

# SUMMARY NOTES OF THE JUNE 2, 2015 MEETING OF THE RACINE COUNTY HAZARD MITIGATION PLAN LOCAL PLANNING TEAM

## INTRODUCTION

The June 2, 2015 meeting of the Racine County Hazard Mitigation Plan Local Planning Team was convened at the Racine County Center at 9:00 a.m. The meeting was called to order by David Maack, Coordinator of the Racine County Office of Emergency Management. Attendance was taken by circulating a sign-in sheet.

In attendance at the meeting were the following individuals:

### Local Planning Team Members

David Maack, Chair	Coordinator, Racine County Office of Emergency Management
Aaron Owens, Secretary	Planner, Southeastern Wisconsin Regional Planning Commission
Julie Anderson	Director, Racine County Department of Public Works and Development Services
Mark Anderson	Lieutenant, City of Burlington Police Department
Christopher Bennet	Trustee, Village of Rochester
Brandon Bledsoe	Management Intern, Village of Wind Point
Dottie Bowersox	Public Health Administrator, Racine Health Department
Joseph Boxhorn	Senior Planner, Southeastern Wisconsin Regional Planning Commission
Jyl Brunner	Administrative Captain, Racine Youthful Offender Correctional Facility
Jeff Busch	Building Superintendent, Town of Dover
Pat Campbell	Clerk, Town of Norway
Tom Christensen	Administrator, Village of Caledonia
Jeff Collen	Chief Executive Officer, YMCA of Racine
Aaron Collins	Director of Plant Operations and Maintenance, Wheaton Franciscan Healthcare
James F. Day	Assistant Chief, S.C. Johnson & Son Fire Brigade
Jonathan Delagrave	County Executive, Racine County
Tom Ditscheit	Chief, Town of Waterford Police Department
Jeff Dolezal	Director of Public Works, Village of Waterford
Mark Dubiel	Emergency Management Coordinator, Cree
Brian Freitag	Manager of Environmental and Facility Services, In-Sink-Erator
Silviano E. Garcia	Public Health Specialist, Central Racine County Health Department
Michael Hawes	Village Administrator, Village of Wind Point
Nicholas Hempel	Division Chief, City of Racine Fire Department
Ken Hinz	Supervisor, Town of Waterford Public Works Department
Perry Howard	Fire Chief, City of Burlington Fire Department
Jody Howell	Supervisor, Racine County Communication Center
Jake Isaacson	Supervisor, Town of Dover Roads Department
Jon Keiser	Battalion Chief, South Shore Fire Department
Laura L. Kletti	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Jill Kopp	Clerk-Treasurer, Village of Union Grove
Tom Kramer	Administrator, Town of Norway
Heidi Lange	Manager, Marketing, Communications & Public Relations, Wheaton Franciscan Healthcare
Chris Litzau	President, Great Lakes Community Conservation Corps
Jennifer Loizzo	Registered Sanitarian, Central Racine County Health Department
Paul Madden	Battalion Chief, City of Racine Fire Department

Michael McKinney	Clerk/Treasurer, Town of Yorkville
Luke Miller	Trustee, Franksville United Methodist Church
Moira Moon	Administrative Assistant, Racine County Office of Emergency Management
Jane Nikolai	Treasurer, Racine County
Mark Osmundsen	Director of Public Works, Village of Union Grove
Nakeisha Payne	Senior Public Involvement & Outreach Specialist, Southeastern Wisconsin Regional Planning Commission
Cody Pearce	Public Health Educator, City of Racine
Dick Roeder	Chief, Caledonia Fire Department
Kyle Roeder	Disaster Program Manager, American Red Cross of Southeast Wisconsin
Ben Schliesman	Southeast Region Director, Wisconsin Emergency Management
Jeff Seitz	Village Engineer, Village of Sturtevant Department of Public Works
John P. Serketich	Assistant Corporation Counsel, Racine County
Robert Stedman	Chief, South Shore Fire Department
Anthony Trevino	Security Manager, Cree
Skip Twardosz	Emergency Management Director, Town of Burlington
Dan Warren	Captain, Village of Caledonia Police Department
Stacey Webber	Business Manager, Accu-Temp Heat Treating
James Weidner	Captain, Racine County Sheriff Department
Chuck Weitzel	Lieutenant, City of Racine Police Department
David Wohlgemuth	Lieutenant, City of Racine Police Department
Craig Workman	Director of Public Works, City of Burlington
Mark Yehlen	Commissioner of Public Works, City of Racine

Mr. Maack welcomed all attendees to the meeting and thanked them for their participation. He noted that the first Racine County hazard mitigation plan was completed ten years ago and that the plan was updated in 2010. He further explained that the plan is required to be updated every five years, and that this meeting marked the beginning of the second update to the original plan. Mr. Maack emphasized that input from the Local Planning Team will be invaluable throughout the process and that the plan is very important to ensure communities maintain eligibility for funding for potential mitigation projects.

