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
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
- Less impact 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
In 2005, the National Institute of Building Sciences found that for every $1 spent on mitigation, $4 are saved in avoided future damages.
Examples of Mitigation Measures
(mostly related to flooding)
Communities acquire land, demolish structures, and keep the land in open space.

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

Image from Darlington, WI
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)
Stream restoration allows watersheds to better manage flooding.

Image from Thiensville, WI
River warning systems installed on conservation dams to warn county officials about expected dam breaching.

Images from Vernon County
Other Projects

- 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
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. Analysis of hazard conditions
4. Hazard mitigation goals and objectives
5. Hazard mitigation strategies
6. Plan adoption, implementation, and maintenance
Plan Components

1. Documentation of the Planning Process

- Chapter 1 and Appendix A
- The City must adopt the plan in order to be covered
- 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
- Lake Michigan Shoreline
- Flood hazard areas
- Utility systems
- Critical community facilities
- Hazardous material use and storage
- Emergency operation planning
Plan Components

3. Analysis of Hazard Conditions-Chapter 3

– Vulnerability and risk analysis for each covered hazard
  • Historical and recent incidents
  • Vulnerabilities and community impacts
    – Human lives and property damages
  • Potential for future changes in hazard condition
Plan Components

4. Hazard Mitigation Goals-Chapter 4

– Express what the plan is trying to achieve

– Ties the plan to other active plans
  • City comprehensive plan
  • Watershed plans
  • Park and open space plans

– Fairly general
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

- The City must formally adopt the plan
- Detail available funding and technical assistance
- Monitoring of plan implementation
- Incorporation of the plan into existing planning mechanisms
Background on 2nd Plan Update
City of Milwaukee
All Hazards Mitigation Plan

- Initial study conducted 2003-2005
  - Report published 2005
- First update conducted 2011-2012
  - Report published 2012
First Plan Update

• Reviewed and revised
  – Inventories
  – Goals
  – Vulnerability and risk analysis
  – Mitigation strategies

• Report published 2012
Natural Hazards Profiled in the Plan
(Required by FEMA)

- Earthquake
- Extreme Temperatures
- Flooding and Stormwater Drainage Problems
- Lake Michigan Coastal Hazards
- Thunderstorms High Wind/Hail/Lightning
- Tornado
Natural Hazards Profiled in the Plan
(Required by FEMA)

Winter Storms
Technological Hazards Profiled in the Plan
(Optional under FEMA rules)

- Contamination/Loss of Water Supply
- Hazardous Material Incidents
- Major Fire or Emergency Medical Incident
- Public Health Emergencies
- Terrorism
Plan Components to Review and Revise

• 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
• Update potential funding sources
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/HMP

• Agendas and other meeting materials
• Summary notes from meetings
• Presentations
• Draft chapters as they are completed
• Comment screen
• Other ways to send a comment

• Email to jboxhorn@sewrpc.org