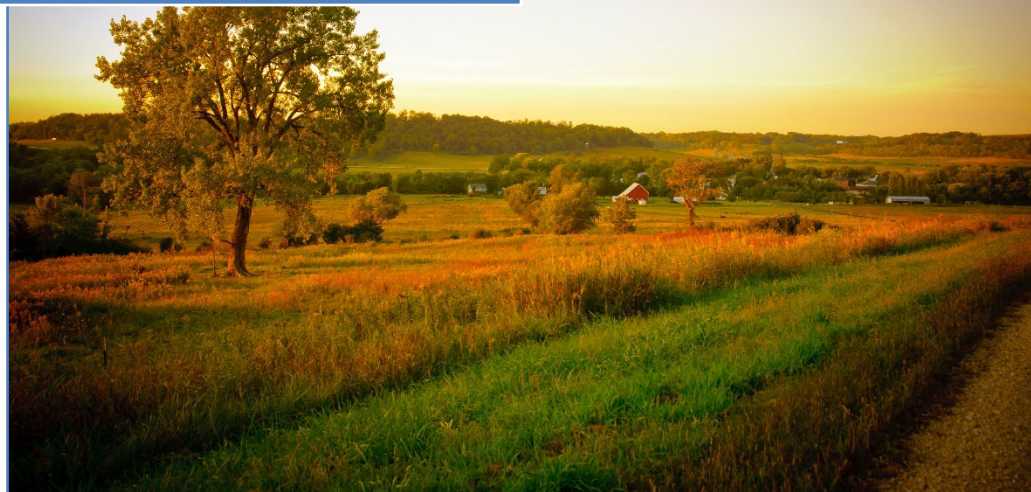


2024

# Fayette County, Iowa Multi-Jurisdictional Hazard Mitigation Plan (MJHMP)

- Arlington • Clermont • Elgin • Fayette • Hawkeye • Maynard •
- Oelwein • Randalia • St. Lucas • Wadena • Waucoma •
- West Union • Westgate • Unincorporated Areas •



**FEMA APPROVED:**

**EXPIRES:**

Developed by:

The Cities of Arlington, Clermont, Elgin, Fayette, Hawkeye, Maynard, Oelwein, Randalia, St. Lucas, Wadena, Waucoma, West Union, Westgate and the County's unincorporated areas

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| <b>County Supervisors:</b>   |   |  |
|--|---|--|
| Janell Bradley   | Bruce T. Lehmann  | Jeff Bunn  |
| <p style="text-align: center;"><b><u>City of Arlington</u></b><br/>Dean Meisner, Mayor<br/>Diane Bond<br/>Cody Kraus<br/>Dean Meisner<br/>Jake Daisy<br/>Alan Shaffer<br/><b><u>City Clerk</u></b><br/>Mary Jo Brown</p>                           | <p style="text-align: center;"><b><u>City of Clermont</u></b><br/>James Matt, Mayor<br/>Amy Cummings<br/>Bruce Lehmann<br/>Troy Schott<br/>Kayleen Schrader<br/>Greg Larson<br/><b><u>City Clerk</u></b><br/>Jenean Niedert**</p> | <p style="text-align: center;"><b><u>City of Elgin</u></b><br/>Jim Knobloch., Mayor<br/>David Christianson<br/>Larry Young<br/>Christopher Wachal<br/>Barbara Wenger<br/>Larry Wedo<br/><b><u>City Clerk</u></b><br/>Ginger Wander</p> |
| <p style="text-align: center;"><b><u>City of Fayette</u></b><br/>Nathan Post, Mayor<br/>Scott Luchsinger<br/>James Lowery<br/>Janice Larson<br/>Patricia L. Potratz<br/>Susan Scott<br/><b><u>City Clerk</u></b><br/>Kris McCrane**</p>            | <p style="text-align: center;"><b><u>City of Hawkeye</u></b><br/>Don Kelly, Mayor<br/>Rachel Shimek<br/>John Campbell<br/>Hugh Curtis<br/>Marvin Sunnes Jr<br/>Sara Schnur<br/><b><u>City Clerk</u></b><br/>Dorty Yauslin**</p>   | <p style="text-align: center;"><b><u>City of Maynard</u></b><br/>Kelly Beacom, Mayor<br/>Jim Byerly<br/>Helene J. Child<br/>Jennifer Conner<br/>Gene Holtz<br/>Richard Scheffel**<br/><b><u>City Clerk</u></b><br/>Jennifer Sieck</p>  |
| <p style="text-align: center;"><b><u>City of Oelwein</u></b><br/>Brett Devore, Mayor<br/>Dave Garrigus<br/>David Lenz<br/>Lynda K. Payne<br/>Karen Seeders<br/>Anthony Ricchio<br/>Matt Weber<br/><b><u>City Clerk</u></b><br/>Dylan Mulfinger</p> | <p style="text-align: center;"><b><u>City of Randalia</u></b><br/>Dean Teague, Mayor<br/>Mark Amos<br/>Valerie Knospe<br/>Michael Mahoney<br/>Shane Prochaska<br/>Jeff Winkie<br/><b><u>City Clerk</u></b><br/>Katrina Lane</p>   | <p style="text-align: center;"><b><u>City of St. Lucas</u></b><br/>John Svendsen, Mayor<br/>Courtney Hageman<br/>Morgan Gage<br/>Dave Goerend<br/>Paul Dietzenbach<br/>Sam Schmitt<br/><b><u>City Clerk</u></b><br/>Dorty Yauslin</p>  |
| <p style="text-align: center;"><b><u>City of Wadena</u></b><br/>Randall Weber, Mayor<br/>Dick Aeschliman<br/>Ron Aylsworth<br/>Cameron McDowell<br/>Russell Medberry<br/>Loree Moyle<br/><b><u>City Clerk</u></b><br/>Julie Holt</p>               | <p style="text-align: center;"><b><u>City of Waucoma</u></b><br/>Justin Haught, Mayor*<br/>Kevin Kleve<br/>Karl Kramer<br/>Ava Cooksley<br/>Mark Schmitt<br/>Faye Winter<br/><b><u>City Clerk</u></b><br/>Marlene Klemp</p>       | <p style="text-align: center;"><b><u>City of West Gate</u></b><br/>Savannah Dudley-Hannan Mayor<br/>John Prickett<br/>Randy Moore<br/>Dave Wolff<br/>Brett Fulton<br/>Latasha Wolff<br/><b><u>City Clerk</u></b><br/>Teela Wild</p>    |
| <p style="text-align: center;"><b><u>City of West Union</u></b><br/>Cameron Granger, Mayor<br/>Linda Croal<br/>Kennon Gumm<br/>Matt McElree<br/>Marty Miller<br/>Randy Tope<br/><b><u>City Clerk</u></b><br/>Amie Johansen</p>                     | <p><i>*Hazard Mitigation Planning Committee Members</i><br/><i>**Attended City Planning Meetings</i></p>  |  |

| <b>Additional Hazard Mitigation Planning Committee Members:</b> |  |  |  |
|---|--|--|--|
| Rod Marlatt<br>Fayette County<br>Conservation                   | Blake Gamm<br>Fayette County<br>Conservation | Catherine Miller<br>Fayette County<br>Environmental Health &<br>Planning | Brenda Vande Voorde<br>Fayette County 911    |
| Joe Biver<br>Fayette County GIS                                 | Jason Puls<br>Maynard City<br>Superintendent |  |  |
| <b>Fayette County Emergency Management Commission</b>           |  |  |  |
| Lisa Roberts, Fayette Co.<br>Emergency Mgt.<br>Coordinator      | Gloria Aylsworth, Wadena<br>City Clerk       | Kevin Bodensteiner,<br>Fairbank Fire Dept.                               | Joann Boyer, Fayette<br>County Public Health |
|   | Mary Jo Brown, Arlington<br>City Clerk       | David Christen, Wadena<br>First Responders                               | Clermont Fire Department                     |
| Rhonda Dales, Elgin City<br>Clerk                               | Darrel Dolf, Fayette County<br>Supervisor    | Timothy Duhrkopf, Sumner<br>Fire Dept.                                   | Elgin Fire Department                        |
| Lois Erickson, Maynard City<br>Clerk                            | Fayette County Dispatch                      | Marty Fisher, Fayette Co.<br>Sheriff                                     | Roger Gamm, West Union<br>Fire Dept.         |
| Ken Hemesath, Fayette<br>County EMS                             | Dan Howard, Mayor<br>Maynard                 | Glenda Kane, Oran First<br>Responders                                    | Jared Kent, Wadena Mayor                     |
| Dwane Koch, Hawkeye<br>Fire Dept.                               | Michael Lauer, West Union<br>Fire Dept.      | Tom Luhman, West Union<br>Fire Dept.                                     | Jim Matt, Clermont Mayor                     |
| Maynard City Clerk  | Kris McGrane, Fayette City<br>Administrator  | Tim Miller, Oran Fire Dept.  | Patty Nefzger, Fayette City<br>Council       |
| Jenean Niedert, Clermont<br>City Clerk                          | Randalia City Clerk                          | Wallace Rundle, Oelwein<br>Fire Dept.                                    | Mark Schmitt, Waucoma<br>City Council        |
| Dustin Schott, Arlington City<br>Council                        | Troy Schott, Clermont City<br>Council        | Rodger Sill, Stanley Fire<br>Dept.                                       | St. Lucas City Clerk                         |
| Rory and Vicki Starks, West<br>Union Fire Dept.                 | Marlene Strepcke, Fairbank<br>City Clerk     | Jeanine Tellin, Fayette Co.<br>Supervisor                                | Rodney Wagner, Clermont<br>Fire Dept.        |
| Waucoma City Clerk  | Ben Weber, Oelwein Fire &<br>Rescue          | Andrew Wenthe, Fayette<br>Mayor  | Dave Wenthold, Waucoma<br>Fire Dept.         |
| West Union City Council   | West Union Mayor                             | Westgate Fire Department   | Randy Wiedenhoff,<br>Clermont Fire Dept.     |
| Patty Wolff, Westgate City<br>Clerk                             | Chad Wurzer, St. Lucas Fire<br>Dept.         | Dorty Yauslin, Hawkeye City<br>Clerk                                     |  |

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## Cross Reference for Plan Review Tool

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### Planning Process

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## Chapter 1- Introduction and Planning Process

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### What is hazard mitigation?

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies to lessen impacts are determined, prioritized, and implemented. This plan documents the county-wide hazard mitigation planning process and identifies relevant hazards, vulnerabilities, and strategies the Participating Jurisdictions will use to decrease vulnerability and increase resiliency and sustainability. It will affect activities and decisions for proactive mitigation planning that will help reduce the cost of disaster response. Hazard mitigation is described as:

- Any action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects – an effort to reduce loss of life and property by lessening the impact of disasters.
- Hazard mitigation is specifically dedicated to breaking the cycle of damage, reconstruction, and repeated damage.
- Mitigation is taking action now—before the next disaster—to reduce human and financial consequences later by analyzing risk, reducing risk, and insuring against risk.

### Why do we plan?

Each year in the United States natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters because subsequent expenses incurred by insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be minimized or even eliminated. Planning allows the stakeholders to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. Plans create a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters. Planning has many benefits:

- Planning identifies cost effective actions for risk reduction that are agreed upon by stakeholders and the public.
- Planning focuses resources on the greatest risks and vulnerabilities.
- Planning builds partnerships by involving people, organizations, and businesses.
- Planning increases education and awareness of hazards and risk
- Planning communicates priorities to state and federal officials.
- Planning aligns risk reduction with other community objectives.

## Key Steps in the Planning Process

Figure 1 illustrates the key steps in the planning process. More specifically, each step can be further described as:

Figure 1: Hazard Mitigation Planning Process



**Step 1:** From the start, communities should focus on the resources needed for a successful mitigation planning process. An essential first step is to identify and organize interested members of the community as well as including the technical expertise required during the planning process.

**Step 2:** Next, communities identify the characteristics and potential consequences of hazards through a hazard identification process. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be on important community assets. This is accomplished through a vulnerability assessment.

**Step 3:** Armed with an understanding of the risks posed by hazards, communities determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a hazard mitigation plan that identifies mitigation strategies and actions for implementation.

**Step 4:** Bring the plan to life. Communities can do this in a variety of ways, ranging from implementing specific mitigation projects to changes in day-to-day organizational operations. To ensure the success of an ongoing program, it is critical that the plan remains relevant. Therefore, it is important to conduct periodic evaluations and make revisions as needed, a plan maintenance process.

## Participants

*Requirement §201.6(a)(4):*

*Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process*

The Participating Jurisdictions developed this multi-hazard mitigation plan to reduce future losses in the planning area from identified potential hazards. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002, (44 CFR Part 201) and finalized on October 31, 2007. While the Disaster Mitigation Act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the requirements that local hazard mitigation plans must meet or exceed in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

Information in this plan will be used to help guide and coordinate mitigation and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The planning area has been affected by hazards in the past and is therefore committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.



The Disaster Mitigation Act requires that each jurisdiction participate in the planning process and officially adopt the multi-jurisdictional hazard mitigation plan. This plan includes several participating local governments and the community school districts (CSDs)/University:

- City of Arlington
- City of Clermont
- City of Elgin
- City of Fayette
- City of Hawkeye
- City of Maynard
- City of Oelwein
- City of Randalia
- City of St. Lucas
- City of Wadena
- City of Waucoma
- City of West Union
- City of Westgate
- Unincorporated Areas of Fayette County
- North Fayette Valley CSD
- Oelwein CSD
- Starmont CSD
- West Central CSD
- Upper Iowa University

The Planner worked directly with the city officials of each governmental unit. Each governing body reviewed their jurisdictional profiles; discussed their progress on and status of previously identified mitigation actions; determined the planning significance of various hazards within their communities; and identified the mitigation actions they would pursue throughout the implementation of this plan. The Hazard Mitigation Planning Committee, the Fayette County Emergency Management Commission and the Fayette County Board of Supervisors ensured that the county as a whole, along with its unincorporated areas, went through the same process of profile review, previous action status, determination of significance for specific hazards and mitigation action identification. See [Acknowledgements](#) for a listing of individuals involved in the planning process.

School representatives provided information for the plan as requested (including possible mitigation actions). A representative of Upper Iowa University provided information for the plan as well. School districts and the university were also provided the opportunity to review and provide feedback on the draft plan and are asked to adopt the plan (see Appendix B – Jurisdictional Resolutions).

Table 1 documents the specific ways that participating jurisdictions were involved in the planning process.