Mr. Maack introduced Julie Anderson, Director, Racine County Department of Public Works and Development Services. Ms. Anderson welcomed everyone to the plan updating process and reiterated the importance of keeping the County's hazard mitigation plan up to date. She discussed the flooding that the County experienced in 2008 and 2009 and explained how the hazard mitigation plan allowed the County to access State and Federal aid to rehabilitate homes damaged by the floods. She noted that the County has had a great partnership with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) throughout the initial planning process and the update to the plan. Ms. Anderson said that in addition to assisting Racine County with its plan update, SEWRPC is currently working with two other counties on their hazard mitigation plans as well.

Ms. Anderson introduced Jonathan Delagrave, Racine County Executive. Mr. Delagrave welcomed everyone and commended the good mix of government, non-profit, and business interests coming together for this important process. Mr. Delagrave discussed notable hazard events that had occurred within the County, and indicated that most were related to weather and particularly flooding hazards. He explained that the County was eligible and received FEMA assistance to help make communities whole again after these events. He said that in addition to keeping the County eligible for aid, the hazard mitigation plan identifies policies and actions to reduce the risk of costly damages and loss of life within the County.

## **OVERVIEW OF HAZARD MITIGATION AND HAZARD MITIGATION PLAN UPDATING PROCESS**

Mr. Maack introduced Joseph Boxhorn, Senior Planner, SEWRPC. Mr. Boxhorn presented an overview of hazard mitigation and the hazard mitigation plan updating process.

[Secretary's Note: A copy of Mr. Boxhorn's presentation is attached herein as Exhibit A.]

## **BACKGROUND ON THE SECOND UPDATE OF THE RACINE COUNTY HAZARD MITIGATION PLAN**

Mr. Boxhorn introduced Aaron Owens, Planner, SEWRPC who then presented background information on the initial hazard mitigation plan and the first update to the plan. He explained that the initial planning process began in 2001 and the first edition plan was published in 2004. Study began in 2009 for the first update of the plan, which was coordinated with the development of the County's comprehensive plan that was ongoing at the time. The first update to the hazard mitigation plan was published in 2010. Mr. Owens stated that all municipalities, as well as many additional non-governmental partners, participated in some fashion in both the initial planning effort as well as the update to the plan. Mr. Owens also outlined the main plan components to be reviewed and revised, presented a work schedule for the plan update, and explained the role of the Local Planning Team in the plan development process. He stated that a project webpage has been created on the SEWRPC website and indicated that draft chapters of the plan report, meeting materials, and summary notes from planning team meetings will be available on this page. He added that a comment screen is also available on this webpage through which planning team members and members of the public may submit questions or comments on the draft plan.

[Secretary's Note: Mr. Owens' presentation is attached herein as Exhibit A. A copy of the proposed work schedule for the plan update is attached herein as Exhibit B.]

## **REVIEW OF HAZARD MITIGATION GOALS FROM FIRST PLAN UPDATE**

Mr. Owens presented a brief overview of the goals that were established for the initial Racine County hazard mitigation planning program and revised during the first update of the plan. He explained that each goal had several objectives and standards associated with them and asked the Team to review the goals and to begin to think about any changes and/or additions that may be necessary. He noted that there will be opportunities to revise goals as needed as the planning process continues.

[Secretary's Note: A copy of the hazard mitigation goals is attached herein as Exhibit C.]

Mr. Maack asked if these goals are similar to the goals of other communities conducting hazard mitigation planning. Mr. Boxhorn responded that most of the hazard mitigation plans that he has worked on have very similar goals. He indicated that Kenosha County has one additional goal related to communications interoperability amongst first responders. Mr. Maack also asked if communicable diseases would fall under the goal of "Unpredictable Hazards". Mr. Owens responded that the "Unpredictable Hazards" goal was intended to cover a broad range of hazards which are unpredictable and not geographically specific which would include communicable diseases. If the planning team feels that there should be a separate goal pertaining to communicable disease or any other hazard, there will be an opportunity to add or revise goals as the process proceeds.

