



**DUPAGE  
COUNTY**

## HOMELAND SECURITY AND EMERGENCY MANAGEMENT

630-682-7925  
Emergency: 630-682-7207

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### 2018 Natural Hazard Mitigation Plan - DRAFT Executive Summary

The DuPage County Natural Hazard Mitigation Plan (NHMP) was first developed in 2007, through a grant awarded to DuPage County Stormwater Management. In 2010, the DuPage County Office of Homeland Security and Emergency Management (OHSEM) became the official governing body of the plan and the associated workgroup. Personnel from the OHSEM coordinated the 2012 plan update and 2013 plan adoption, and is now coordinating the current 2017/2018 plan update. The NHMP DRAFT has nine chapters. Chapter 1 provides an introduction to the plan, and DuPage County. Chapter 2 analyzes the natural hazards the County faces. Chapters 3 provides proposed goals for the plan. And Chapter 4-9 analyzes six mitigation categories. As an executive summary, this document provides the conclusions and recommendations from each chapter.

A full copy of the Natural Hazard Mitigation Plan DRAFT can be found at:  
<http://www.dupageco.org/OHSEM/ProtectDupage/56263/>

#### Chapter 2 Conclusions

1. DuPage County is a highly populated county, with 75.1 percent of the land developed, and similar topography throughout. Total property value in the floodplain of DuPage County, Illinois is estimated to be over \$2.4 billion.
2. All communities and agencies involved in this Plan, share the same vulnerability to natural hazards.
3. The priority hazards identified by the Mitigation Workgroup are floods, severe summer storms, severe winter storms, tornadoes, drought, and extreme heat.
4. Identification and analysis of natural hazards is consistent with the State of Illinois' 2013 Natural Hazard Mitigation Plan.
5. Floods have the highest impact on property impact in DuPage County based on occurrence and floodplain location.
6. While injury and loss of life are important factors in other parts of Illinois when assessing earthquakes, they are of low concern for DuPage County.
7. Tornadoes have a high potential impact on both property damage and loss of life.
8. Extreme heat is not just a nuisance; it kills hundreds of Americans every year and causes many more to become seriously ill.

#### Chapter 4 Conclusions

1. Building codes are the prime preventive measure for tornadoes, high winds, snow storms, and earthquakes. Rigorous enforcement of the latest available building codes, with an adequately trained staff provides a more sustainable community.

In addition, it is important for communities to continue to update its Building

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and Zoning Codes on a regular basis as DuPage County has done in 2016 to implement new trends in design and safety standards promulgated by the industry.

2. The County and many communities have adopted the International Code series such as the 2015 International Code Council (International Building Code, International Fire Code, International Mechanical Code, International Fuel Gas Code, and International Property Maintenance Code), 2014 National Electric Code, 2015 Illinois Energy Efficient Building Code and the current Illinois State Plumbing Code, which provides better protection from natural hazards.
3. Based on the National Building Code Effectiveness Grading Schedule (BCEGS), administration of building codes in DuPage County is generally good. BCEGS Class 5 is recognized by CRS as a minimum requirement for better CRS classes. Most communities have residential and commercial ratings of 5 and many Communities in DuPage County including the DuPage County Building and Zoning Department have achieved a rating of 4 or better.
4. The majority of the comprehensive and land use plans address floodplains and the need to preserve these hazardous areas from intensive development. However, many zoning ordinances do not designate flood prone areas for any special type of land use.
5. The County Stormwater Ordinance's provisions for floodplain development and stormwater management regulations exceed minimum national and State standards and will be helpful in preventing flood problems from increasing.

### Chapter 4 Recommendations

1. All communities should adopt the latest International Codes, the new national standard that is being adopted throughout the country. Current efforts by multi-community organizations of building departments to develop local amendments for regional consistency should be pursued, provided they produce equivalent natural hazard protection features.
2. Communities should work to improve their BCEGS rating, with a target of reaching or maintaining at least a Class of 5 or better in time for their next cycle visit by the Insurance Services Office.
3. On a regional basis, municipal and County code enforcement staffs should work together to:
4. Develop building code language to strengthen new buildings against damage by high winds, tornadoes, and hail.
5. Adequately regulate mobile/manufactured structure installation for all uses, including residential, commercial, and schools.
6. On a regional basis, municipal and county planning and engineering staff should develop example subdivision ordinance language that requires new infrastructure to have hazard mitigation provisions, such as secondary access to subdivisions.