**Table 1: Jurisdictional Involvement in the Development of MJHMP**

| Jurisdiction:     | Involvement:  |
|-------------------|---|
| Fayette County    | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Participation at HMPC meetings (see Appendix D)</li> <li>• Assistance with data collection (assessor, emergency management coordinator, GIS coordinator)</li> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| City of Arlington | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Plan review and comment</li> <li>• Assistance with jurisdictional data collection.</li> <li>• Formally adopted plan on</li> </ul>  |
| City of Clermont  | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Participation at HMPC meetings (see Appendix D)</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan</li> </ul>   |
| City of Elgin     | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Council Meeting review of plan March 6, 2023.</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>  |
| City of Fayette   | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |
| City of Hawkeye   | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on <b>6/3/2024.</b></li> </ul>  |
| City of Maynard   | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |
| City of Oelwein   | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |
| City of Randalia  | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |
| City of St. Lucas | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |
| City of Wadena    | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul>   |

Fayette County, Iowa Multijurisdictional Hazard Mitigation Plan 2024

| Jurisdiction       | Involvement   |
|--------------------|---|
| City of Waucoma    | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| City of West Union | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| City of Westgate   | <ul style="list-style-type: none"> <li>• Representation on the HMPC</li> <li>• Assistance with jurisdictional data collection</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |

| Jurisdiction:            | Involvement:  |
|--------------------------|---|
| North Fayette Valley CSD | <ul style="list-style-type: none"> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| Oelwein CSD              | <ul style="list-style-type: none"> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| Starmont CSD             | <ul style="list-style-type: none"> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| West Central CSD         | <ul style="list-style-type: none"> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |
| Upper Iowa University    | <ul style="list-style-type: none"> <li>• Mitigation Action Identification</li> <li>• Plan review and comment</li> <li>• Formally adopted plan on</li> </ul> |

## Local Planning Process

*Requirements §201.6(b)(1-3) and §201.6(c)(1):*

*An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval; (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

*[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

This plan is a full update of the previous FEMA-approved Fayette County, Iowa Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) approved by FEMA in June of 2018. The planning process began in the winter of 2022 and followed methodology prescribed by FEMA, with identification of a Hazard Mitigation Planning Committee (HMPC) comprised of key stakeholders from the Participating Jurisdictions. Key stakeholders included in the process included fire departments and law enforcement; school districts; higher learning institutions; economic development; city clerks/city managers/city staff; city mayor and councils; county supervisors; county departments/officials (conservation, assessor, GIS, planning, etc.); and business/industry. Emergency Planning & Consulting, LLC facilitated the process and assembled all input, information, and data to develop the written document.

Local and regional agencies were invited to attend the hazard mitigation meetings and/or review and comment on the draft version Fayette County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) via email, telephone, or attendance at hazard mitigation planning meetings. Public notices and/or press releases in county-wide publications were utilized to ensure notification, inclusion, and opportunity for involvement to all concerned business, private non-profit organizations, and the general public.

As part of coordination with other agencies, the HMPC and the consultant collected and reviewed existing technical data, reports, and plans. These included the State of Iowa Hazard Mitigation Plan, literature on local communities as well as other data from state and federal agencies. This information was used in the development of hazard identification, vulnerability assessment, and capability assessment and in the formation of goals, objectives, and mitigation actions. These sources are documented throughout the plan and in Appendix A: References/Sources.

It is important to note that during the five year time frame since the plan was previously approved, the entire world responded to a global pandemic that did impact the ability of jurisdictions to complete mitigation actions as many activities were halted, supply chains were disabled, and people limited interactions.

Limited public meetings were held during the development of this plan. Public comment provided in those few that were held was included in the plan development in historical information with the identified hazards and/or with mitigation action status by community. Much of the updated information was collected in one on one conversations. HMPC members were encouraged to gather public input from their communities. The plan draft was posted on the county website for review and

feedback. With five of the thirteen communities and Fayette County overall having a large population under the age of 18 years and/or over the age of 60 years, it is an area with vulnerable populations. One small community, the City of Randalia, has a population with 75% over the age of 60 years and under the age of 18 years. It would be advantageous for the next plan update to improve upon public participation, including vulnerable and underserved populations, by targeting outreach to specific groups in order to better overcome barriers to their participation. Public feedback received is noted in Appendix C - Planning Process Documentation.

The planning timeline was laid out as follows:

1. A planning kick-off meeting was held on January 25, 2022. Attendees discussed the purpose of mitigation planning and what the planning process would entail. Commitment to the HMPC was confirmed. The HMPC includes members who bring expertise in emergency management and response, members who operate critical facilities and members who represent vulnerable populations or communities from across the county.
2. Community profile information for cities and the county was sent out for review, update, and discussion.
3. Hazard Profiles were updated by the consultant and CPRI scoring for county hazards was reviewed and updated.
4. Previous hazard mitigation plans, as well as the county's Comprehensive Plan, the region's Long Range Transportation Plan and the Iowa Hazard Mitigation Plan were reviewed and incorporated where relevant. In addition, a number of references were consulted in the development of this plan (see Appendix A).
5. The consultant completed a Vulnerability Assessment.
6. The next step was to develop mitigation strategies and actions for each participating jurisdiction. Each jurisdiction was contacted directly to provide a status report on previous mitigation actions and share new mitigation actions.
7. The written document was finalized by the consultant and reviewed by the HMPC and each jurisdiction (copies of the draft plan were emailed to each jurisdiction for review and distribution to stakeholders for additional comments).
8. Public input was sought through several outlets:
  - a. The draft plan was available on the Fayette County, Iowa website and the Fayette County, Iowa Emergency Management website.
9. Public input was incorporated into the planning document as appropriate.
10. The plan was adopted by Fayette County on (see Table 2) and submitted to FEMA for approval .
11. Any revisions to the draft plan from FEMA were addressed, and the plan will be adopted by each jurisdiction in the summer of 2024, with a final plan and adoptions resolutions forwarded to FEMA by .

*Requirement §201.6(c)(5):*

*[The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of each jurisdiction requesting approval of the plan*

The Fayette County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) will be updated within a five-year timeframe and has been **formally adopted by** the following entities (adoption documentation located in Appendix B – Jurisdictional Resolutions) as shown in Table 2 below.

**Table 2: Jurisdictional Adoption Dates**

| Jurisdiction:                                  | Adoption Date: |
|--|----------------|
| Fayette County Board of Supervisors            |                |
| City of Arlington                              |                |
| City of Clermont                               |                |
| City of Elgin                                  |                |
| City of Fayette                                |                |
| City of Hawkeye                                | 06/03/2024     |
| City of Maynard                                |                |
| City of Oelwein                                |                |
| City of Randalia                               |                |
| City of St. Lucas                              |                |
| City of Wadena                                 |                |
| City of Waucoma                                |                |
| City of West Union                             |                |
| City of Westgate                               |                |
| North Fayette Valley Community School District |                |
| Oelwein Community School District              |                |
| Starmont Community School District             |                |
| West Central Community School District         |                |
| Upper Iowa University                          |                |

## Chapter 2- Planning Area Profile and Capabilities

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### Overview

*Requirement §201.6(c)(3):*

*[The plan shall] document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs*

*Requirement §201.6(d)(3):*

*[The plan shall] be revised to reflect changes in development, progress in local mitigation efforts and changes in priorities*

*Requirement §201.6(c)(3)(ii):*

*[The mitigation plan] must address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate*

This section of the Fayette County Hazard Mitigation includes a community profile for the county and incorporates each of the jurisdictions participating in the plan. This section will review the climate and weather, geography, land use, and other conditions that impact the county, as well as provide an overview of location, history, demographic trends and background information for the county. This section will also include relevant data for communities within the county.

The County is governed by a three-member Board of Supervisors. Additional elected officials include:

- County Auditor
- County Recorder
- County Sheriff
- County Treasurer

Key staff positions include:

- County Assessor
- County Attorney
- County Central Point of Coordination (CPC)
- County Conservation Director
- County Emergency Management Coordinator
- County Engineer
- County Environmental Health
- County GIS Coordinator
- County Landfill Coordinator
- County Planning and Zoning Administrator (also the Flood Plain Administrator)
- County Public Health Administrator
- County Recycling Coordinator
- County VA Administrator

Property valuations for the County were \$1,909,945,875 as of January 2021 (Iowa Department of Management, 2021). Fiscal tools for funding mitigation activities include bonding, both General Obligation and Revenue, loan agreements, fees, taxes for specific purposes and grants.

The Fayette County Sheriff’s office provides law enforcement to the unincorporated parts of the county and Fayette County Emergency Management provides emergency management services. Also, Fayette County Emergency Management and the County GIS departments provide technical resources and services to the County and its emergency responders.



Fayette County contracts with the Linn County Regional Hazardous Materials Response Team to provide technician-level incident response throughout the county.

All Police Departments, Fire Departments, and Ambulance services in the County as well as some neighboring counties have a mutual aid agreement to respond and assist with an incident as appropriate. Fire Department coverage is illustrated in Figure 2, and EMS coverage for the county is illustrated in Figure 3. (Iowa Department of Management, 2022)

Figure 2: Fayette County Fire Department Coverage

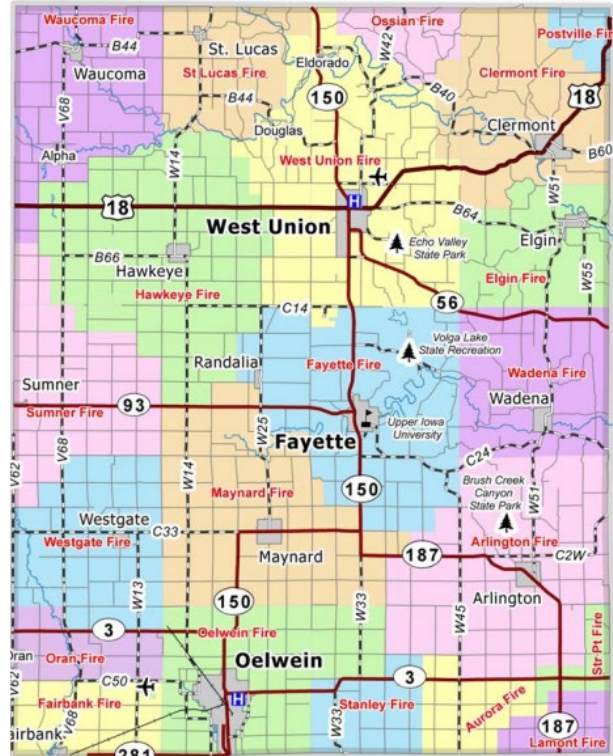
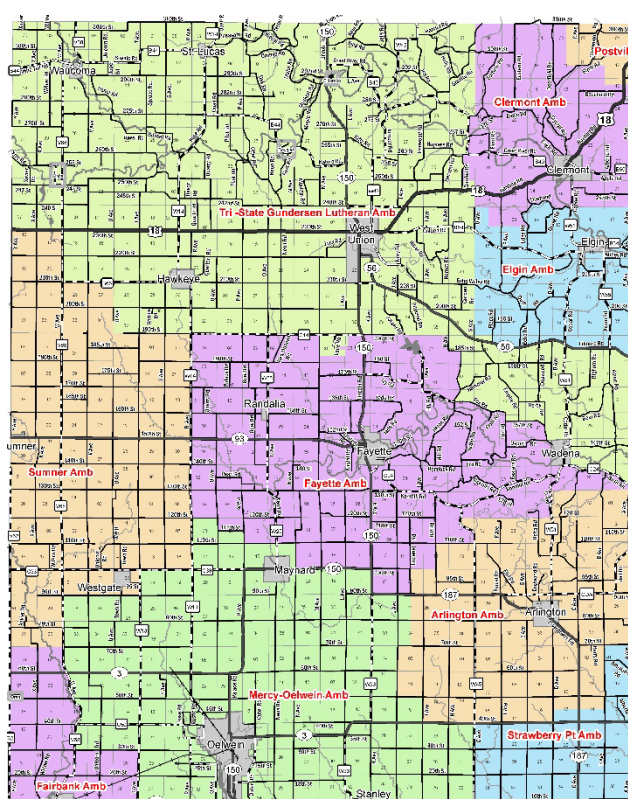


Figure 3: Fayette County EMS Boundaries

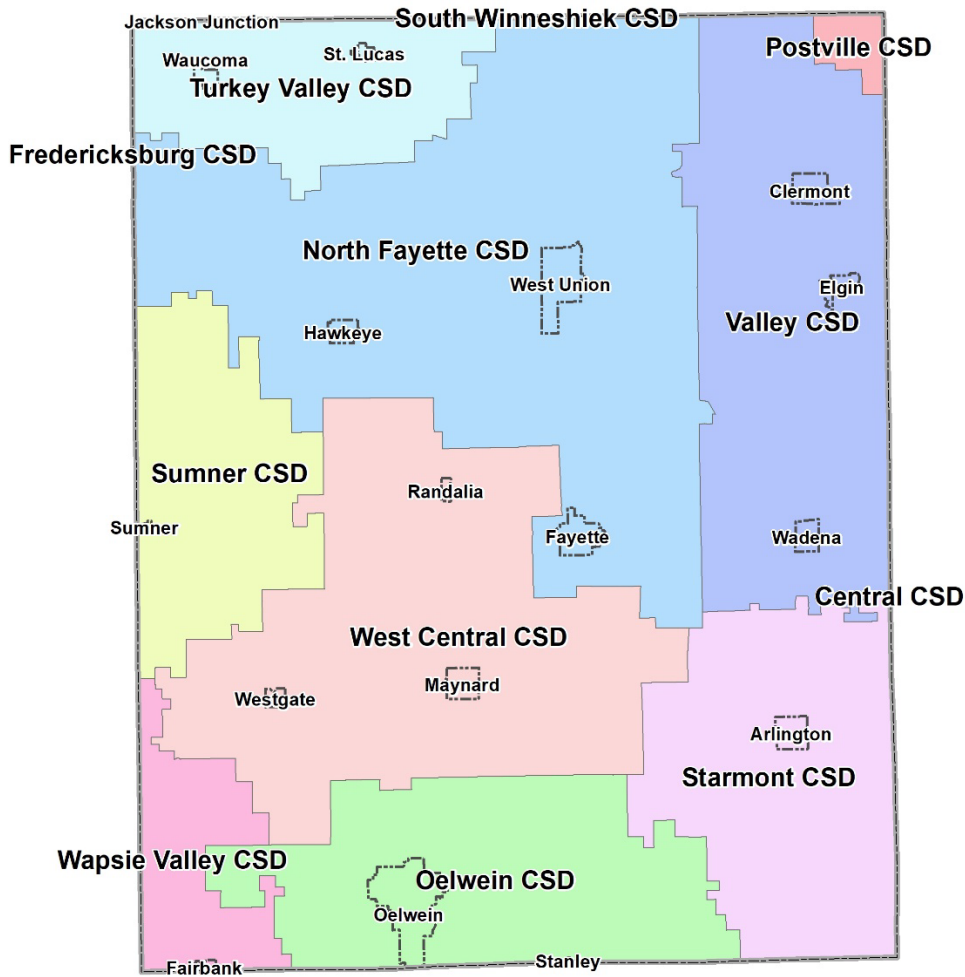


The County utilizes a County Zoning Ordinance to control land use, direct decision-makers and protect the quality of life for its residents. The County adopted the Fayette County Comprehensive Plan 2012 which outlines goals, strategies and actions for future growth and development. The County utilizes the Fayette County Multi-Hazard Emergency Operations Plan (last updated August 2023). All Response Personnel follow appropriate protocol and guidance.