## **HAZARD AND VULNERABILITY ASSESSMENT EXERCISE**

Mr. Owens stated that as part of the hazard and vulnerability analysis for the plan, it will be necessary to decide which hazards will be addressed by the plan. He indicated that a hazard and vulnerability assessment tool and instructions for completing the tool were included with the agenda for this meeting.

[Secretary's Note: A copy of the hazard and vulnerability assessment tool and the instructions for completing the tool are attached herein as Exhibit D.]

Mr. Owens explained that the tool assesses the potential that a specific hazard may occur, the likely severity of impacts resulting from these hazards, and the extent to which these impacts may be mitigated by current levels of preparedness. Mr. Owens asked the members of the Local Planning Team to complete the hazard and vulnerability assessment tool. He noted that the results of this exercise would be used to help determine which hazards are addressed by the hazard mitigation plan update.

In response to a request from Mr. Maack, Mr. Boxhorn guided the Team through the assessment tool using the first listed hazard, riverine flooding, as an example.

Jennifer Loizzo, registered sanitarian, Central Racine County Health Department, asked if the assessment should be completed utilizing their experience from the entity that they are representing or through their perception of the entire County. Mr. Owens responded that ideally they would complete the exercise through their observations of the entire County. He added that if the members felt uncomfortable assessing the entire County, utilizing their experience from only their entity would be sufficient and asked that they note the entity they are representing on the top of the assessment tool.

## **ADJOURNMENT**

There being no further business, the meeting was adjourned by unanimous consent at 10:30 a.m.

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# HAZARD MITIGATION PLANNING

June 2, 2015

Joseph Boxhorn, Ph.D., Senior Planner  
Southeastern Wisconsin Regional Planning Commission

Aaron Owens, Planner  
Southeastern Wisconsin Regional Planning Commission

Katie Sommers, CFM, State Hazard Mitigation Officer  
Wisconsin Division of Emergency Management

Roxanne Gray, Mitigation Section Supervisor  
Wisconsin Division of Emergency Management



DOCS #226126

## What is Mitigation?

- “Mitigation is any sustained action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards” – FEMA definition
- Constructive actions to reduce damages prior to the next disaster



Photo from Kenosha County



Photo from Belknap County, WI

## What is Mitigation?

- Mitigation is not
  - Emergency response
  - Crisis management
  - Disaster preparation and recovery
- Mitigation focuses on reducing the impacts of disasters when they occur



## Mitigation Breaks the Disaster Cycle





## Why Do We Mitigate?



- Disasters cost society too much
- State and federal aid insufficient
- Can prevent future damages
- Reduce impacts of disaster and speed response and recovery process
- Mitigation happens at the local level

## Why Do We Mitigate?

### Nationwide Trends

- \$80 Billion 2004-2011 (GAO) responding to disasters
- \$6 Billion per year in flood damages
- Costs continue to rise
- People continue to build and live in high-risk areas



## Why Do We Mitigate?



### In Wisconsin

- \$3 billion in disaster-related damages last 3 decades
- 12 Federal Disaster Declarations in the 90's compared to 6 in the 80's
- 2000, 2001, two in 2002, 2004, 2007, 2008, two in 2010, 2011, 2012, 2013
- 2 snow emergencies (2000 and 2008)

## Value of Mitigation



- In 2005, the National Institute of Building Sciences found that for every \$1 spent on mitigation, \$4 are saved in avoided future damages
- A loss avoidance study for Crawford, Jefferson, and Kenosha Counties found that as of 2009 mitigation measures taken between 1989 and 2008 costing \$11.0 million resulted in \$14.3 million in avoided damages



## Examples of Mitigation Measures (mostly related to flooding)



## Acquisition/Demolition



Communities acquire land, demolish structures, and keep the land in open space.

Images from Darlington, WI

## Elevation



Elevation raises a structure out of the floodplain. Wisconsin has specific regulations to follow with elevation projects. See DNR for more information.

Images from Soldiers Grove, WI

## Floodwall



Floodwalls can prevent water from inundating structures that cannot be elevated, relocated, or demolished.

