth rate adjustment
- Can gain up to 1.5 times the credit points for mapping and regulating areas outside FEMA's SFHA

- Open space preservation (OSP): Up to 1,450 points
- Deed restrictions (DR): Up to 50 points
- Natural functions open space (NFOS): Up to 350 points
- Special flood related hazards open space (SHOS): Up to 50 points
- Open space incentives (OSI): Up to 250 points for local requirements
- Low Density Zoning (LZ): up to 600 points
- Natural shoreline protection (NSP): Up to 120 points

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Activity 430

Higher Regulatory Standards

- **Maximum credit = 2042 points**
 - *The OBJECTIVE of this activity is to credit regulations to protect existing and future development and natural floodplain functions that exceed the minimum criteria of the National Flood Insurance Program (NFIP).*
 - Credit is based on impact adjustments based on the % of SFHA excluding open space areas impacted by the regulation.
 - Credit can be increased by a growth rate adjustment
 - Can gain up to 1.5 times the credit points for mapping and regulating areas outside FEMA's SFHA
- Development limitations (DL): Up to 1,330 points.
 - Freeboard (FRB): Up to 500 points
 - Cumulative substantial improvements (CSI): Up to 90 points
 - Lower substantial improvements (LSI): Up to 20 points
 - Protection of critical facilities (PCF): Up to 80 points
 - Enclosure limits (ENL): 240 points.
 - Building code (BC): Up to 100 points
 - Local drainage protection (LDP): Up to 120 points
 - Manufactured home parks (MHP): Up to 15 points
 - Coastal A Zones (CAZ): Up to 650 points
 - Special Flood related Hazard regulations (SHR): Up to 100 points
 - Other higher standard (OHS): Up to 100 points
 - State Mandated Regulatory Standards (SMS): Up to 20 bonus points
 - Regulations administration (RA): Up to 67 points

Activity 440

Flood Data Maintenance

- **Maximum Credit = 222 points**
- *The OBJECTIVE of this activity is to make community floodplain data more accessible, current, useful, and/or accurate so that the information contributes to the improvement of local regulations, insurance rating, planning, disclosure, and property appraisals.*
- Activity includes 4 creditable elements:
 - Additional map data (AMD): Up to 160 points
 - FIRM maintenance (FM): Up to 15 points
 - Benchmark maintenance (BMM): Up to 27 points
 - Erosion data maintenance (EDM): Up to 20 points
- Credit is based on impact adjustments based on the % of SFHA the community has data on.
- Credit can be increased by a growth rate adjustment

Activity 450

Stormwater Management

- **Maximum credit = 755 points**
- *The OBJECTIVE of this activity is to prevent future development from increasing flood hazards to existing development and to maintain and improve water quality.*
- Activity includes 4 creditable elements:
 - Stormwater management regulations (SMR): Up to **380 points**. SMR credit is the sum of four sub-elements:
 1. *Size of development regulated (SZ): Up to 110 points.*
 2. *Design storms used in regulations (DS): Up to 225 points.*
 3. *Low-impact development (LID): Up to 25 points.*
 4. *Public maintenance of required facilities (PUB): Up to 20 points.*
 - Watershed master plan (WMP): Up to **315 points**
 - Erosion and sedimentation control regulations (ESC): Up to **40 points**
 - Water quality regulations (WQ): **20 points**
- Credit is impact adjust based on watershed
- Credit can be increased by a growth rate adjustment

The 500 Series

Flood Damage Reduction Activities

- This series credits programs for areas in which existing development is at risk. Credit is provided for:
 - *a comprehensive floodplain management plan,*
 - *relocating or retrofitting flood prone structures, and*
 - *maintaining drainage systems.*
- **4 Activities**
- **17 Creditable Element**

Activity 510

Floodplain Management Planning

- **Maximum Credit = 622 points**
- *The OBJECTIVE of this activity is to credit the production of an overall strategy of programs, projects, and measures that will reduce the adverse impact of the hazard on the community and help meet other community needs.*
- Credit can be impact adjusted, if plan does not cover 100% of the floodplain.
- Requires annual progress reporting
- Must get some credit on each of the 10 steps to get any credit for this activity

- 3 creditable elements :
- Floodplain Management Planning (FMP)= 382 points
- Repetitive Loss Area Analysis (RLAA) = 140 Points
- Natural Functions Plan (NFP) = 100 Points



Floodplain Management Planning

The 10-steps

- ✓ Step 1. Organize
- ✓ Step 2. Involve the public
- ✓ Step 3. Coordinate
- ✓ Step 4. Assess the hazard
- ✓ Step 5. Assess the problem
- ✓ Step 6. Set goals
- ✓ Step 7. Review possible activities
- ✓ Step 8. Draft an action plan
- ✓ Step 9. Adopt the plan
- ✓ Step 10. Implement, evaluate, revise.