Fayette County children attend one of seven school districts covering the county. There are four independent community school districts and one catholic school district with administrative headquarters located within the county: North Fayette Valley Community School District, Oelwein Community School District, West Central Community School District, Starmont Community School District and Sacred Heart Catholic School. Three other districts serve children from the county, but are

physically located in neighboring counties: Postville, Sumner-Fredericksburg, and Turkey Valley Community School Districts. School District coverage is illustrated in Figure 4.

Figure 4: Fayette County Community School Districts



## Mitigation Activities – Fayette County

### Status and Progress on Previous Mitigation Actions

- Promote the Fayette County Hazard Mitigation Plan to the public
  - *Ongoing*
- Emergency training, including seminars on HAZMAT spills, storm spotter training, training for responding to potential air transportation or terrorism incidents, recruiting & retention of volunteers, etc.
  - *Ongoing for all entities, annually*
- Maintain HAZMAT agreement with Linn County
  - *Ongoing*
- New equipment, including fire suppression related (e.g. dry hydrants), personal property protection, enhanced radio equipment
  - *In progress*
- Work with public health to develop an inventory of special needs individuals to provide emergency response teams.
  - *Not completed, change in priorities*
- Include and incorporate watershed practices identified and modeled by the Turkey River Watershed Management Authority's (TRWMA) Watershed Resiliency Plan
  - *Ongoing*
- Support planning and initiatives of the newly established Upper Wapsi and Maquoketa River Watershed Management Authorities
  - *COMPLETED*
- Work with Flood Mitigation Professionals in the implementation of agricultural conservation practices, water control basins, on-road water control structures, wetlands and riparian buffers, restoration and protection of stream ecosystems, conservation easements, and urban green streetscape practices
  - *Ongoing*
- Support work and planning of the Turkey River Watershed Management Authority (TRWMA)
  - *Ongoing*
- Assess county road locations that can be modified to incorporate on-road structures to mitigate against flooding
  - *Ongoing*
- Develop a public communication system to relay information on contamination of waterways or water sources
  - *Ongoing*
- Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - *Ongoing with new NFIP members*

- Follow guidelines to apply for and secure funding to purchase and demolish existing damaged structure(s)
  - *Ongoing*
- Ensure that the Fayette County MJ-22 Hazard Mitigation plan remains current and is updated and submitted for approval every 5 years
  - *Ongoing*
- Maintain the hazard mitigation plan in a public location and on the county's website; note annual mitigation strategies implemented & accomplished
  - *Ongoing*
- Implement fixed and/or mobile data systems in every County agency responsible for public safety, including one in each emergency response vehicle.
  - *Ongoing*
- Continue to use and build public knowledge of warning systems/alert notification providers, including IPAWS, Alert Iowa, and WENS
  - *Ongoing, however now RAVE rather than WENS*
- Encourage public use of NOAA weather radios
  - *Ongoing*
- County/cities to transition to sirens with the capability for automated activation (either by the Fayette County Sheriff's Office, or through local activation)
  - *Ongoing. City of Hawkeye has a new siren. City of West Union in process of upgrading siren system and adding new siren.*
- Assist cities in identifying generator needs (e.g. transfer switches, storage location and fuel needs)
  - *Ongoing*
- Purchase/install generator(s) and necessary equipment appropriate to city and county needs
  - *Ongoing*
- Continue to update or pursue other applicable plans/ordinances, such as flood plans, channel improvement projects, stormwater plans/ordinances, watershed plans, mass casualty plans, evacuation plans, emergency operations plans, comprehensive plans, hazard mitigation plans, zoning ordinances, and roadway construction studies
  - *Ongoing*
- Electronically distribute planning documents among appropriate county resources - *ongoing*
- Inventory high risk areas in the county (e.g. mobile home parks, recreation areas, schools, etc.), and assess locations for safe room sites
  - *COMPLETED*
- County or school districts may construct facility outside floodplain to be used as public storm shelter with opportunity for incorporation of a cooling/warming center
  - *COMPLETED*
- Electronic directory of local resources
  - *COMPLETED*
- Increase public knowledge of warning and response systems
  - *Ongoing*

- Educate public about preparedness for hazards and disaster events (e.g. Disaster Supply Kits, use of Iowa One Call prior to excavating, etc.)
  - *Ongoing*
- Maximize appropriate sharing of planning documents between county and regional resources (e.g. fire stations, schools, partners)
  - *Ongoing*
- Continue to upgrade and enhance water/wastewater/stormwater infrastructure, alternative energy sources, and utilities
  - *Ongoing*
- Maintain transportation infrastructure, including addressing safety and functionality during storm events (e.g. stormwater runoff minimization, debris cleanup at bridges, etc.)
  - *Ongoing*

**Mitigation Actions to Pursue Through MJHMP Implementation:**

1. Promote the Fayette County Hazard Mitigation Plan to the public
2. Emergency training, including seminars on HAZMAT spills, storm spotter training, training for responding to potential air transportation or terrorism incidents, recruiting & retention of volunteers, etc.
3. Maintain HAZMAT agreement with Linn County
4. New equipment, including fire suppression related (e.g. dry hydrants), personal property protection, enhanced radio equipment
5. Include and incorporate watershed practices identified and modeled by the Turkey River Watershed Management Authority's (TRWMA) Watershed Resiliency Plan
6. Work with Flood Mitigation Professionals in the implementation of agricultural conservation practices, water control basins, on-road water control structures, wetlands and riparian buffers, restoration and protection of stream ecosystems, conservation easements, and urban green streetscape practices
7. Support work and planning of the Turkey River Watershed Management Authority (TRWMA)
8. Assess county road locations that can be modified to incorporate on-road structures to mitigate against flooding
9. Develop a public communication system to relay information on contamination of waterways or water sources
10. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
11. Follow guidelines to apply for and secure funding to purchase and demolish existing damaged structure(s)
12. Ensure that the Fayette County MJ-22 Hazard Mitigation plan remains current and is updated and submitted for approval every 5 years
13. Maintain the hazard mitigation plan in a public location and on the county's website; note annual mitigation strategies implemented & accomplished

14. Implement fixed and/or mobile data systems in every County agency responsible for public safety, including one in each emergency response vehicle.
15. Continue to use and build public knowledge of warning systems/alert notification providers, including IPAWS, Alert Iowa, and RAVE
16. Encourage public use of NOAA weather radios
17. County/cities to transition to sirens with the capability for automated activation (either by the Fayette County Sheriff's Office, or through local activation)
18. Assist cities in identifying generator needs (e.g. transfer switches, storage location and fuel needs)
19. Purchase/install generator(s) and necessary equipment appropriate to city and county needs
20. Continue to update or pursue other applicable plans/ordinances, such as flood plans, channel improvement projects, stormwater plans/ordinances, watershed plans, mass casualty plans, evacuation plans, emergency operations plans, comprehensive plans, hazard mitigation plans, zoning ordinances, and roadway construction studies
21. Electronically distribute planning documents among appropriate county resources.
22. Increase public knowledge of warning and response systems
23. Educate public about preparedness for hazards and disaster events (e.g. Disaster Supply Kits, use of Iowa One Call prior to excavating, etc.)
24. Maximize appropriate sharing of planning documents between county and regional resources (e.g. fire stations, schools, partners)
25. Continue to upgrade and enhance water/wastewater/stormwater infrastructure, alternative energy sources, and utilities
26. Maintain transportation infrastructure, including addressing safety and functionality during storm events (e.g. stormwater runoff minimization, debris cleanup at bridges, etc.)



## Brief History

Fayette County was originally established in 1837 as one of the largest counties ever organized. Its size at the time encompassed about 140,000 square miles, stretching from the Mississippi River to the Missouri River, including most of what is now Minnesota and parts of North and South Dakotas (Fitch, 1910); (Upper Explorerland Regional Planning Commission, 2012). The county was named in honor of the Marquis de La Fayette, a French general and politician who was also the Major General of the Continental Army of the Revolutionary War (Bowden, n.d.); (Upper Explorerland Regional Planning Commission, 2012).

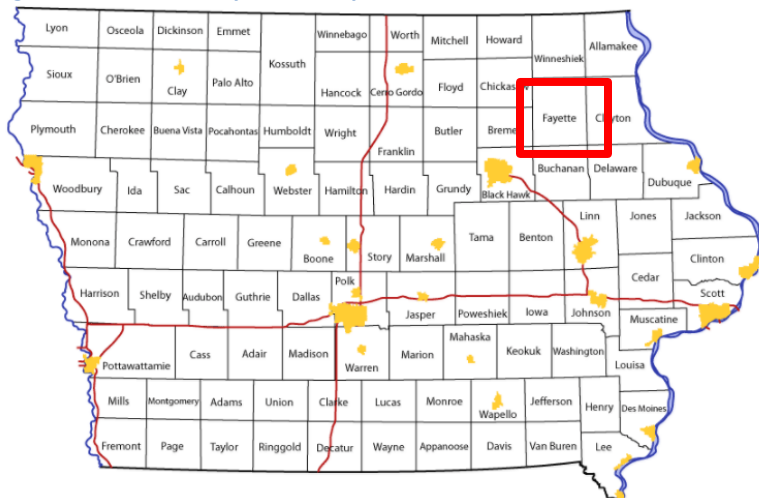
A section of the northern part of the county was set aside as “neutral ground” between the Sioux in the north and the Sauk and Fox tribes in the south, settlement did not occur immediately. With the establishment of Fort Atkinson within this neutral area, just north of Fayette County, settlers began arriving in the area. The first white settler in Fayette County is considered to be Franklin Wilcox who moved his family from Illinois and settled in Smithfield Township in 1840. In 1841, a road running through Fayette County from Dubuque to Fort Atkinson was completed, enabling more settlers access to the county (The Western History Company, 1878) In 1847, the county was reduced to its current size and was officially organized in 1850. In 1851, West Union was selected as the county seat (Fitch, 1910); (Best Places by Sperling, 2022). During the 50-year period from 1850 to 1900, the population of the county increased from 850 to well over 29,000 (State Data Center of Iowa, 2017); (Best Places by Sperling, 2022).

## Geography and Environment

### Location

Fayette County is located in the northeastern corner of the State of Iowa. The county is bounded on the north by Winneshiek County, on the east by Clayton County, on the south by Buchanan County and on the west by Bremer and Chickasaw Counties. Fayette County is a non-metro county and covers an area of about 730 square miles (**Best Places by Sperling, 2022**). Approximately one-third of the county’s residents live in rural areas, with the remaining two-thirds living in the 13 communities fully within the borders of the county. Figure 5 illustrates the location of the county within the State of Iowa.

Figure 5: Location of Fayette County in Iowa



Source: (Iowa Department of Transportation, 2020)

Note: The red rectangle indicates the approximate location of Fayette County, Iowa

Figure 6 shows the location of the jurisdictions in Fayette County.

Figure 6: Base Map of Fayette County and its Incorporated Communities



Source: (Iowa Department of Transportation, 2020)

The following figures provide maps to reflect the city limits of the participating cities: Arlington, Clermont, Elgin, Fayette, Hawkeye, Maynard, Oelwein, Randalia, St. Lucas, Wadena, Waucoma, West Union and Westgate, Iowa.



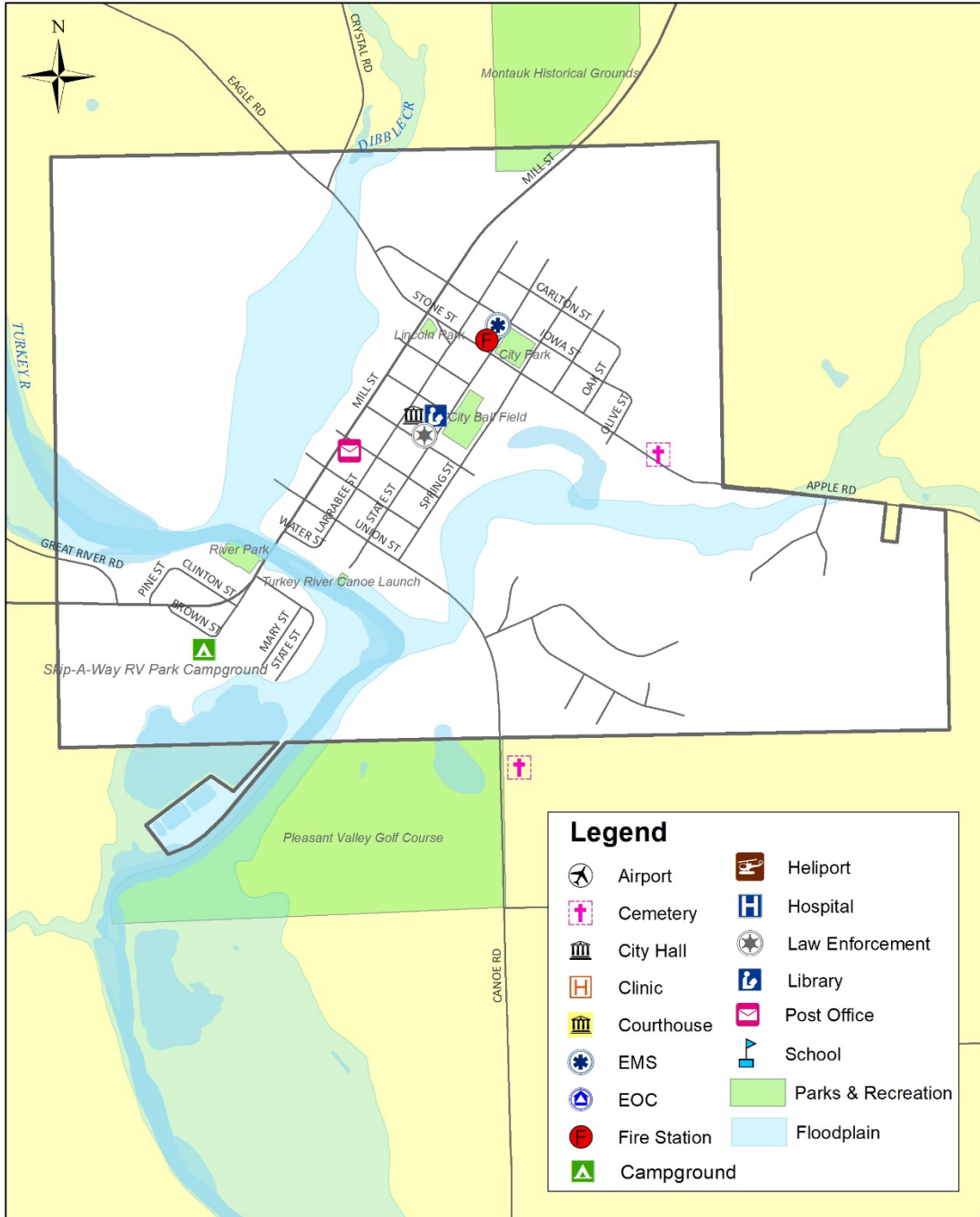
Figure 7: City of Arlington Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 1.05 square miles (City-data.com, n.d.)