Image from Darlington, WI

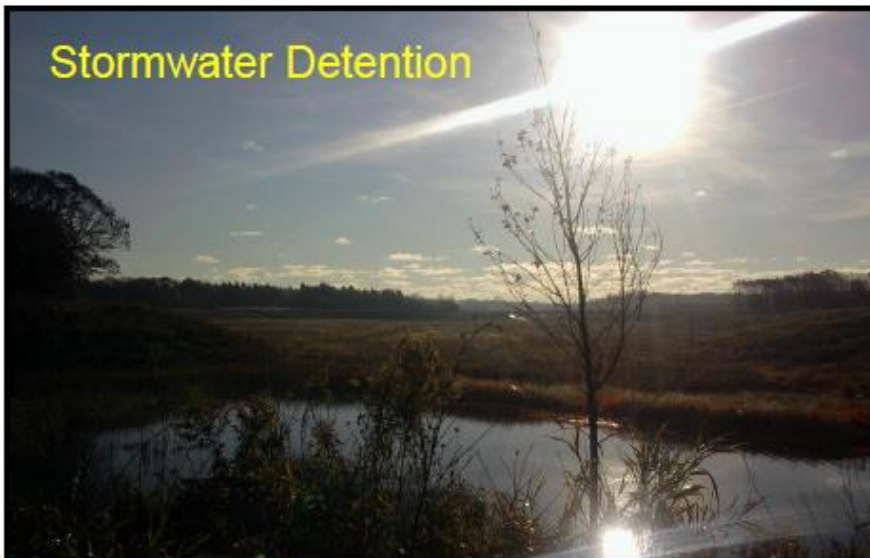
## Community Safe Room



Community safe rooms built to FEMA-361 standards can withstand winds up to 250 MPH.

Image from Town of Dunn, WI

## Stormwater Detention



Detention ponds can store stormwater runoff, decreasing flash flooding in urban areas.

Image from MMSD Stormwater Detention Project (Wauwatosa, WI)



## Stormwater Management



Stream restoration allows watersheds to better manage flooding.

Image from Thiensville, WI

## River Warning Systems



River warning systems installed on conservation dams to warn county officials about expected dam breaching.

Images from Vernon County

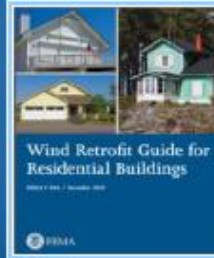
## Other Projects



NOAA Weather Radios



Mobile Home Tie-Downs



Wind Retrofit Guide for Residential Buildings



Proper Landscaping

- Raise appliances and utilities
- Install back-flow valves
- Retrofit for wind resistance
- Education and public awareness
- Insurance (flood and sewer backup)
- Land use planning

## Benefits of Mitigation

- Enhance recreation and tourism
  - Parks
  - Trails
- Increase community pride and quality of live
- Save tax dollars



Darlington, WI



Chaseburg, WI



## Hazard Mitigation Planning



## Disaster Mitigation Act of 2000

- Established a national disaster mitigation program
- Communities must have an approved hazard mitigation plan to be eligible to receive Federal funds through:
  - Hazard Mitigation Grant Program (HMGP)
  - Pre-disaster Mitigation Program (PDM)
  - Flood Mitigation Assistance Program (FMA)
- Plans must be reviewed and updated every five years

## Disaster Mitigation Act of 2000

### Vision of the Disaster Mitigation Act of 2000

- Communities will have all hazards mitigation plans that identify and prioritize cost-effective mitigation measures that can be implemented prior to a disaster or quickly after a disaster
- Having a plan would speed up the recovery process

## Plan Components

1. Documentation of the planning process
2. Description of study area
3. Hazard mitigation goals and objectives
4. Analysis of hazard conditions
5. Hazard mitigation strategies
6. Plan adoption, implementation, and maintenance

## Plan Components

### 1. Documentation of the Planning Process

- Chapter 1 and Appendix A
- Incorporated municipalities must participate in plan development and adopt the plan in order to be covered
  - County adoption covers the towns
- Public and adjacent communities must be given an opportunity to comment during the drafting stage

## Plan Components

### 2. Description of Study Area – Chapter 2

- Demographic
- Surface waters
- Transportation
- Public facilities
  - Police facilities
  - Fire facilities
  - EMS facilities
- Related regulations and programs
- Land use
- Flood hazard areas
- Utility systems
- Critical community facilities
- Hazardous material use and storage
- Emergency operation planning

## Plan Components

### 3. Hazard Mitigation Goals-Chapter 3

- Express what the plan is trying to achieve
- Ties the plan to other active plans
  - *e.g.* The County comprehensive plan
- Fairly general

## Plan Components

### 4. Analysis of Hazard Conditions-Chapter 4

- Vulnerability and risk analysis for each covered hazard
  - Historical and recent incidents
  - Vulnerabilities and community impacts
    - Human lives, property damages, crop damages
  - Potential for future changes in hazard conditions
- Multijurisdictional aspects



