



Dane County Natural Hazard Mitigation Plan

2023 Update Information

And

Local Jurisdiction Data Collection Handbook

Overview

Dane County is in the process of updating its Natural Hazard Mitigation Plan (NHMP). The last plan update for the County was completed in 2018. Natural Hazard Mitigation Plans are important steps that communities take to assess the threat of various natural hazards in their area and make decisions on how to best limit the loss of life and property when the disasters occur. This handbook is meant to help facilitate the process of threat identification and assessment of the potential impact of these natural hazards. In addition to alleviating damage, natural hazard mitigation plans also help communities continue mitigation efforts by qualifying them for pre and post-disaster mitigation project grants from the federal government, pending Federal Emergency Management Agency (FEMA) approval.

This update of the Dane County NHMP is considered a multi-jurisdictional plan by FEMA. This means that in addition to the County-level plan that is being developed, each jurisdiction will have an annex attached to the plan addressing the need for hazard mitigation and the potential steps that can be taken. To produce a useful and updated hazard mitigation plan that meets your jurisdictions and Dane County's needs, as well as the requirements of the Disaster Mitigation Act 2000 (DMA), essential information must be collected during the planning process. The information needed to support the planning process includes the following:

- Background information about jurisdictions in Dane County;
- Plans, technical studies, and data related to hazards and risks;
- Current governing codes, ordinances, regulations, and procedures whose intent is to minimize future losses and;
- An assessment of Dane County's technical and organizational capabilities to perform hazard mitigation/loss prevention functions.

It is important that the plan shows what Dane County and its communities are doing now to limit future disaster losses.

Natural Hazard Mitigation Plans are updated every five years in order to frequently assess and address the changing threat of natural hazards. In accordance with this idea, Dane County will continue to address the threat of natural hazards in light of the region's changing climate. The County will examine climate trends and determine their projected impacts on the natural hazards this plan addresses. The rate of change in the trend can help determine the priority future mitigation practices should carry. The inclusion of climate change factors in hazard analysis will ensure Dane County takes appropriate steps to protect its citizen's personal and economic safety through mitigation efforts that consider the changing threat of natural hazards.

The planning process is heavily dependent on existing data to be supplied by each of the participating jurisdictions. The DMA plan development process does not require the development of new data, but requires existing data only.

What is Mitigation?

Hazard mitigation is defined by FEMA as “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.” The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of \$4 in avoided future losses in addition to saving lives and preventing injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005).

Mitigation generally means reducing long-term risk from hazards to acceptable levels through predetermined measures accompanying physical development, for example: strengthening structures to withstand high winds or snow loads; elevating, removing or limiting development in flood-prone areas; increasing tree cover to provide shade during extreme heat events; improving backup power capacity for critical facilities.

“Mitigation” is different from emergency “preparedness” or “response:”

- Preparedness concentrates on activities which make a person, place, or organization ready to respond to a disaster with emergency equipment, food, emergency shelter, and medicine.
- Response activities may reduce damages, such as sandbagging during a flood, but this is a short term solution and requires advance warning and capabilities in place during the event.
- Mitigation of flood hazards through wise floodplain management is a long term solution.

Participation

Final FEMA approval of the multi-jurisdictional NHMP requires that each jurisdiction seeking approval participates in the planning process. For these jurisdictions, ‘participation’ means the community’s representatives will do all of the following:

- Participate in countywide planning meetings, such as the Kickoff Meeting.
- Establish a local steering committee.
- Complete a hazard profile and vulnerability assessment based on local conditions.

- Develop problem statements, based on the risk assessment, input from the public, and local reps.
- Develop a local mitigation strategy, including identifying projects specific to the jurisdiction.
- Participate in public outreach activities and conduct at least one public meeting.
- Review and approve draft plan documents.
- Adopt the final draft of the plan through formal resolution.

Natural Hazard Mitigation Planning Process

Natural Hazard Mitigation Plans require that set criteria be met in the plan’s formation before plan approval. The requirement for mitigation planning is set in the Disaster Mitigation Act of 2000. The requirements for local mitigation plans are codified in Title 44 Code of Federal Regulations (CFR) §201.6 and are administered by FEMA. FEMA outlines its requirements in the Local Mitigation Planning Handbook, found here: http://www.fema.gov/media-library-data/20130726-1910-25045-9160/fema_local_mitigation_handbook.pdf. This is the process Dane County will be following for the 2023 NHMP Update.

The procedural steps for NHMP's as outlined by FEMA in its Local Mitigation Planning Handbook are:



As of the Kickoff meetings on June 16th & 17th, 2021, Tasks 1-3 are mostly completed. The remainder of this handbook will aid in completing the rest of these tasks, specifically Tasks 4 and 5.