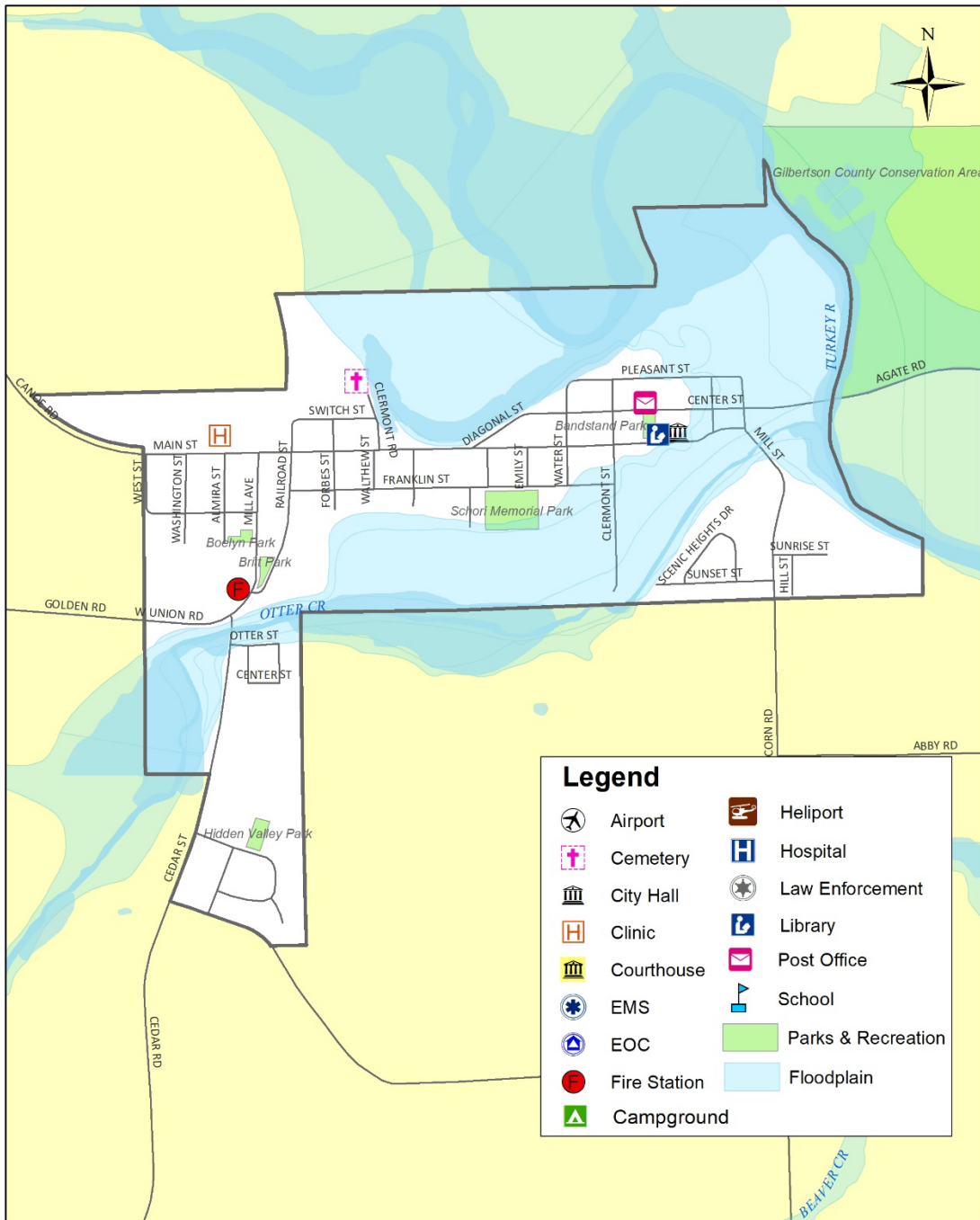
Figure 8: City of Clermont Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 1.10 square miles (City-data.com, n.d.)

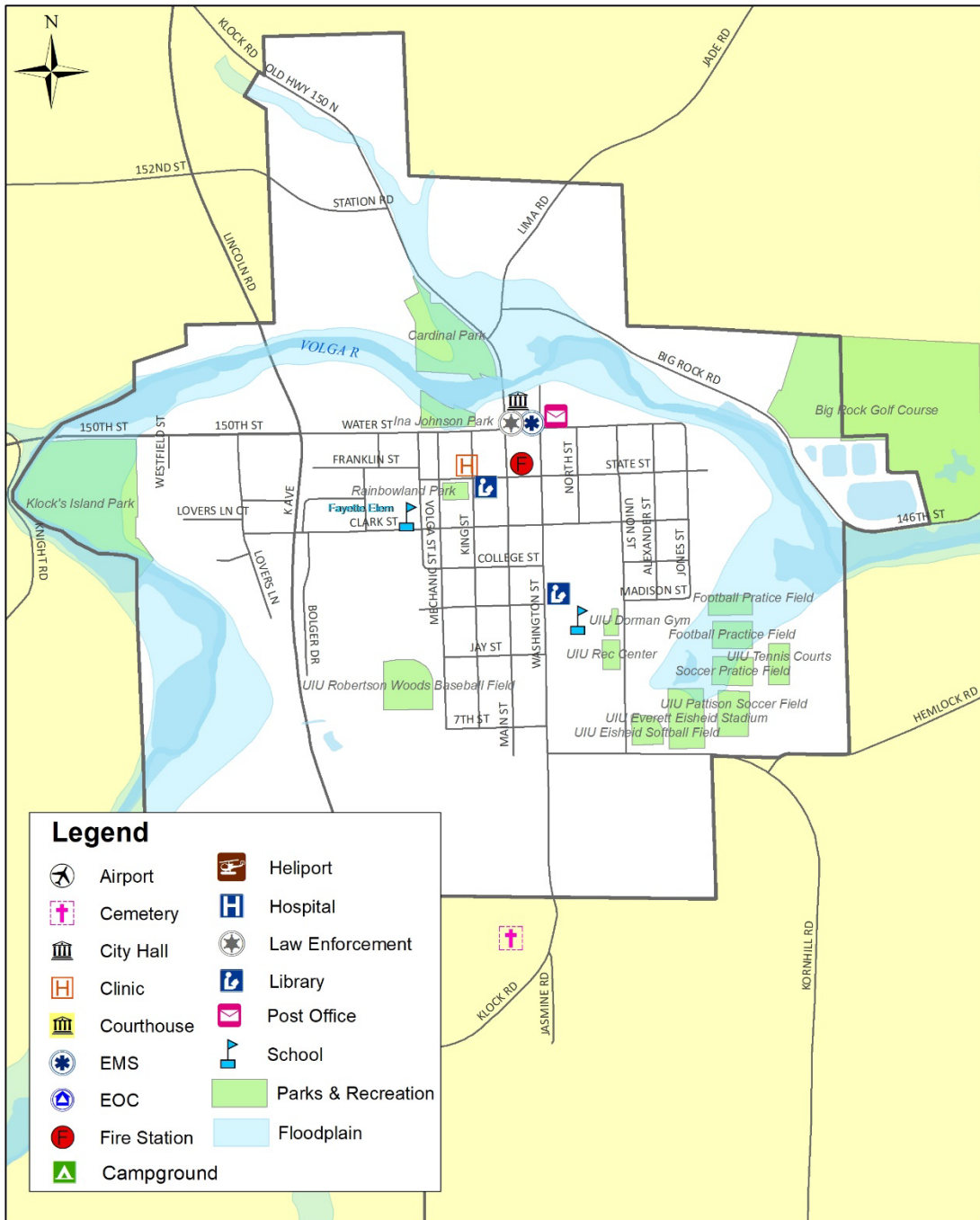
Figure 9: City of Elgin Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.67 square miles (City-data.com, n.d.)

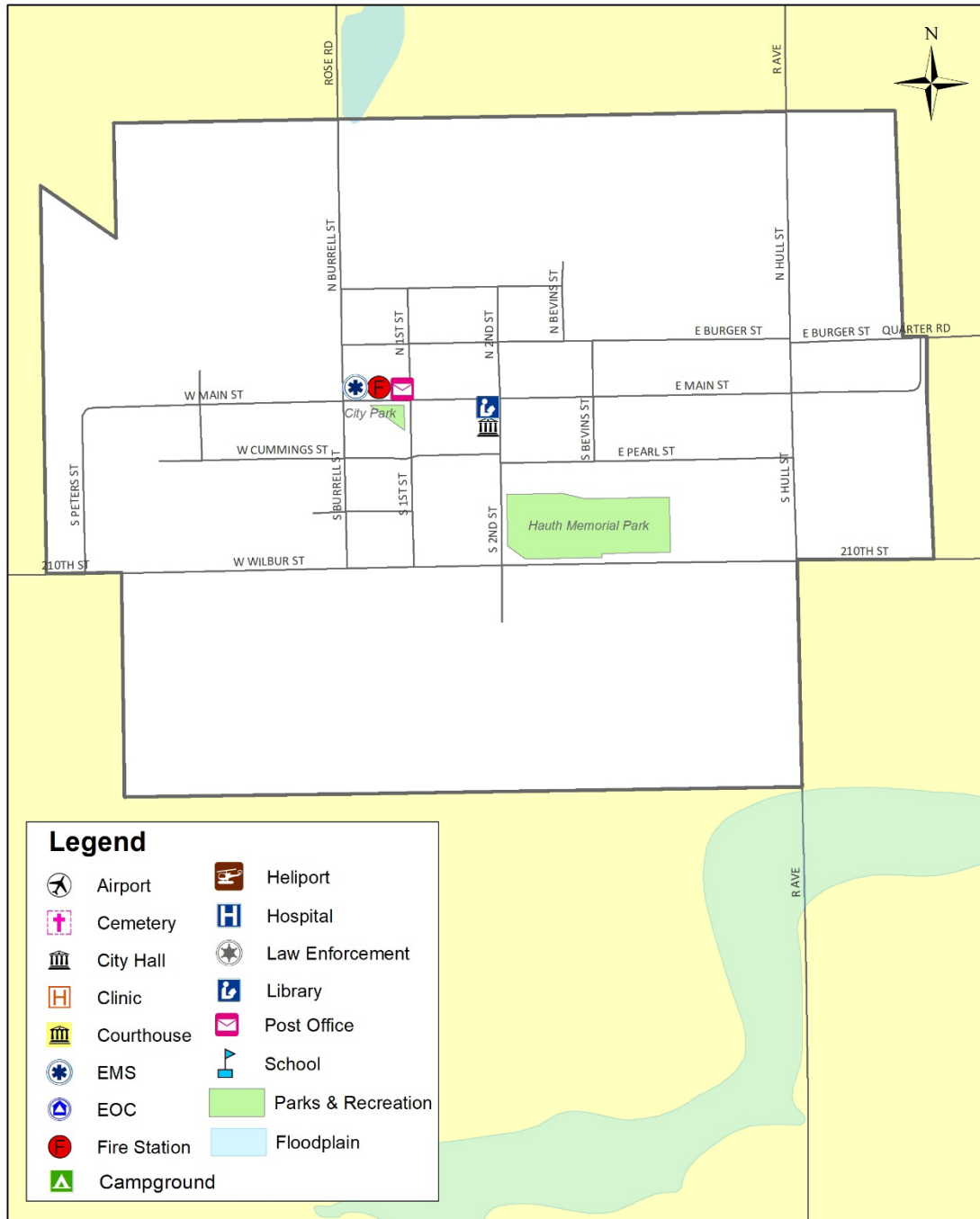
Figure 10: City of Fayette Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: April 2018

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 1.49 square miles (City-data.com, n.d.)