## Plan Components

### 5. Hazard Mitigation Strategies-Chapter 5

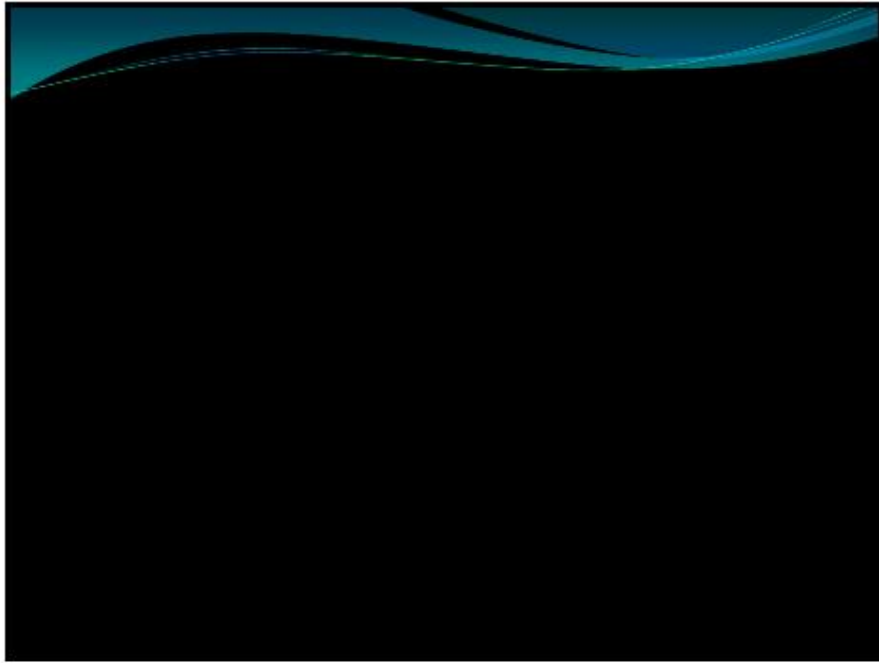
- Develop a range of actions and projects to reduce the impacts of each hazard
  - Structural, nonstructural, educational
- Prioritize actions for implementation
- Identify responsible parties
- Examine costs and benefits
- Consider multi-jurisdictional aspects

## Plan Components

### 6. Plan Adoption, Implementation, and Maintenance-Chapter 6

- County and incorporated municipalities must formally adopt the plan
  - Towns are covered by County adoption
- Detail available funding and technical assistance
- Monitoring of plan implementation
- Incorporation of the plan into existing planning mechanisms





## Initial Racine County HMP

- Study conducted 2001-2004
- Report published 2004



## Initial Racine County HMP

### Local Government Partners

- City of Burlington
- City of Racine
- Village of Elmwood Park
- Village of North Bay
- Village of Rochester
- Village of Sturtevant
- Town of Union Grove
- Town of Waterford
- Town of Wind Point
- Town of Burlington
- Town of Caledonia
- Town of Dover
- Town of Mt. Pleasant
- Town of Norway
- Town of Raymond
- Town of Rochester
- Town of Waterford
- Town of Yorkville

## Initial Racine County HMP

### Additional Partners

- Racine County Board
- Racine County Departments
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- American Red Cross
- National Weather Service
- Racine Area Manufacturers and Commerce
- Racine Economic Development Corporation
- Sustainable Racine
- UW-Parkside and UW-Extension
- We Energies
- Wisconsin Coastal Management
- Wisconsin Department of Natural Resources
- Wisconsin Division of Emergency Management

## First Plan Update

- Study conducted 2009/2010
- Coordinated with development of the County comprehensive plan
- Reviewed and revised
  - Goals
  - Vulnerability and risk analysis
  - Mitigation strategies

Report published 2010

## First Update: Participating Jurisdictions

- Racine County
- City of Burlington
- City of Racine
- Village of Caledonia
- Village of Elmwood Park
- Village of Mt. Pleasant
- Village of North Bay
- Village of Rochester
- Village of Sturtevant
- Village of Union Grove
- Village of Waterford
- Village of Wind Point
- Town of Burlington
- Town of Dover
- Town of Norway
- Town of Raymond
- Town of Waterford
- Town of Yorkville

## First Plan Update

### Additional Partners

- Racine County Executive's Office
- Racine County Board
- Racine County Departments
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- Racine Area Manufactures and Commerce
- Racine County ARES/RACES
- Volunteer Center of Racine County
- We Energies
- Western Racine County Health Department
- Wheaton Franciscan Health Care
- Wisconsin Coastal Management
- Wisconsin Division of Emergency Management
- Wisconsin Department of Natural Resources