Timeline

Specific meeting dates and times will be determined at least three weeks ahead of time.

July 30, 2021 – Deadline for submitting a letter of commitment to Dane County Emergency Management.

August 2021 –

- Establish a local planning team.
- Participate in additional meetings (via ZOOM):

- Understanding and applying lessons on climate change.
- Seeing diversity and assessing equity in your community.
- Guidance for completing the attached worksheets.

September 2021 – Participate in meeting (ZOOM) on developing problem statements.

October 2021 – Participate in meeting (ZOOM) on developing local mitigation objectives.

November 2021 – Engage with citizens to solicit input on local objectives.

December 2021 – Submit materials (reflecting public input) to DCEM.

By February 2022 – DCEM will return local mitigation plans to local POCs for review and adoption.

By March 2022 – Adopted local mitigation plans and copies of resolutions are returned to DCEM.

June 2022 – Comprehensive Dane County Natural Hazard Mitigation Plan (DC NHMP) adopted by Dane County Board.

By August 2022 – Adopted DC NHMP submitted to Wisconsin Emergency Management (WEM) for review and forward to FEMA.

By January 2023 – FEMA approval of DC NHMP.

Data Collection Guide

This handbook contains an explanation of the types of hazard mitigation/loss prevention data that is needed for the hazard mitigation planning process. This handbook identifies specific requirements for the Risk Assessment Process, which includes the hazard identification, vulnerability, and capability assessments as well as defines requirements and provides a basis for development of the Mitigation Strategy.

The attached worksheets have been developed to assist with the data collection. These need to be completed by each jurisdiction participating in the planning process and will serve two purposes:

- They will help facilitate the collection of the necessary information to create a new or updated jurisdictional annex.
- They will function as evidence of participation in the planning process.

The information collected will support the development or update of the community attachments (aka jurisdictional annexes). **Note to previous participants in the 2018 Dane County Natural Hazard Mitigation Plan:** Please review your community’s attachment while filling this out, and make note of changes. In some cases there may be little change.

The Risk Assessment Process

The risk assessment process includes three components: hazard identification, vulnerability assessment, and capability assessment. Worksheets to collect data for each of the risk assessment components are attached. This information will be used to form the basis of your jurisdiction’s new (or updated) mitigation strategy.

As the timeline indicates, there will be meetings to provide both guidance and insight into completing the risk assessment process. You will complete **one set** of worksheets for your jurisdiction and email copies of the completed worksheets and supporting information to J. McLellan (mclellan@countyofdane.com) and Sara Husen (husen.sara@countyofdane.com).

Project Reference

Please refer to the existing Dane County Natural Hazard Mitigation Plan (adopted 2017) found online at: <https://em.countyofdane.com/hazards/mitigation-plan>.

The planning process is being led by Dane County Emergency Management, with professional planning assistance from various other public entities including Dane County Planning and Development, Dane County Board of Supervisors, Dane County Land and Water Resources Department, Dane County Office of Energy and Climate Change, Dane County Office of Equity and Inclusion, Capital Area Regional Planning Commission, and the University of Wisconsin-Madison Department of Urban and Regional Planning.

Dane County Emergency Management

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Dane County Local Hazard Mitigation Plan

Worksheet #1: Hazard Identification and Ranking

The hazard identification and ranking process is a means to quantify and compare the characteristic of each of the hazards, and identify those that are most significant for planning purposes. Use the following to guide the completion of worksheet #1 on the following page.

1. *Attributes of the hazard itself.* These are factors related to the natural occurrence of each hazard, without any consideration of potential impacts.
 - Area of Impact – does the event occur in isolated areas, affecting only a single unit of government, a wider area, affecting multiple units of government, or a regional, affecting the entire County or many counties?
 - Past History, Probability of Future Occurrence – based on what you know about changing climactic conditions, recent trends, or projections, how likely is it that an extreme event, or a more extreme event, will occur in the future?
 - Short-Term Time Factors – to what extent is the event predictable in the short term? Is there enough warning time to allow people to act to protect themselves and their property?
2. *Direct impacts on people and property.* These are rankings of the short-term, immediate effects of each hazard, based on future projections.
 - Impact on General Structures - to what extent could an extreme event impact the buildings and infrastructure of the County?
 - Impact on Critical Facilities – to what extent could critical facilities be impacted? The impact on critical facilities is an important measure of the extent to which the essential functions of government and the local economy could be disrupted.
 - Impact on At-Risk Populations – to what extent could people with special needs be impacted? This is an important measure of the immediate human needs that would be created in the initial response to the event.
3. *Indirect or secondary impacts.* The potential for long-term, far reaching impacts of each event are difficult to quantify, however, these broad categories were used:
 - Social Impact – to what extent could the hazard disrupt individual lives and the social structure of the community?
 - Economic Impact – to what extent could business and industry be disrupted?
 - Severity of Other Associated Secondary Hazards – does the hazard have the capacity to create other, secondary hazards and how severe could those secondary hazards be? For example, an ice storm causing a long-term, wide-area power outage.