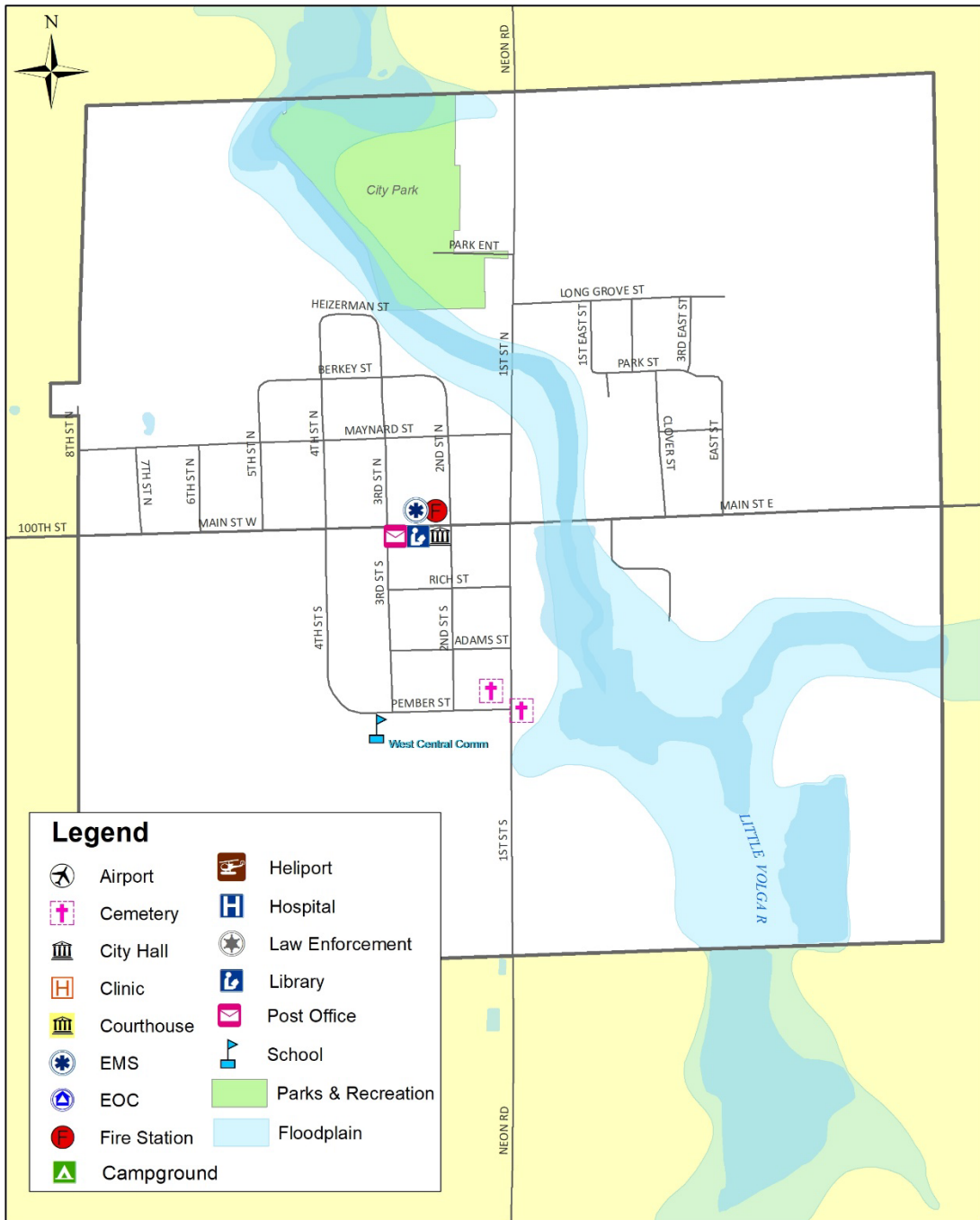
Figure 11: City of Hawkeye Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.67 square miles (City-data.com, n.d.)

Figure 12: City of Maynard Planning Area

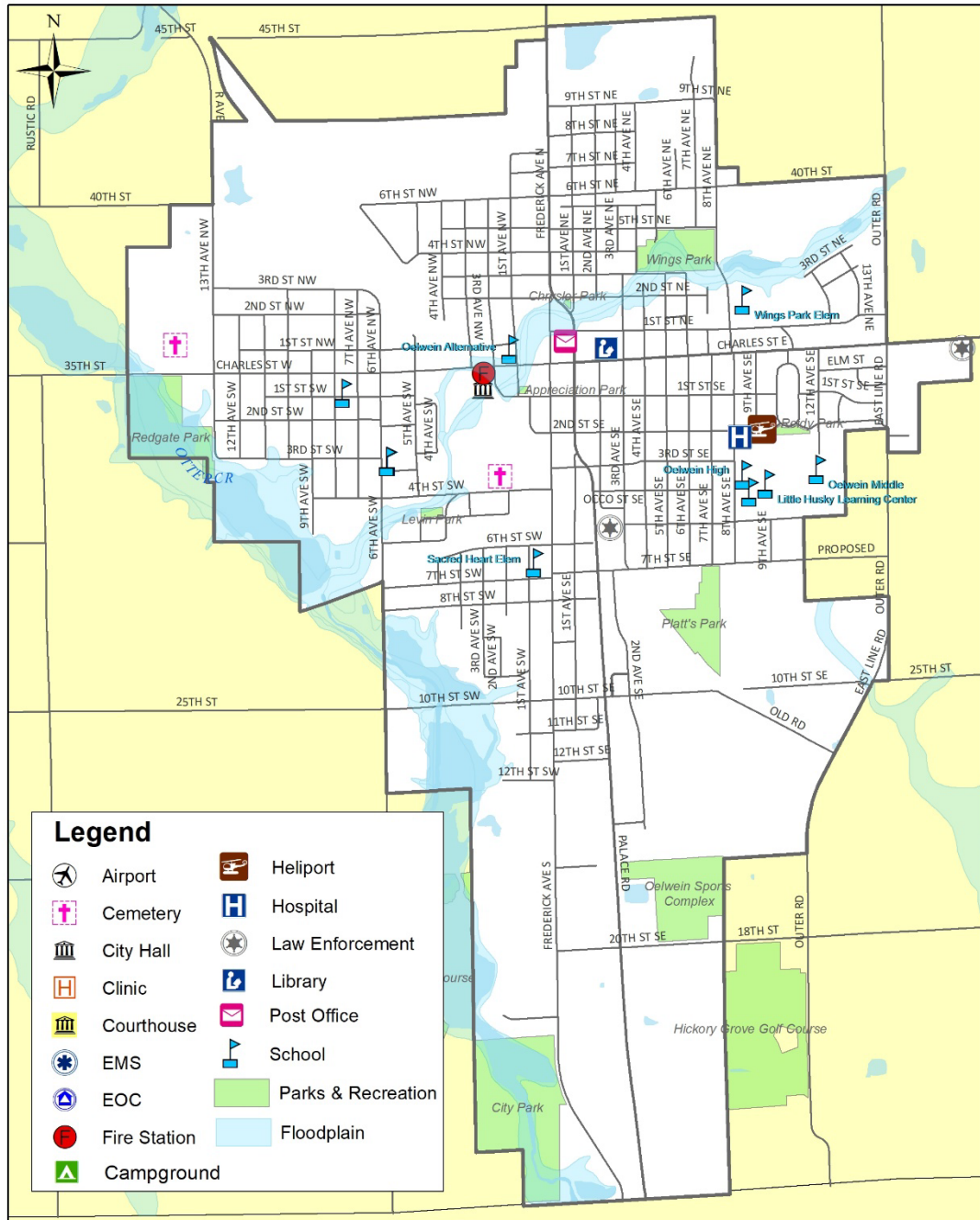


Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.99 square miles (City-data.com, n.d.)



Figure 13: City of Oelwein Planning Area

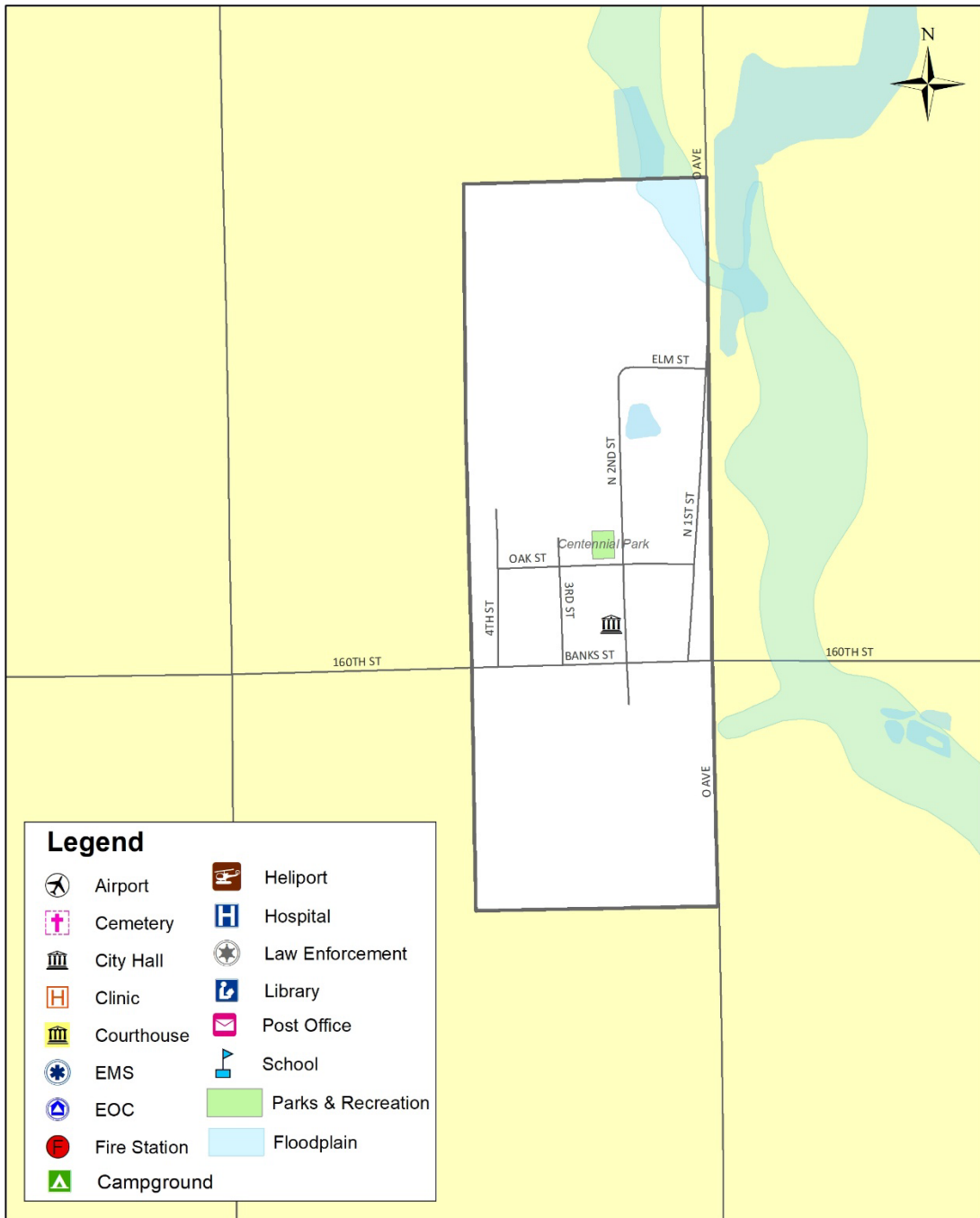


Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)

Note: The land area of city limits is 4.79 square miles (City-data.com, n.d.)

Figure 14: City of Randalia Planning Area



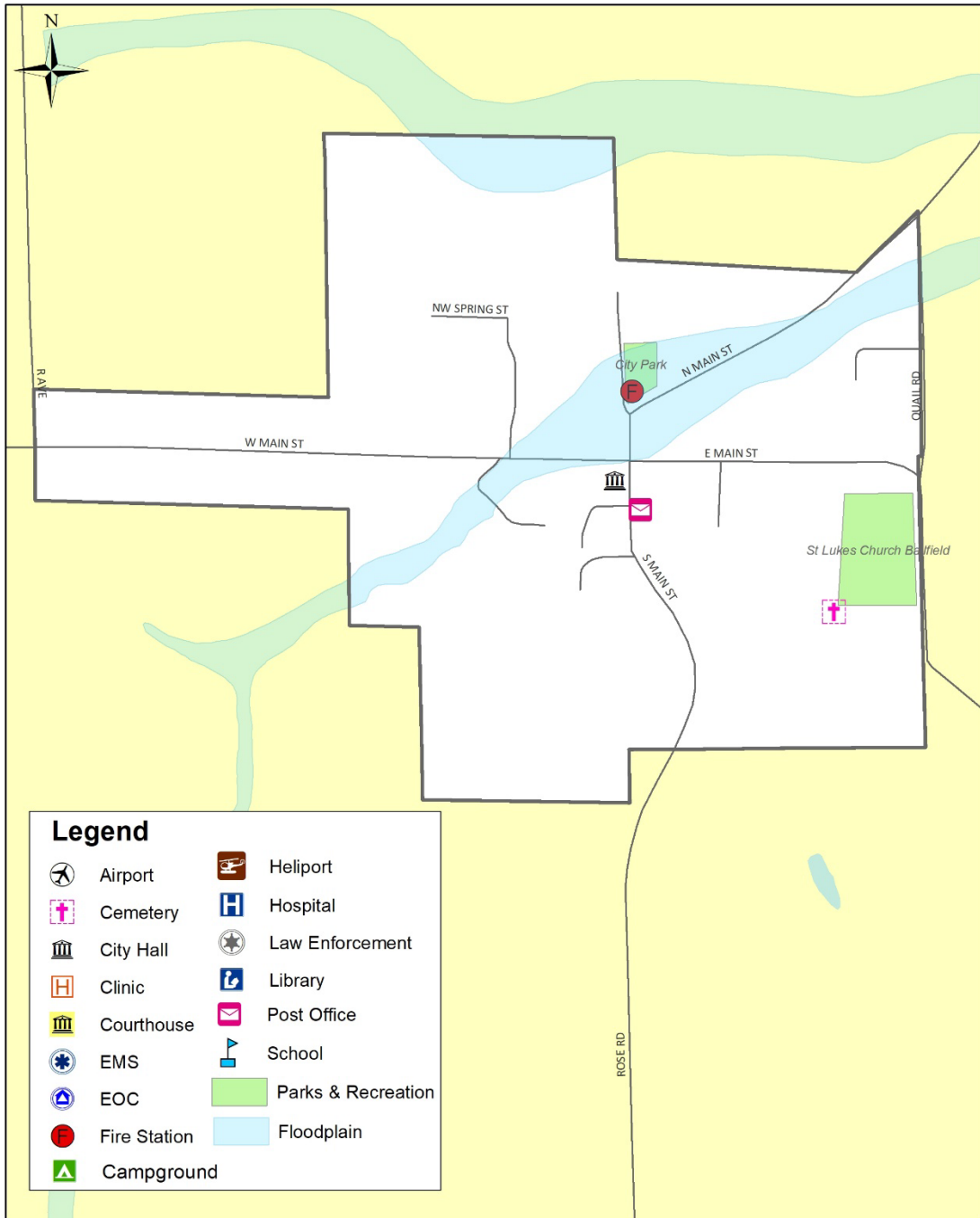
Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)

Note: The land area of city limits is 0.22 square miles (City-data.com, n.d.)



Figure 15: City of St. Lucas Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)

Note: The land area of city limits is 0.27 square miles (City-data.com, n.d.)

Figure 16: City of Wadena Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.74 square miles (City-data.com, n.d.)