## Plan Components to Review and Revise for 2nd Plan Update

- Review implementation activities
- Update inventories of natural and built features
- Review and reevaluate identification of hazards
- Update and reevaluate risk analysis
- Review and revise mitigation goals
- Review and revise mitigation strategies
- Update plan implementation and maintenance

## Tentative Schedule

Task	Estimated Completion Date
Update Planning Team Membership	April 1, 2015
Survey Designated Management Agencies Regarding Status of Implementation of Original Plan	June 30, 2015
Kickoff Planning Team Meeting	Early June
Public Participation	January 2015 through July 2016
Develop Updated Community Profiles	June 16, 2015
Planning Team Meeting (Review Chapters 1 and 2)	Late August 2015
Identify and Describe Hazards	September 18, 2015
Review of Established Goals and Objectives	October 15, 2015
Update Risk and Vulnerability Assessments	November 15, 2015
Planning Team Meeting (Review Chapters 3 and 4)	Early February 2016
First Public Meeting	Late February 2016
Development of Updated Mitigation Actions	April 30, 2016
Development of Updated Plan Maintenance Process	May 31, 2016
Apply to Wisconsin Emergency Management for Extension of Grant Deadline (Original Period of Performance Deadline is September 1, 2016)	June 15, 2016
Planning Team Meeting (Review Chapters 5 and 6)	Late June 2016
Second Public Meeting	Late July 2016
Submit Draft Plan Update to Wisconsin Division of Emergency Management for Review	August 31, 2016
Revise Plan Based on State Review	October 31, 2016
Submit Final Plan Update to the Federal Emergency Management Agency for Approval Pending Adoption	November 15, 2016
Formal Adoption	February 15, 2017
Anticipated Period of Performance Deadline	March 1, 2017



## Key Dates *(all tentative)*

- Local Planning Team Meetings
  - August 2015, February 2016, June 2016
- Public Meetings
  - February 2016, July 2016
- Submit for Review – Wisconsin DEM
  - August 2016
- County Adoption
  - February 2017

## Local Planning Team Role

- Weigh in on hazard identification
- Review the plan chapters
- Help us get needed information
  - Recent and historical problems with hazards → Location, occurrence, damages
  - Recent projects, planned and contemplated projects, recent hazard-related outreach
  - Inventory data

## Project Web Site

<http://www.sewrpc.org/SEWRPC/communityassistance/Hazard-Mitigation-Planning.htm>

- Copy of the 2010 plan update
- Agendas and other meeting materials
- Summary notes from meetings
- Presentations
- Draft chapters as they are completed
- Comment screen
- Other ways to send a comment/question:
  - [aowens@sewrpc.org](mailto:aowens@sewrpc.org)
  - (262) 953-4293



## Hazard Mitigation Goals

1. **Land Use:** A spatial distribution of the various land uses which minimizes hazards and dangers to health, welfare, and safety, as well as further enhancing the economic base of the County and will result in a compatible arrangement of land uses properly related to the existing and proposed supporting transportation, utility, public safety systems, and public facility systems.
2. **Natural Resources:** A spatial distribution of the various land uses which maintains biodiversity and which will result in the protection and wise use of the natural resources of the County, including its soils, inland lakes and streams, groundwater, wetlands, woodlands, wildlife, and natural areas and critical species habitats.

## Hazard Mitigation Goals

3. **Transportation:** An integrated transportation system which, through its location, capacity, and design, will safely, economically, and effectively serve the existing and proposed land use pattern and promote the implementation of the land use plan, meeting the current and anticipated travel demand and minimizing the potential for accidents and the associated toll on life and property damage.
4. **Fire, Police, and Emergency Medical Services:** The provision of facilities necessary to maintain a high quality of fire and police protection and emergency medical services throughout the County.



## Hazard Mitigation Goals

5. **Stormwater and Floodland Management:** The development of a stormwater and floodland management system which reduces the exposure of people to drainage- and flooding-related inconvenience and to health and safety hazards and which reduces the exposure of real and personal property to damage through inundation resulting from flooding and inadequate stormwater drainage.
6. **Lake Michigan Coastal Erosion:** The identification of high erosion risk Lake Michigan shoreline areas and the development of a coastal erosion control program which reduces the exposure of people and real and personal property to shoreline erosion and bluff recession.