Using your planning team’s combined experience and perspective, rank each category on a scale of either 0 to 5 or 1 to 5. A ranking of zero (0) means “no concern.” A ranking of five (5) means “highest concern.”

Name of Jurisdiction:										
Hazard	Hazard Attributes			Impact Attributes						Total of Row Values
	Area of Impact	Past History, Probability of Future Occurrence	Short Term Time Factors	Primary Impact (Short Term - Life and Property)			Secondary Impact (Long Term – Community Impacts)			
Impact on General Structures				Impact on Critical Facilities	Impact on At-Risk Populations	Social Impact	Economic Impact	Severity Of Other Associated Secondary Hazards		
	(1-5)	(1-5)	(1-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	(0-5)	
Dam/Levee	0	0	0	0	0	0	0	0	0	0
Extreme Cold	3	5	2	1	1	2	1	1	3	19
Extreme Heat	2	5	1	1	1	2	1	1	3	17
Drought	2	5	1	1	0	1	1	1	1	13
Expansive soils	0	0	0	0	0	0	0	0	0	0
Flood	2	5	4	3	3	4	3	4	3	31
Fog	2	3	3	1	0	1	1	1	1	13
Hail Storm	1	3	4	1	1	1	1	3	3	18
Landslide	0	0	0	0	0	0	0	0	0	0
Lightning	2	3	4	2	2	2	1	1	3	20
Tornado	4	3	4	4	4	2	3	4	5	33
Wildfire	1	1	1	1	1	1	1	1	1	9
Windstorm	4	5	4	4	4	2	3	3	5	34
Winter Storm	4	5	2	4	4	3	2	3	5	32

Email one copy of the completed set of worksheets and documentation to mclellan@countyofdane.com AND huse.sara@countyofdane.com.

Dane County Local Hazard Mitigation Plan Worksheet #2: Historic Hazard Event

Please **complete a separate Worksheet #2 for each significant hazard event** your jurisdiction has experienced. Provide as much detail as possible and attach any supporting documentation (e.g. photocopies, newspaper articles, or other original sources) as you feel necessary.

Name of Jurisdiction:	City of Edgerton
Type of event	Flooding
Date	Jan 22, 2018
Location	Corner of Thronson Road and US Hwy 51
Nature and magnitude of event	Winter rain on frozen farm fields or intense summer rain; overwhelmed downstream stormsewer system; 2-3 acres impacted; no structures impacted
Injuries / Deaths	none
Describe damage to private property	none
Describe damage to infrastructure	none
Crop damage	Occasionally (approximately an acre)
Known business/economic impacts	None
Identify road/school/other infrastructure closures	None
Other damage	Not aware of any
Describe losses covered by insurance	Not aware of any
Federal/state disaster relief funding received	None
Opinion on likelihood of occurring again	Very likely
Source of information	City staff
Comments	
Prepared by:	<i>Name:</i> Ramona Flanigan <i>Phone:</i> 608 884 3341 <i>Email:</i> rflanigan@cityofedgrton.com

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Worksheet #3: Vulnerability Assessment

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete this worksheet. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets as defined below. Examples can include hospitals, fire stations, or historic buildings. Attach supporting documentation, such as photographs, reports, or plans if possible. In the hazard specific column of the asset inventory table, indicate if there is a specific hazard to which the asset is at risk, such as flood, lightning, etc.

For the purposes of this plan, please use the following guidance:

- **Critical Facilities** – Physical structures that, if damaged or destroyed, compromise public health or safety, or are disproportionately vulnerable to natural disasters discussed in the plan, or house populations that are disproportionately vulnerable to natural disasters. These are grouped into the following categories:
- **Essential Infrastructure** – Includes public and private utility facilities that are vital to maintaining or restoring normal services to hazard areas before, during, and after a hazard event: Airports, roads, bridges, communications facilities and towers, correctional facilities, electrical generation/distribution facilities, media outlets, national guard, natural gas supply, public safety (911) communications centers, public safety facilities (police, fire, EMS), public works garages, town/village/city halls, wastewater facilities, water utilities, cooling facilities.
- **Vulnerable Facilities (includes facilities that serve at-risk populations, historic, and/or economic assets)** – Childcare centers, community based residential facilities, community centers, campsites, healthcare facilities, hospitals, nursing homes, historic properties, manufactured homes, long term care facilities, schools, special needs housing.
- **Hazardous Materials Facilities** – Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials.
- **Natural Assets** – Natural resource assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Natural resources can be important in mitigating hazards, such as wetland protection for reducing stormwater runoff and floodwater storage and infiltration.