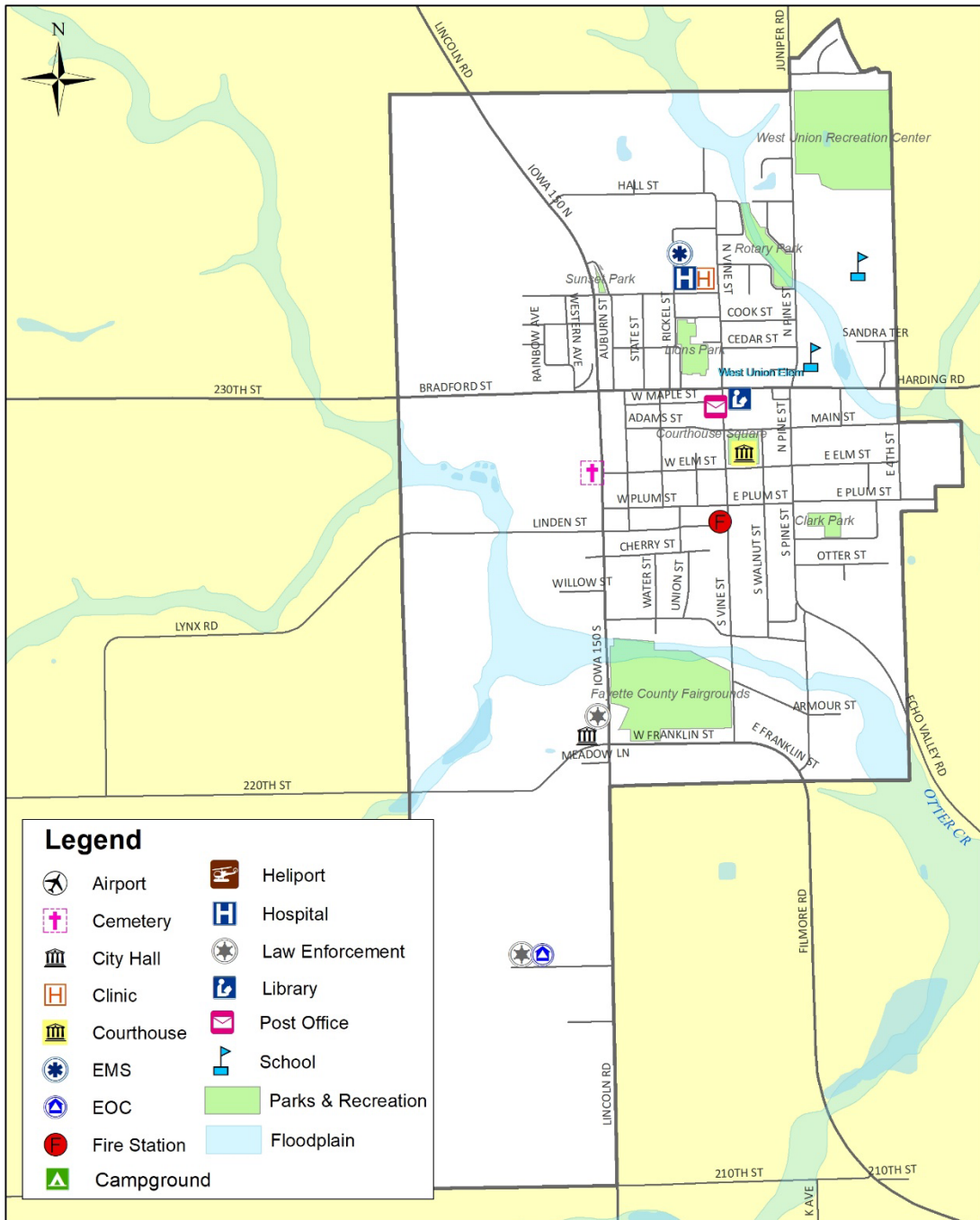
Figure 17: City of Waucoma Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.43 square miles (City-data.com, n.d.)

Figure 18: City of West Union Planning Area

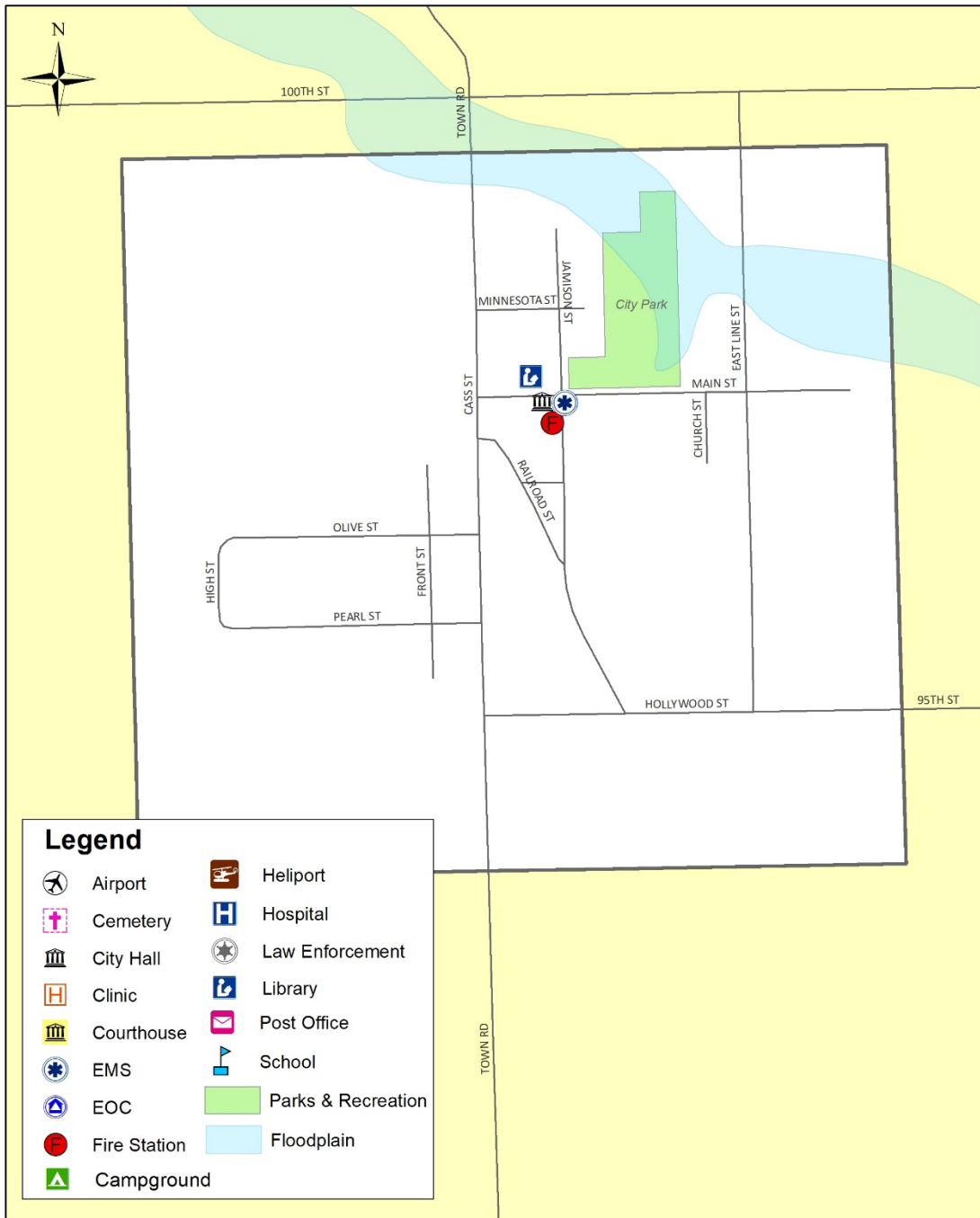


Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)

Note: The land area of city limits is 2.69 square miles (City-data.com, n.d.)

Figure 19: City of Westgate Planning Area



Source: Fayette GIS, Iowa DOT, Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Source: (Iowa Department of Management, 2022)  
 Note: The land area of city limits is 0.36 square miles (City-data.com, n.d.)



### Land Cover and Land Use

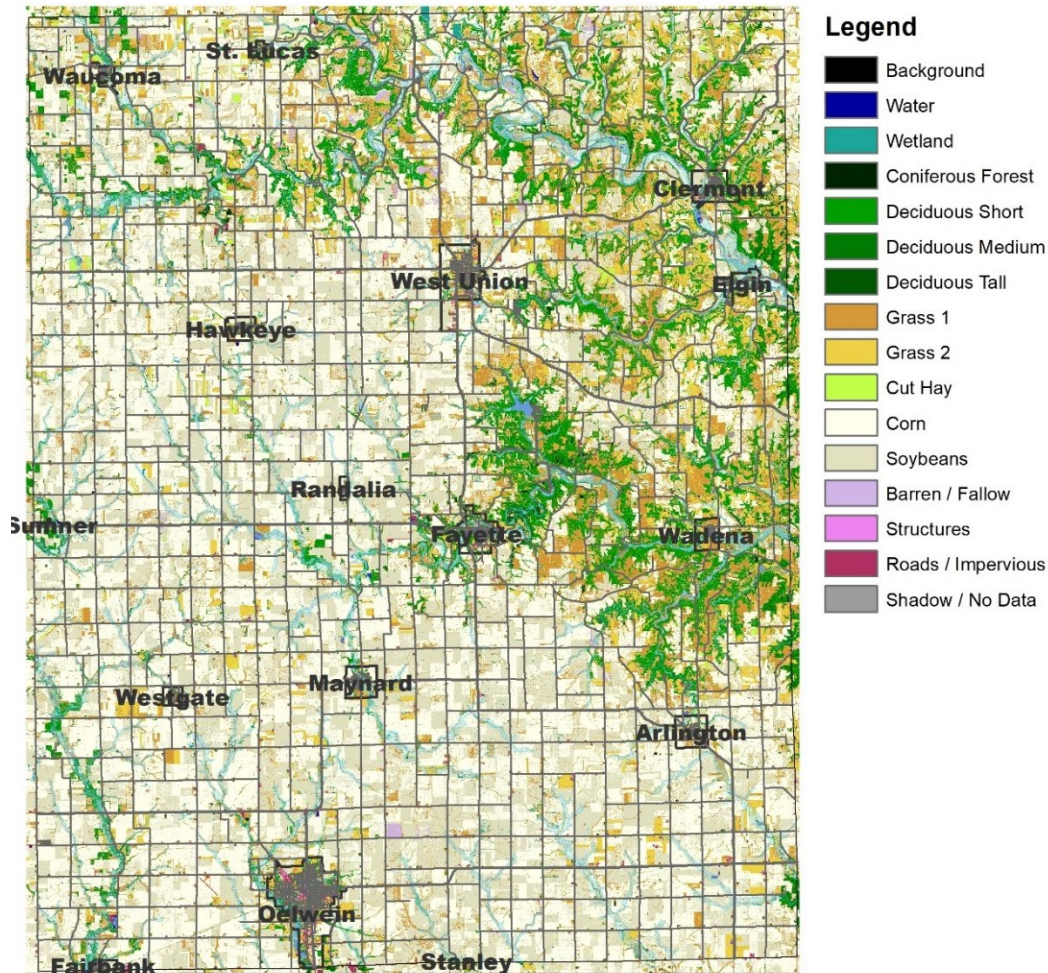
Originally, the land surrounding and including Fayette County was covered with prairie grass and light forestation. Modern agricultural practices have changed this setting to predominately cultivated crops and pasture settings in the rural areas. Table 3 breaks down the land cover by type for Fayette County. Figure 20 illustrates the land cover for the county.

**Table 3: Land Cover for Fayette County**

| Land Cover Type:             | Square Miles | % Total Area |
|------------------------------|--------------|--------------|
| Forest and Woodland          | 71.38        | 9.75%        |
| Developed or other Human Use | 40.72        | 5.58%        |
| Open Water                   | 1.96         | .27%         |
| Shrub land and Grassland     | 14.43        | 2%           |
| Agricultural Vegetation      | 593.50       | 81.17%       |
| Wetlands & Barren Land       | 9            | 1.23%        |

Source: (U.S. Geological Survey, 2019)

**Figure 20: Land Cover, Fayette County**



Source: Iowa DNR  
 Created by: Upper Explorerland Regional Planning Commission  
 Date: December 2017

Land use differs from land cover in that various land covers could potentially fall under the same land use (agriculture, for example). The current land uses in Fayette County, as categorized by the County Assessor for taxing purposes, are identified in Table 4. While not completely accurate as actual use and classification may differ slightly, the data provides a snapshot of how the land in the county is being utilized and taxed.

**Table 4: Land Use Breakdown by Property Tax Classification**

| Land Use Classification   | Acres   | Percent |
|---|---------|---------|
| Agriculture   | 429,002 | 91.66%  |
| Residential   | 9,509   | 2.03%   |
| Commercial  | 1,401   | 0.30%   |
| Industrial  | 54      | 0.01%   |
| Exempt Properties (non-taxable properties e.g. churches, government buildings and nonprofits) | 7,214   | 1.54%   |
| Other (rights-of-way)   | 20,833  | 4.45%   |
| Total   | 468,013 | 100.00% |

Source: (Fayette County Assessor, 2012)

### Elevation

Fayette County covers two landform regions, the Iowan Surface and the Paleozoic Plateau. The Iowan Surface, covering much of the western part of the county from a diagonal line north to south, is characterized by gently rolling terrain scattered with glacial boulders and is a result of weathering and leveling during the last period of intense glacial cold. The Paleozoic Plateau, covering the northeastern corner of the county, is an area of Iowa missed by glacial activity (commonly called the Driftless Area) and is known for its bluffs, waterfalls, caves, springs, and sinkholes. These landforms are visually identifiable in the county with the land in the southwestern part of the county appearing as very gentle slopes and the area in the northeast part of the county illustrating the characteristics of the Paleozoic Plateau, especially near the Turkey and Volga Rivers (Best Places by Sperling, 2022).

### Rivers, Streams, and Lakes

The Turkey River, Volga River and Volga Lake are the largest surface waters in Fayette County with other rivers such as Maquoketa and Wapsipinicon rivers just passing through Fayette County along with many small creeks and streams.