## Hazard Mitigation Goals

7. **Unpredictable Hazards:** The identification and development of programs which complement County and local emergency operations plans, to mitigate the potential exposure to health and safety and the exposure of real and personal property resulting from a broad range of hazards which are unpredictable and not geographically specific in nature.

Questions?

## Hazard and Vulnerability Assessment Exercise

- Evaluate the potential that specific hazards may occur, the likely severity of impacts resulting from these hazards, and the extent to which these impacts may be mitigated by current levels of preparedness.
- First step in identifying which hazards will be addressed by the plan



**Exhibit B**

**Attachment 1**

**PROPOSED WORK SCHEDULE FOR UPDATING THE  
RACINE COUNTY HAZARD MITIGATION PLAN**

<b>Task</b>	<b>Estimated Completion Date</b>
Update Planning Team Membership	April 1, 2015
Survey Designated Management Agencies Regarding Status of Implementation of Original Plan	June 30, 2015
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Anticipated Period of Performance Deadline	March 1, 2017

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## Exhibit C

### Attachment 2

#### GOALS FOR RACINE COUNTY ALL HAZARD MITIGATION PLAN

The following goals have been established for the Racine County hazard mitigation planning program.<sup>1</sup> The goals have been established based, in part, upon goals previously established in watershed, park and open space, and land use planning programs.

1. **Land Use:** A spatial distribution of the various land uses which minimizes hazards and dangers to health, welfare and safety as well as further enhancing the economic base of the County, and will result in a compatible arrangement of land uses properly related to the existing and proposed supporting transportation, utility, public safety systems, and public facility systems.
2. **Natural Resources:** A spatial distribution of the various land uses which maintains biodiversity and which will result in the protection and wise use of the natural resources of the County, including its soils, inland lakes and streams, groundwater, wetlands, woodlands, wildlife, and natural areas and critical species habitats.
3. **Transportation:** An integrated transportation system which, through its location, capacity, and design, will safely, economically, and effectively serve the existing and proposed land use pattern and promote the implementation of the land use plan, meeting the current and anticipated travel demand and minimizing the potential for accidents and the associated toll on life and property damage.
4. **Fire, Police, and Emergency Medical Services:** The provision of facilities necessary to maintain a high quality of fire and police protection and emergency medical services throughout the County.
5. **Stormwater and Floodland Management:** The development of a stormwater and floodland management system which reduces the exposure of people to drainage- and flooding-related inconvenience and to health and safety hazards and which reduces the exposure of real and personal property to damage through inundation resulting from flooding and inadequate stormwater drainage.
6. **Lake Michigan Coastal Erosion:** The identification of high erosion risk Lake Michigan shoreline areas and the development of a coastal erosion management program which reduces the exposure of people and real and personal property to shoreline erosion and bluff recession.
7. **Unpredictable Hazards:** The identification and development of programs which complement County and local emergency operations plans, to mitigate the potential exposure to health and safety and the exposure of real and personal property resulting from a broad range of hazards which are unpredictable and not geographically specific in nature.

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<sup>1</sup>SEWRPC Community Assistance Planning Report No. 266, 2nd Edition, *Racine County Hazard Mitigation Plan Update: 2011-2015*, July 2010.

## Exhibit D

### INSTRUCTIONS FOR COMPLETING HAZARD VULNERABILITY AND ASSESSMENT TOOL

The purpose of this Hazard Vulnerability and Assessment Tool is to evaluate the potential that specific hazards may occur, the likely severity of impacts resulting from these hazards, and the extent to which these impacts may be mitigated by current levels of preparedness. The tool uses estimates of probability of occurrence, likely severity of impacts, and level of preparedness to estimate the risk posed by each hazard.

Please address all of the potential threats that are listed. Instructions for completing entries in each column are given below.

#### **Probability**

For each of the listed hazards, please indicate the likelihood that it will occur, with 1 indicating a low probability of occurrence, 2 indicating a moderate probability of occurrence, and 3 indicating a high probability of occurrence. Issues to consider for probability include, but are not limited to:

- Known risk,
- Historical data and experience, and
- Local government or agency experience.

#### **Human Impacts**

For each of the listed hazards, please indicate what you consider to be the likely level of impacts to human life if the hazard occurs, with 1 indicating a low level of impacts, 2 indicating a moderate level of impacts, and 3 indicating a high level of impacts. Issues to consider for human impacts include, but are not limited to:

- Potential of the hazard to cause death, and
- Potential of the hazard to cause injury requiring medical treatment.