Additional Vulnerability Questions	
Number of repetitive loss properties (flooding)	none
Average depth of 100-year floodplain	N/A
Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, or low-income.	There is no known special needs population in our part of Dane County.
Describe growth and development trends and future growth areas and how they relate to hazard areas and vulnerability concerns/issues.	Thronson Road, an area of flooding, currently provides the only exit from a neighborhood serving approximately 50 residential units. This will change as the area develops.
If this is an <i>update</i> to your community's attachment to the 2018 plan, describe how vulnerability has changed (or not) as a result of implementing successful mitigation actions.	No changes
<p>Email one copy of the completed set of worksheets and documentation to mclellan@countyofdane.com AND husen.sara@countyofdane.com.</p>	

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Worksheet #4: Community Capability Assessment

Name of Jurisdiction:

Capabilities are the programs and policies (Regulatory, Administrative/Technical, and Fiscal) currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete this worksheet and provide supporting documentation if available.

Regulatory

The following planning and land management tools are typically used by local jurisdictions to implement hazard mitigation activities. Please indicate what your jurisdiction has in place. If your jurisdiction does not have this capability or authority, please indicate if a higher level of government has the authority. Also use the comments column to indicate how we can obtain a copy of the plan or document (i.e. available on the web (include address) or Email).

Regulatory Tools (ordinances, codes, plans)	Yes/No	Comments
Existing Natural Hazard Mitigation Plan	Yes	County Emergency Planning Agencies
General or Comprehensive plan	Yes	www.cityofedgerton.com
Zoning ordinance	Yes	www.cityofedgerton.com
Subdivision ordinance	Yes	www.cityofedgerton.com
Growth management ordinance	No	
Shoreland / wetland zoning ordinance	Yes	www.cityofedgerton.com
Floodplain zoning ordinance	Yes	www.cityofedgerton.com
FEMA / NFIP Community Rating System	No	
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	www.cityofedgerton.com
Building code	Yes	www.cityofedgerton.com
Fire department ISO rating	Yes	Edgerton Fire District 608 884-3327
Climate change Impact program	No	
Erosion or sediment control program	Yes	www.cityofedgerton.com
Stormwater management program	Yes	www.cityofedgerton.com
Site plan review requirements	Yes	www.cityofedgerton.com
Capital improvements plan	Yes	www.cityofedgerton.com
Economic development plan	Yes	www.cityofedgerton.com
Local emergency operations plan	Yes	www.cityofedgerton.com
Other special plans Neighborhood plan/stormwater study	Yes	www.cityofedgerton.com
Flood insurance study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	
Climate Action Plan	No	
Other		

Administrative/Technical

Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your jurisdiction. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level of government that can provide technical assistance, please indicate this in the comments column.

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	City Administrator/planner	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Consulting engineer	
Planner/engineer/scientist with an understanding of natural hazards	Yes	Consulting engineer	
Personnel skilled in GIS	Yes		Consulting engineer
Full time building official	No		Consultant/ part time
Personnel skilled in Climate resilience	No		General knowledge of city staff and consulting engineer
Floodplain manager	Yes	City Administrator/planner	
Emergency manager	Yes	Chief of Police	
Real estate acquisition personnel	No		
Grant writer	Yes	City Administrator/consulting engineer	
Other personnel	Yes	Municipal Services Director	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Counties	County GIS data
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Rock County	Outdoor warning signals
Other			

Fiscal

Identify whether your jurisdiction has access to or is eligible to use the following financial resources for hazard mitigation.

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	
Dedicated funding for land, easement or conservation easement acquisition	No	
Fees for water, stormwater, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	Yes	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	Not a current policy
Other		

Additional Capabilities Questions	
<p>Does your community have any hazard-related certifications, such as Storm Ready certification or Firewise Communities certification?</p>	<p>No</p>
<p>Describe any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, climate change adaption and resilience preparedness, or environmental education.</p>	<p>We occasionally provide education on natural lawns, rain gardens and other onsite stormwater control methods in an effort to reduce stormwater runoff. We also have a strong tree planting program and provide education on the benefits of trees for stormwater/erosion and cooling.</p>
<p>Describe any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.</p>	<p>We have an ongoing effort to promote and support infill and redevelopment which reduces expansion of the edge of the city thus reducing the creation of more impervious surfaces.</p>

Attach additional information as warranted.

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