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7. Offices responsible for design, construction or permitting critical facilities should ensure that the design accounts for natural hazards and adjacent land uses.
8. The public, developers, builders, and decision makers should be informed about the hazard mitigation benefits of these preventive measures and the procedures that should be followed to ensure that new developments do not create new problems.
9. Communities need to understand and consistently enforce the County Stormwater Ordinance provisions. All communities should enforce the wetland protection, erosion and sediment control and best management practices provisions of the County Stormwater Ordinance. The DuPage County municipal engineers group should continue their efforts in these areas.

### Chapter 5 Conclusions

1. Property protection measures for natural hazards are important for DuPage County given the number of hazards and the number of buildings for which the County is at risk.
2. There are several ways to protect individual properties from damage by natural hazards. The advantages and disadvantages of each should be examined for each situation.
3. Property owners can implement some property protection measures at little cost, especially for sites in areas of low hazards (e.g., shallow flooding, sewer backup, summer, and winter storms).
4. For other measures, such as relocation, elevation and safe rooms, the owners may need financial assistance.
5. Limited and inaccurate data from FEMA makes it difficult to assess repetitive flood loss properties.
6. Government agencies can promote and support property protection measures through activities ranging from financial incentives to public information.
7. The County is unable to determine if government properties, including critical facilities, have measures to protect them from flooding, tornadoes, and other natural hazards.
8. About 2,200 of the buildings in the County's floodplains are covered by flood insurance.

### Chapter 5 Recommendations

1. Available property protection public education materials should be consolidated and tailored for DuPage County. Materials should address measures that can help owners reduce their exposure to damage by natural hazards and the various types of insurance coverage that are available.
2. The County and municipalities should provide information and technical advice to floodplain property owners for reading floodplain maps.





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3. The County and municipalities should consider the feasibility of providing information and technical advice to floodplain property owners for protecting their property.
4. Repetitive flood loss areas should be investigated and mitigated.
5. Most property protection projects should be voluntary.
6. Structural elevation or acquisition alternatives should be investigated for flood prone properties when a regional project is not feasible.
7. Feasible structural elevation or acquisitions should be funded through grants or through capital funding.
8. Positive incentives should be maintained and created by the County and municipalities to encourage property protection by property owners.
9. Communities should consider cost-sharing programs, such as rebates, to encourage low cost property protection.
10. All property owners should be encouraged to determine if they are adequately insured for natural hazards.
11. DuPage County should seek property protection financial assistance for flood and tornado mitigation projects for properties at risk.
12. A standard checklist should be developed to evaluate a property's exposure to damage from the hazards most prevalent in DuPage County. The checklist should be provided to each agency participating in this planning process and made available to the general public.
13. Each public entity should evaluate its own properties using the standard checklist. A priority should be placed on determining critical facilities' vulnerability to damage and whether public properties are adequately insured.
14. Each public entity should protect its own publicly-owned facilities with appropriate mitigation measure(s), except where efficiencies allow for joint funding and joint projects.
15. All critical facilities in the floodplain, with priority given to facilities in the floodway, should be mitigated, to the extent that the measures are cost effective and feasible.

### Chapter 6 Conclusions

1. The DuPage County Stormwater Management Program is important to DuPage County and its municipalities. Proper funding of the program is necessary.
2. Structural projects, including reservoirs, channel improvements and levees, have been effective in reducing flood damage in DuPage County, to the extent that they have been tested.
3. It is understood that structural projects can have adverse impacts on downstream properties and on the environment.
4. Structural measures should continue to be used in DuPage County to address flood problems. It is understood new flood problem areas can be identified at any time; after any flood event.
5. Structural projects can be effective in protecting critical facilities from natural hazards.





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6. There are a number of locations where bridge or culvert replacement or enlargement should be investigated.
7. Local drainage and stormwater flooding (both in and outside the floodplain) could be reduced through drainage system improvements.
8. Drainage maintenance programs in communities are important throughout the County.