Activity 520

Acquisition and Relocation

- **Maximum Credit = 2,250 points**
- *The OBJECTIVE of this activity is to encourage communities to acquire, relocate, or otherwise clear existing buildings out of the flood hazard area.*
- Credit is impact adjusted based upon how many structures have been removed vs. total buildings in the SFHA.
 - 2 impact adjust options
- Special emphasis on repetitive and severe repetitive loss properties as well as critical facilities
- Vacated properties must remain in open space use in perpetuity.

Activity 530

Flood Protection

- **Maximum credit = 1600 Points**
- *The OBJECTIVE of this activity is to protect buildings from flood damage by:*
 1. *Retrofitting the buildings so that they suffer no or minimal damage when flooded, and/or*
 2. *Constructing small flood control projects that reduce the risk of floodwaters reaching the buildings.*
- Credit is allocated based on the flood-proofing technique used.
- Credit is impact adjusted based on the number of protected buildings vs. the total number of buildings in the SFHA.

Activity 540

Drainage System Maintenance

- **Maximum credit = 570 Points**
 - *The OBJECTIVE of this activity is to ensure that the community keeps its channels and storage basins clear of debris so that their flood-carrying and storage capacity are maintained.*
 - Credit is Impact Adjusted
- Channel debris removal (CDR): Up to 200 points
 - Problem site maintenance (PSM): Up to 50 points
 - Capital improvement program (CIP): Up to 70 points
 - Stream dumping regulations (SDR): Up to 30 points
 - Storage basin maintenance (SBM): Up to 120 points
 - Coastal erosion protection maintenance (EPM): Up to 100 points

The 600 Series

Warning and Response Activities

- This series provides credit for measures that protect life and property during a flood. Activities include:
 - *flood warning and response programs*
 - *maintenance of levees and programs that prepare for their potential failure.*
 - *Maintenance of Dams and programs that prepare for their potential failure.*
- **3 Activities**
- **16 creditable elements**

Activity 610

Flood Warning and Response

- Maximum Credit = 395 points
 - *The OBJECTIVE of this activity is to encourage communities to ensure timely identification of impending flood threats, disseminate warnings to appropriate floodplain occupants, and coordinate flood response activities to reduce the threat to life and property.*
 - All or nothing activity!
- Flood threat recognition system (FTR): Up to 75 points
 - Emergency warning dissemination (EWD): Up to 75 points
 - Flood response operations (FRO): Up to 115 points
 - Critical facilities planning (CFP): Up to 75 points.
 - StormReady community (SRC): 25 points
 - TsunamiReady community (TRC): 30 points

Activity 620

Levees

- **Maximum credit = 235 points**
 - *The OBJECTIVE of this activity is to encourage communities to properly inspect and maintain levees and to identify impending levee failures in a timely manner, disseminate warnings to appropriate floodplain occupants, and coordinate emergency response activities to reduce the threat to life and property.*
 - All or nothing Activity!
- Levee maintenance (LM): Up to 95 points
 - Levee failure threat recognition system (LFR): Up to 30 points
 - Levee failure warning (LFW): Up to 50 points.
 - Levee failure response operations (LFO): Up to 30 points
 - Levee failure critical facilities planning (LCF): Up to 30 points

Activity 630 Dams

- **Maximum credit = 160 Points**
 - *The OBJECTIVES of this activity are to encourage states to provide dam safety information to communities and to encourage communities, in turn, to provide timely identification of an impending dam failure, disseminate warnings to those who may be affected, and coordinate emergency response activities to reduce the threat to life and property.*
 - All or nothing activity!
- State dam safety program (SDS): Up to 45 points
 - Dam failure threat recognition system (DFR): Up to 30 points
 - Dam failure warning (DFW): Up to 35 points
 - Dam failure response operations (DFO): Up to 30 points.
 - Dam failure critical facilities planning (DCF): Up to 20 points

County Growth Adjustment

- *The OBJECTIVE of this credit calculation step is to increase the credit for activities related to managing new development in areas that are growing.*
- Applied to all credits verified in the 400 series
- Based off of US Census data
- Provided by CRS Specialists

FOR CREDIT CLASSIFICATION CALCULATIONS

COUNTY NAME: _____ FIPS: _____
STATE: _____ ZIP CODE: _____

CALL USA - 1-800-368-5888

400 Series Activity Calculations

Activity Code	Credit Value
4001	100
4002	100
4003	100
4004	100
4005	100

200 Community Classification Calculations

CRS Specialists

NAME: _____
TITLE: _____
PHONE: _____
E-MAIL: _____

CRS Coordinator Name/Address: _____

1 008 07/06 0/07/03



Questions

Thank you!