The Turkey River is a 153-mile-long tributary of the upper Mississippi River. It flows from the northwest starting north of Cresco in Howard County and flows southeast through Winneshiek County before entering Fayette County, joining the Little Turkey River in Eldorado. The river offers scenic beauty through picturesque cliffs, ledges, and bluffs as well as recreational opportunities and habitat for diverse fish and wildlife species. The Turkey River Water Trail begins in the Little Turkey River at Gouldsburg Park and traverses 98 miles through Fayette and Clayton counties to the Mississippi River. The Turkey River Recreation Corridor across Fayette County from Elgin to Clermont and on to Elkader in Clayton County was selected as an Iowa Great Place and is in the process of developing water and land trails along the corridor.

The Volga River, the largest tributary to the Turkey River, winds through Northeast Iowa beginning near the town of Maynard. The river travels through the communities of Fayette and Wadena, as well as the Volga River State Recreation Area and joins the Turkey River just west of Garber, in Clayton County. The Volga is noted for its scenic bluffs and smallmouth bass fishing for most of its length. The river is also a good canoe and kayak river for most of the year. Several campgrounds are located along the Volga River, including the communities of Fayette and Wadena.

Volga Lake, also known as Frog Hollow, is a 135- acre artificial lake managed by the Iowa Department of Natural Resources. The Lake has a maximum depth of 22 feet with a mean depth of 9.8 feet. The lake supports a diverse fish population, boating, and canoeing. Amenities include a three-lane boat ramp, floating fishing pier, shoreline sidewalk and jetties all of which are universally accessible. The lake is fed by the Volga River and is a significant part of the Volga River-Frog Hollow 12-digit HUC Watershed. The lake has a 50.7 to 1 ratio which is a measure relating to how much land area there is relative to lake area in a given watershed. Typically, water quality decreases with an increasing ratio of watershed area to lake area. (Fayette County Iowa Comprehensive Smart Plan 2012). The estimated land use around Volga Lake is 47% cropland, 29% grassland, 19% forest, 3% water and 2% urban area.

Other Surface Waters The following list indicates additional lakes, streams, and creeks within the county:

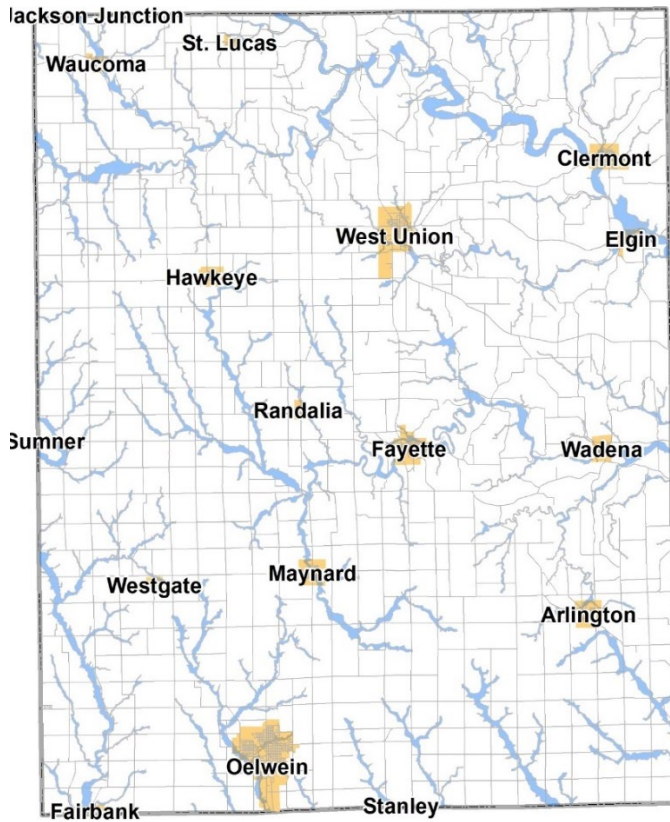
- Bear Creek
- Gilbertson Area Lake
- Mink Creek
- Bell Creek
- Glovers Creek
- Otter Creek
- Brush Creek
- Grannis Creek
- Turkey River
- Crane Creek
- Lake Oelwein
- Volga Creek
- Coulee Creek
- Little Turkey River
- Volga Lake
- Dutton Springs Creek
- Little Wapsipinicon
- Waucoma Impoundment
- Fitzgerald Creek
- Mare Mard Impoundment

Streams and rivers naturally wind through the landscape and change their course over time. The streams and rivers of the county have, for the most part, been allowed to evolve naturally without channelization (straightening of a stream). As part of the Turkey River Watershed, the county was recently involved with the creation of a 20-year Flood Reduction Plan to increase hydrologic function and resiliency of the watershed. The county has seen the replacement of surrounding natural vegetation with row crops, with a majority of streams and rivers having agricultural vegetation very close to stream beds. This not only eliminates habitat but also reduces the water retention ability of the land, promoting faster runoff of water and less cleansing and cooling before discharge into the streams and rivers (Upper Explorerland Regional Planning Commission, 2012).

The County’s floodplain areas are illustrated in Figure 21. Hydric soils for Fayette County are shown in Figure 22.

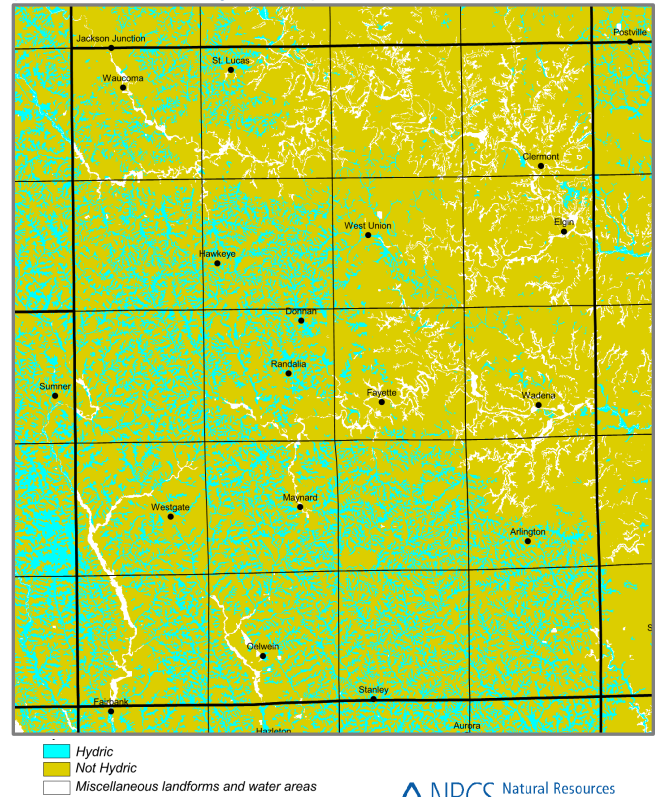


Figure 21: Fayette County Floodplains



(FEMA, 2013)

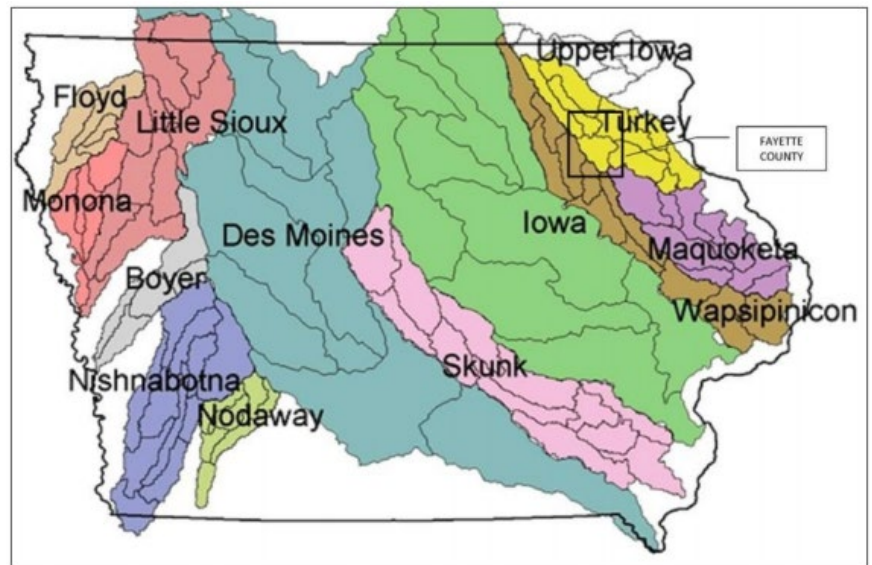
Figure 22: Hydric Soils in Fayette County (wetland or wetland potential)



(U.S. Department of Agriculture, 2001)



Figure 23: Watersheds in Iowa



Source: (Iowa State University- Center for Agriculture and Rural Development, 2012); (Best Places by Sperling, 2022)

**Watersheds**

Watersheds are divided and subdivided into successively smaller units, each is given a number, called a Hydrologic Unit Code, or HUC. Eight-digit HUCs, called sub-basins, are the largest watershed units. Fayette County crosses three watershed sub-basins: the Turkey, the Maquoketa, and the Upper Wapsipinicon watersheds, as shown in Figure 23. The Turkey watershed covers the largest area within the county and consists of nine 10-digit HUCs, six of which fall within Fayette County borders. They are Crane Creek, Little Turkey River, Upper Turkey River, Middle Turkey River, Upper Volga River, and Lower Volga River. The Maquoketa watershed has

10 smaller HUCs, only one of which falls within the southeastern corner of the county, called the Upper Maquoketa River sub-basin. The Wapsipinicon Upper watershed covers Fayette County on the southwestern corner and is further divided into 10 smaller HUCs, three that fall within the county: the Little Wapsipinicon River, the Otter Creek-Wapsipinicon River, and the Buffalo Creek-Wapsipinicon River watersheds.

The Turkey watershed covers an area of about 1,083,425 acres. The watershed extends to parts of Allamakee, Chickasaw, Clayton, Delaware, Dubuque, Fayette, Howard, and Winneshiek counties. About 49% of the land use within the watershed is corn and soybean production. Nearly 32% is in ungrazed grass or deciduous forest (Iowa Department of Natural Resources, n.d.); (Best Places by Sperling, 2022). In the summer of 2012, cities, counties and Soil and Water Conservation Districts (SWCD) in the Turkey watershed came together to form the Turkey River Watershed. The Authority will work with local governments and residents to “assess and reduce the flood risks, assess and improve water quality, monitor the federal flood risk planning and activities, offer education to residents of the watershed regarding flood risks and water quality, and allocate moneys made available for purposes of water quality and flood mitigation in the watershed.” Fayette County, the Fayette County SWCD and the communities of Arlington, Clermont, Elgin, Fayette, Hawkeye, Maynard, St. Lucas, Wadena, Waucoma and West Union have all resolved to participate in the 28E Agreement creating the Watershed Management Authority (Turkey River Watershed Management Authority, 2012); (Upper Explorerland Regional Planning Commission, 2012). The Maquoketa watershed covers an area of 1,197,529 acres, with only a small portion in Fayette County. As a whole, corn and soybean production make up over 51% of the land use in the watershed. A little over 20% is ungrazed grass, with nearly 10% of land use in deciduous forest. The Upper Wapsipinicon watershed covers a total of 994,879 acres. Of those acres, over 69% of the land use is in corn and soybean production with nearly 12% in ungrazed grass. Deciduous forest utilizes just over 6% of the land use (Upper Explorerland Regional Planning Commission, 2012).

### **Climate and Weather**

The area experiences a temperate climate with both warm and cold season extremes. The summer high is around 84 degrees, and the winter low is 7 degrees. Winter months can bring occasional heavy snows, intermittent freezing precipitation or ice and prolonged periods of cloudiness. On average, there are 174 cloudy days per year in the county. While true blizzards are rare, winter storms impact the area about four times per season. The average cumulative snowfall for the county is 38 inches. Occasional arctic outbreaks bring extreme cold and dangerous wind chills. Temperatures between river valleys and surrounding ridges can vary greatly. Typical high temperatures on ridges are 3°F to 5°F colder than in the valleys. This can lead to slightly more average snowfall on ridge tops and occasionally a difference in winter precipitation types from ridge to valley.

The county receives an average of 34 inches of rain per year. Thunderstorms occur between 30 to 50 times a year, mainly in the spring and summer months. The strongest storms can produce associated severe weather such as tornadoes, large hail, or damaging wind. Both river flooding and flash flooding can occur, along with urban-related flood problems. The terrain can lead to mudslides in the area. Heat and high humidity are typically observed in June, July, and August. The fall season usually has the

quietest weather. Valley fog can commonly be seen in the late summer and early fall months. Due to Fayette County’s topography, high wind events occasionally occur in the spring or fall (Best Places by Sperling, 2022). Table 5 shows county versus US climate data.

**Table 5: Climate Statistics**

| Climate                              | Fayette County | U.S.  |
|--------------------------------------|----------------|-------|
| Annual Rainfall (inches)             | 36.9           | 38.1  |
| Annual Snow (inches)                 | 35.8           | 27.8  |
| Precipitation Days (annual total)    | 105.2          | 106.2 |
| Sunny Days (annual total)            | 191            | 205   |
| Average July High Temperature (°F)   | 82.4           | 85.8  |
| Average January Low Temperature (°F) | 6.9            | 21.7  |

Source: (Sperlings Best Places, 2022)

### National Flood Insurance Program

Fayette County participates in the National Flood Insurance Program (NFIP) on behalf of unincorporated areas and is considered compliant. The County joined the NFIP on July 1, 1991, with an initial Flood Insurance Rate Map (FIRM) identified on July 1, 1991. The current effective FIRM map date is August 16, 2011.

As required by the NFIP, the County has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the Fayette County Planning & Zoning Administrator. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the county in moving ahead to maintain compliance with the NFIP.

Fayette County is not currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Fayette County has no repetitive loss properties through 2017.

## Population and Households

### Population

The population of Fayette County in the 2020 US Census was 19,509, ranking 33<sup>rd</sup> out of 99 counties in Iowa. In the last century, the County’s population declined from a high in 1900 of 29,845 to a low of 19,509 in 2020 (U.S. Census Bureau,, 2022). From 2010 to 2020, the County's population declined by 6.5%. Table 6 compares the population growth or decline for each of the county’s jurisdictions from 1980 to 2020 to the county as a whole and the state. The County’s largest community is Oelwein. West Union and Fayette are the next largest communities.