### Chapter 6 Recommendations

1. Structural flood control projects, including drainage and bridge and culvert improvements, should be pursued and funded, provided they meet the following criteria:
2. Each project's study looks beyond the immediate project site to ensure that no other properties will be adversely impacted.
3. Each project should be based on a watershed master plan or, at a minimum, coordinated with other projects in the same watershed.
4. Each project's study considers protecting the natural functions of the stream and floodplain, in addition to flood protection.
5. Each project's study considers alternative non-structural approaches to protect the affected properties from flood damage.
6. The design and construction is certified by a licensed professional engineer.
7. Opportunities for stream and natural areas restoration are incorporated wherever feasible.
8. Communities and property owners that may be affected by the project are notified.
9. All relevant federal, state and local permits are obtained, including Corps of Engineer's 404 permits and IDNR floodway permits.
10. The DuPage County Stormwater Management program should continue to be funded through appropriate funding mechanisms.
11. The DuPage County Stormwater Management program and municipalities should continue to identify, plan and implement structural flood control projects both before and following flood events.
12. Funding for municipal or regional structural measures in DuPage County should be sought as it is made available through FEMA hazard mitigation programs.
13. Flood problem areas in DuPage County that should be considered for structural mitigation are not limited to those identified in this Plan. Flood problems should be addressed as they are identified.
14. Each municipality and the County should implement a formal and regular drainage system maintenance program.

### Chapter 7 Conclusions

1. The County recognizes the importance of stream restoration and wetland protection, and incorporates best management practices throughout projects.





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2. The County has an effective and comprehensive waste management and recycling plan, and is working to expand related programs in partnership with DuPage municipalities.
3. There is no countywide ordinance that prohibits dumping of yard waste and other debris in streams or other parts of the drainage system.
4. Many DuPage communities have effective urban forestry programs in place.
5. The DuPage County Forest Preserve District has successfully accomplished its initial goal to preserve open space, and is working to establish secondary goals of maintaining and enhancing this space.

### Chapter 7 Recommendations

1. Municipal comprehensive plans, land use plans and zoning ordinances should incorporate open space provisions that will protect properties from flooding and preserve wetlands and farmland.
2. Communities should continue to enhance waste management and recycling programs, with an enhanced focus on specialty disposal programs (i.e. hazardous waste, electronics, needles, landscape waste, and food scraps).
3. Each community should ensure that it has enforceable stream and wetland dumping regulations.
4. Every community should develop or continue to implement an urban forestry program that qualifies them to become a Tree City, USA.

### Chapter 8 Conclusions

1. Emergency management planning in the County is ongoing and generally comprehensive.
2. Numerous mutual aid agreements are in place throughout the County.
3. Most communities within the County, including County government, maintain an Emergency Operations Center (EOC).
4. Adequate and comprehensive warning systems exist and are used throughout the County.
5. Schools, hospitals, nursing homes, and government buildings have NOAA weather radios.
6. Some emergency response plans do not cover all critical facilities that will be affected by various types of hazards.
7. Many plans do not include adequate guidance on post-disaster inspections and capitalizing on post-disaster mitigation opportunities.
8. Chapter 8 Recommendations
9. Continue to update Emergency Operations Plans for the County and municipalities every two years with a NIMS compliant template.
10. Assessments and response procedures for floods and other hazards should be incorporated in all emergency operations planning and response where appropriate.





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11. Emergency Operations Centers at the County and in municipalities should be evaluated for effectiveness and functionality, and modified appropriately.
12. The County and municipalities should establish a continuity of operations plan for emergency services, including establishing a secondary location for their EOC.
13. Develop emergency transportation plans that allow for emergency coordination and evacuation (routing).
14. The Mitigation Workgroup should continue to collaborate with other municipal and County workgroups to coordinate the implementation of mitigation projects.
15. Conduct annual emergency response training exercises. Look for multi-jurisdiction training opportunities.
16. Provide training on NIMS and ICS for all first responders and other identified personnel for compliance.
17. The County and municipalities should continue to coordinate the identification and mapping of critical infrastructure to enhance emergency planning and response.
18. DuPage communities should continue to strive to obtain or renew StormReady certification.

### Chapter 9 Conclusions

1. The County and many municipalities communicate natural hazard and mitigation information to residents throughout the year.
2. The County is establishing a public outreach program which encourages municipal involvement.
3. The County and DuPage municipalities are successfully coordinating the update of floodplain maps.
4. The most efficient ways to communicate with residents are:
  5. Outreach Events
  6. Community Newsletters
  7. Websites and links to other sources
  8. Social Media

### Chapter 9 Recommendations

1. The County and municipalities whom adopt this plan should develop and agree upon a common public outreach program, to be updated annually.
2. Following topics should be covered in public information activities. This outreach program could include:
  - A coordinated social media campaign.
  - A review of publications from other agencies, and a cooperative agreement to promote and distribute similar publications to distribute to residents.
  - The promotion of natural hazard mitigation within community newsletters across the County.





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6. The County should provide an order form for local libraries to order Free State and federal hazard mitigation publications.
7. The County should coordinate with private organizations to promote natural hazard information to employees and customers.
8. Communities in the National Flood Insurance Program should provide floodplain information for property owners.