Rob Flaner, CFM
Hazard Mitigation Program Manager
Tetra Tech, Inc.
rob.flaner@tetrattech.com



DUTCHESS COUNTY HAZARD MITIGATION PLAN UPDATE
Wappinger Creek Intermunicipal Council Meeting - May 28, 2015
Sign-In Sheet



Name	Title	Agency/Municipality	Phone Number	E-mail
Sean Carroll	Community Environmental Educator	Cornell COOP Extension Dutchess County (CCEDC)	(845) 677-8223 x 147	smc427@cornell.edu
Matthew Alexander	Mayor	Village of Wappinger Falls		
Chris Rohrbach	ZBA Member	Town of La Grange		crohrbach@hvc.rr.com
Ed Jorgensen	Planning Board	Town of Washington		
Joe Luna	Councilman	Town of La Grange		
Emily Vail	Watershed Outreach Specialist	NYSDEC Hudson River Estuary Program	845-256-3145	eevail@gw.dec.state.ny.us
Brian Scoralick	Executive Director	DC Soil and Water		
Tom Meyering	Town Park Facilities and Program Director	Town of Poughkeepsie		
Carolyn Klocker	Sr. Water Resource Educator	CCEDC Environment & Energy	(845) 677-8223 x135	cak97@cornell.edu
Eileen Sassmann		Town of Wappinger Falls		
Mike Herzog	Village Board of Trustees	Village of Millbrook		
Emily Slotnick	Planner	Tetra Tech		



Dutchess County Hazard Mitigation Plan Update Meeting Notes

Purpose of Meeting:	Wappinger Creek Intermunicipal Council Meeting
Location of Meeting:	Poughkeepsie Senior Center, 14 Abe's Way, Poughkeepsie, New York
Date of Meeting:	July 17, 2015
Attendees: See sign-in sheet	
Agenda Summary: The purpose of this presentation was to discuss the status of the HMP update process, with a focus on mitigation actions within the Wappinger Creek Watershed.	
Item No.	Description
1	<p>Town of Poughkeepsie</p> <ul style="list-style-type: none"> • Dam at Riddle(Red?) Oaks Mill has a shared history and ownership between the Towns of Poughkeepsie and La Grange. Damage occurred during a recent storm, but there have been no inspections since the storm. It seems that DEC has taken this off the table, and/or is not taking responsibility for the dam. • Working with Village of Wappingers Falls
2	<p>Village of Wappingers Falls</p> <ul style="list-style-type: none"> • GIGP (CFA) program is valid for planning activities, and used to be a 10% match. Watershed planning studies are eligible under the new round, but applicant now needs to show a 50% local match.
3	<p>Town of La Grange</p> <ul style="list-style-type: none"> • Put together citizens surveys to gather input about priorities relative to the watershed and problems with Wappinger Creek <ul style="list-style-type: none"> ○ Concerned responses focused on upstream issues, such as debris in the the stream which impedes recreational users downstream • Town will move forward in partnership with Village of Wappingers Falls to build the LWRP, and try to submit to CFA for funding • Town is working on legislation for solar farms to power 80% of Town energy through water and solar plants
4	<p>Town of Millbrook</p> <ul style="list-style-type: none"> • Using the HMP annex to evaluate stormwater management and flood mitigation projects around the highschool and condos • Stormwater project currently moving forward uses a camera to evaluate pipes
5	<p>NYS DEC</p> <ul style="list-style-type: none"> • Estuary grants have ended; access grants will come out later. Announcements



Dutchess County Hazard Mitigation Plan Update Meeting Notes

	<p>for the last round will come in the fall</p> <ul style="list-style-type: none"> ○ Stewardship planning would be eligible ● EFC grants - wastewater and drinking water work are eligible. <ul style="list-style-type: none"> ○ 3 yr grant period ○ Applications due September 4, 2015 ○ Hardship, CSO, SSO, and resiliency communities will be prioritized ● Hudson River Watershed Alliance conference is coming up with a focus on drinking water . October 29, 2015: 8:30 am to 4:30 pm, Henry A. Wallace Center at the FDR Presidential Library & Home, Hyde Park, NY
6	<p>Cornell COOP Extension Dutchess County (CCEDC)</p> <ul style="list-style-type: none"> ● 2 opportunities for municipalities offered in March <ul style="list-style-type: none"> ○ GIS training for municipalities ○ Green Infrastructure and Stormwater Forum ● Flood Resiliency Project is ongoing through the Hudson River Estuary Partnership <ul style="list-style-type: none"> ○ This may lead to volunteer projects on smaller scale
7	<p>Village of Wappingers Falls</p> <ul style="list-style-type: none"> ● Wappinger Climate Action Group has asked the Village to take the Climate Smart Community Pledge, and bring in Solaris NY to help low income housing. ● Village was awarded NY prize to do a feasibility study for a tri-municipal sewerage system, new hydroelectric plant, and solar for drinking water. ● Wappinger Boat House Project (CDBG funding) is underway with the Town of Poughkeepsie
8	<p>Dutchess County Soil and Water</p> <ul style="list-style-type: none"> ● Projects are ongoing in on Cold Springs Creek in Wappingers area, using volunteers to take the measurements, assessing culvert conditions, and flow <ul style="list-style-type: none"> ○ Part of DEC's program on connectivity ○ Similar projects are ongoing in Pine Plains and Sanford at the headwaters of the Wappinger Creek ● New education and outreach activities related to stormwater ● Lower Hudson Coalition Conference coming up in October with focus on stormwater ● Currently have a hydroseeder through an ongoing grant through NQIP to do bank stabilization and secure slopes for municipalities at almost no charge.