#### **Property Impacts**

For each of the listed hazards, please indicate the likely level of physical losses and damages to property if the hazard occurs, with 1 indicating a low level of losses and damages, 2 indicating a moderate level of losses and damages, and 3 indicating a high level of losses and damages. Issues to consider for property impacts include, but are not limited to:

- The potential of the hazard to cause damage to property or crops,
- The cost to replace damaged property,
- The cost to set up a temporary replacement for damaged property,
- The cost to repair damaged property, and
- The time to recover from the property damage.

#### **Business and Government Agency Impacts**

For each of the listed hazards, please indicate what the likely level of impacts to the operations of businesses and government agencies is if the hazard occurs, with 1 indicating a low level of impacts, 2 indicating a moderate level of impacts, and 3 indicating a high level of impacts. Issues to consider for business impacts include, but are not limited to:

- Business or agency interruption,
- Employees unable to report to work,
- Customers or clients unable to reach facility,
- Company or agency in violation of contractual agreements,
- Imposition of fines and penalties or legal costs,
- Interruption of access to critical supplies,
- Interruption of product or service distribution,
- Financial impact or burden, and

- Interruption of critical care and emergency services.

### **Preparedness**

For each of the listed hazards, please indicate the current level of preparedness for dealing with the hazard and its impacts, with 1 indicating a high level of preparedness, 2 indicating a moderate level of preparedness, and three indicating a low level of preparedness or no preparedness. Issues to consider for preparedness include, but are not limited to:

- The status of current plans that address the hazard,
- The frequency of drills that address the hazard,
- The status of training related to the hazard and its impacts,
- Insurance,
- The availability of back-up systems, and
- The availability of community resources.

This survey will be compiled and the results will be reported during the hazard identification phase of developing or updating the hazard mitigation plan.

#224805.DOC  
JEB  
03/30/15



Attachment 3

HAZARD AND VULNERABILITY ASSESSMENT TOOL  
 RACINE COUNTY HAZARD MITIGATION PLAN UPDATE

EVENT	PROBABILITY <i>Likelihood This Will Occur</i>	SEVERITY = (MAGNITUDE - MITIGATION)				RISK <i>Relative Threat*</i>
		HUMAN IMPACT <i>Possibility of Death or Injury</i>	PROPERTY IMPACT <i>Physical Losses and Damages</i>	BUSINESS AND AGENCY IMPACT <i>Interruption of Services</i>	PREPAREDNESS <i>Preplanning</i>	
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 - 100%
A1. Riverine flooding						0%
A2. Stormwater flooding						0%
A3. Lake flooding						0%
A4. Tornado						0%
A5. Thunderstorm						0%
A6. High straight-line wind						0%
A7. Lightning						0%
A8. Hail						0%
A9. Heavy snow storm						0%
A10. Blizzard						0%
A11. Ice storm						0%
A12. Extreme cold						0%
A13. Extreme heat						0%
A14. Drought						0%
A15. Fog						0%
A16. Dust storm						0%
A17. Lake Michigan Erosion						
A18. Earthquake						
B1. Contamination or loss of water supply system						0%
B2. Loss of sewerage system						0%
B3. Loss of telecommunication						0%
B4. Electrical system outage						0%
B5. Computer system incident/cyber attack						0%
C1. Hazardous materials railroad incidents						0%
C2. Hazardous materials roadway incidents						0%
C3. Hazardous materials pipeline incidents						0%
C4. Hazardous materials fixed facility incidents (industries, bulk fuel storage sites, grain elevators, agricultural chemical storage, and explosives, including fireworks storage)						0%
D1. Railroad transportation accidents						0%
D2. Roadway transportation accidents						0%
D3. Aviation accidents						0%
E1. Correctional center incidents						0%
E2. Civil unrest						0%
E3. Terrorism incidents (bomb threats, hostage situations, biological incidents)						0%
E4. Workplace violence						0%
E5. School violence						0%
F1. Communicable disease outbreak or epidemic						0%
F2. Large-scale food contamination						0%
G1. Wildfire						0%
G2. Large structure fires						0%
G3. Explosions						0%
G4. Mass casualty incidents						0%
G5. Building collapse or cave-in						0%
H1. Dam failure						0%
H2. Landslide						0%
H3. Land subsidence						0%
Other Event (write in)						
Other Event (write in)						
<b>AVERAGE SCORE</b>	0.00	0.00	0.00	0.00	0.00	0%

\*Threat increases with percentage.

Source: Kaiser Permanente and SEWRPC.

<b>RISK = PROBABILITY * SEVERITY</b>		
0.00	0.00	0.00

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 500-1113  
 AWO/pk  
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