**Table 6: Population Comparison, 1980-2010, All Cities, County and State**

| Community      | 1980      | 1990      | 2000      | 2010      | 2020      |
|----------------|-----------|-----------|-----------|-----------|-----------|
| Arlington      | 498       | 465       | 490       | 439       | 419       |
| Clermont       | 602       | 523       | 716       | 632       | 586       |
| Elgin          | 702       | 637       | 676       | 683       | 685       |
| Fayette        | 1515      | 1317      | 1300      | 1338      | 1256      |
| Hawkeye        | 512       | 460       | 489       | 449       | 438       |
| Maynard        | 561       | 513       | 500       | 518       | 476       |
| Oelwein        | 7564      | 6493      | 6692      | 6445      | 5920      |
| Randalia       | 101       | 88        | 84        | 68        | 50        |
| St. Lucas      | 194       | 174       | 178       | 143       | 167       |
| Wadena         | 230       | 236       | 243       | 262       | 209       |
| Waucoma        | 308       | 277       | 299       | 257       | 229       |
| West Union     | 2783      | 2490      | 2549      | 2486      | 2490      |
| Westgate       | 263       | 207       | 234       | 211       | 192       |
| Fayette County | 25,488    | 21,843    | 22,008    | 20,880    | 19,509    |
| State of Iowa  | 2,913,808 | 2,776,831 | 2,926,324 | 3,046,355 | 3,190,369 |

Source: (State Data Center of Iowa, 2017); (U.S. Census Bureau,, 2022)

Fayette County has a median population age of 43.8. Table 7 provides the median age, by rank, for each community in the county.

**Table 7: Median Age of Fayette County Communities**

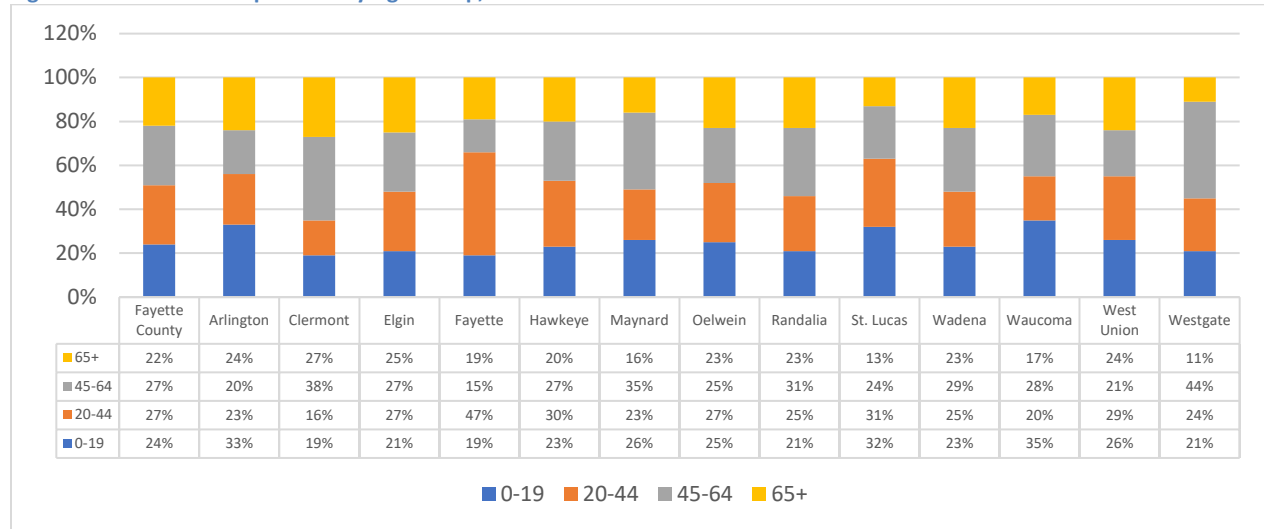
| Community: | Median Age: |
|------------|-------------|
| Arlington  | 37.5        |
| Clermont   | 53.5        |
| Elgin      | 46.6        |
| Fayette    | 25.4        |
| Hawkeye    | 39.3        |
| Maynard    | 47.8        |
| Oelwein    | 44.1        |
| Randalia   | 48.6        |
| St. Lucas  | 39.4        |
| Wadena     | 48.0        |
| Waucoma    | 33.5        |
| West Union | 40.4        |
| Westgate   | 48.6        |

Source: (U.S. Census Bureau, 2020)

Fayette County has little diversity in race, with 95.4% of the population self-identifying as “white” in the 2020 Census. The County’s heritage is European, with 49% of the population from German ancestry, 12% from Irish ancestry, 9% from Norwegian ancestry and 9% from English ancestry (U.S. Census Bureau, 2020).

Figure 24 illustrates the population breakdown by age group for the county and each community.

Figure 24: Percent of Population by Age Group, 2020



Source: (U.S. Census Bureau,, 2022)

### Households

As of the 2020 Census, there were 8,215 households in the county. Of these households overall, 61% were families and 39% represented non-families. Randalia, West Union, and Arlington have the highest percentages of householders over the age of 65 living alone. Table 8 provides additional household and family data for each jurisdiction.

Table 8: Household Data, Fayette County and Communities

|                | Total households |         | Family households |         | Non-family households |         | Householder living alone |         | Householder 65 years and older living alone |         | Average household size | Average family size |
|----------------|------------------|---------|-------------------|---------|-----------------------|---------|--------------------------|---------|---|---------|------------------------|---------------------|
|                | Number           | Percent | Number            | Percent | Number                | Percent | Number                   | Percent | Number                                      | Percent | Number                 | Number              |
| Fayette County | 8215             |         | 5032              | 61%     | 3183                  | 39%     | 2719                     | 33%     | 489   | 18%     | 2.31                   | 2.93                |
| Arlington      | 211              |         | 127               | 60%     | 84                    | 40%     | 78                       | 37%     | 18  | 23%     | 2.35                   | 2.94                |
| Clermont       | 233              |         | 128               | 55%     | 105                   | 45%     | 82                       | 35%     | 16  | 18.5%   | 2.07                   | 2.74                |
| Elgin          | 285              |         | 170               | 60%     | 115                   | 40%     | 97                       | 34%     | 13  | 13.3%   | 2.24                   | 2.93                |
| Fayette        | 428              |         | 174               | 41%     | 254                   | 59%     | 242                      | 45.8%   | 50  | 20.6%   | 2.04                   | 2.80                |
| Hawkeye        | 204              |         | 113               | 55%     | 91                    | 45%     | 68                       | 33.3%   | 11  | 15.7%   | 2.39                   | 3.18                |
| Maynard        | 240              |         | 117               | 49%     | 123                   | 51%     | 115                      | 47.9%   | 17  | 14.6%   | 2.11                   | 3.13                |
| Oelwein        | 2478             |         | 1409              | 57%     | 1069                  | 43%     | 922                      | 37.2%   | 195   | 21.1%   | 2.32                   | 3.08                |
| Randalia       | 31               |         | 14                | 45%     | 17                    | 55%     | 17                       | 55%     | 5   | 32.3%   | 1.97                   | 2.79                |
| St. Lucas      | 57               |         | 38                | 67%     | 19                    | 33%     | 19                       | 33%     | 2   | 8.8%    | 2.26                   | 2.84                |
| Wadena         | 97               |         | 47                | 48%     | 50                    | 52%     | 36                       | 37%     | 6   | 15.5%   | 2.27                   | 3.30                |
| Waucoma        | 108              |         | 78                | 72%     | 30                    | 28%     | 25                       | 23.1%   | 3   | 13%     | 2.88                   | 3.31                |
| West Union     | 1159             |         | 585               | 50%     | 574                   | 50%     | 522                      | 45%     | 136   | 26.1%   | 2.15                   | 3.15                |
| Westgate       | 97               |         | 61                | 63%     | 36                    | 37%     | 31                       | 32%     | 4   | 12.4    | 2.21                   | 2.66                |

Source: (U.S. Census Bureau,, 2022)

### Housing

As of the 2020 Census, there were 9,558 housing units in the county. Table 9 demonstrates the change in the number of housing units in each of the jurisdictions.



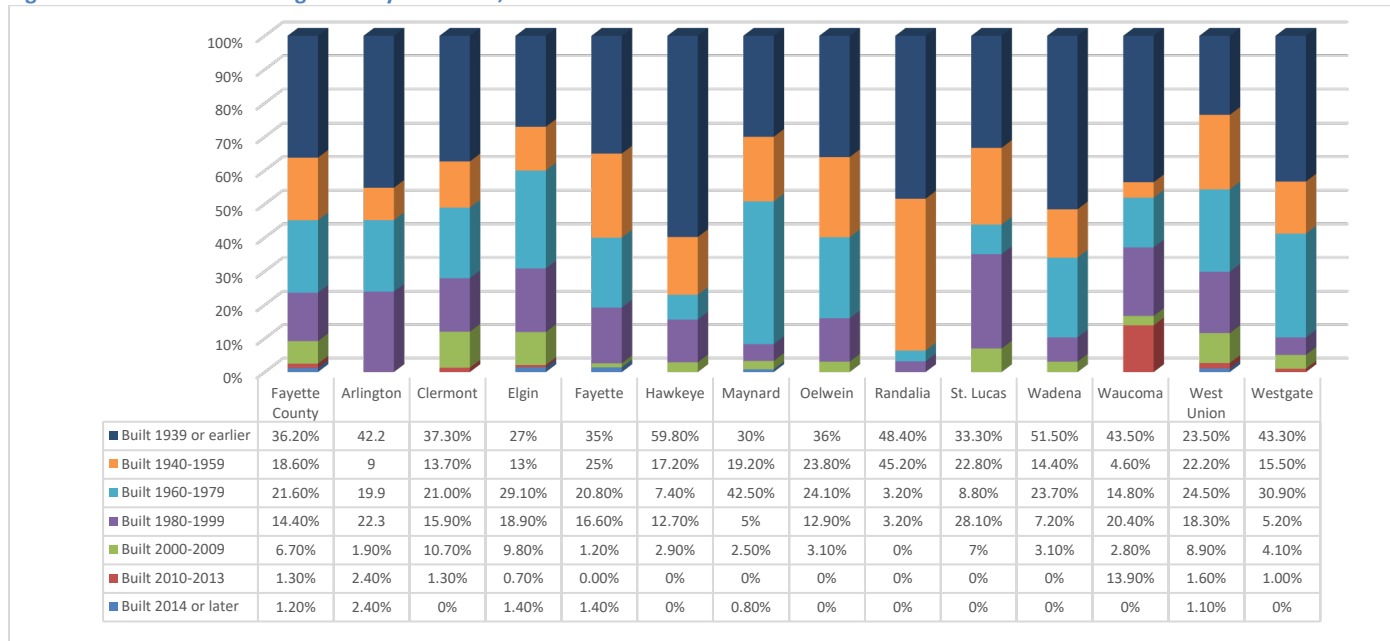
Table 9: Number of Housing Units from 2000-2010

| Community      | 2000      | 2010      | 2020      |
|----------------|-----------|-----------|-----------|
| Arlington      | 230       | 212       | 232       |
| Clermont       | 333       | 310       | 288       |
| Elgin          | 349       | 343       | 331       |
| Fayette        | 446       | 485       | 522       |
| Hawkeye        | 234       | 227       | 209       |
| Maynard        | 238       | 239       | 252       |
| Oelwein        | 3040      | 3058      | 2972      |
| Randalia       | 36        | 37        | 32        |
| St. Lucas      | 84        | 85        | 69        |
| Wadena         | 127       | 123       | 108       |
| Waucoma        | 151       | 134       | 146       |
| West Union     | 1198      | 1240      | 1344      |
| Westgate       | 94        | 97        | 109       |
| Fayette County | 9505      | 9558      | 9606      |
| State of Iowa  | 1,232,511 | 1,336,417 | 1,407,819 |

Source: (State Data Center of Iowa, 2017); (U.S. Census Bureau,, 2022)

Single unit homes constitute the majority of housing in the county at nearly 88.3%. Mobile homes represent nearly 4% of the county’s housing stock and multi-unit dwellings represent 7.9%. Approximately 36% of the housing units in the county were built prior to 1940 (U.S. Census Bureau, 2020). Figure 25 identifies the age of housing units for each jurisdiction.

Figure 25: Percent of Housing Stock by Year Built, all Jurisdictions



Source: (U.S. Census Bureau, 2020)

Table 10 compares the percentage of owner-occupied housing units in each community, the county and state. Overall, county homeownership has declined by less than 1% since 2010 and almost 75% of the county’s housing units were owner occupied in the 2020 US Census. The communities of Arlington, Clermont, Elgin, Randalia, St. Lucas, Waucoma, and Westgate all noted an increase in homeownership.

**Table 10: Percentage of Owner-Occupied Units**

| Community      | 2000 | 2010 | 2020  |
|----------------|------|------|-------|
| Arlington      | 78%  | 81%  | 84.8% |
| Clermont       | 85%  | 78%  | 79.8% |
| Elgin          | 72%  | 74%  | 80%   |
| Fayette        | 68%  | 56%  | 52.6% |
| Hawkeye        | 83%  | 78%  | 75%   |
| Maynard        | 81%  | 74%  | 74.6% |
| Oelwein        | 73%  | 70%  | 68.2% |
| Randalia       | 78%  | 90%  | 100%  |
| St. Lucas      | 86%  | 89%  | 93%   |
| Wadena         | 75%  | 74%  | 64.4% |
| Waucoma        | 83%  | 80%  | 81.5% |
| West Union     | 71%  | 69%  | 64.6% |
| Westgate       | 84%  | 81%  | 87.6% |
| Fayette County | 76%  | 75%  | 74.2% |
| State of Iowa  | 72%  | 72%  | 71.2% |

Source: (U.S. Census Bureau,, 2022)

## Public and Private Infrastructure

### Highways and Roads

Fayette County roads consist of approximately 1,340 total miles of roadway. The Fayette County Road Department is responsible for the maintenance of all county roads, approximately 1,150 miles. Maintenance is performed by county crews on an “as needed” basis or as routinely scheduled for such things as resurfacing and pavement maintenance. The county works with its smaller communities to develop road maintenance agreements as needed by the communities to ensure all city roads are maintained for residents. Paved roads under the county’s jurisdiction amount to 232 miles total and include 292 federally recognized bridges (Best Places by Sperling, 2022). As of 2017, 59 of the bridge structures are posted with weight restrictions and three are closed to traffic (Fayette County Engineer's Office, 2017). In Oelwein, there are three bridge structures posted with weight restrictions; no bridges are currently closed to traffic (City of Oelwein Utility Superintendent, 2017). There are 14,877 licensed drivers in the county, with an additional 82,251 licensed drivers in the adjacent Iowa counties. Between the years of 2007 and 2011, the county experienced 1,310 crashes, 52 of them major crashes resulting in 10 fatalities (Iowa Department of Transportation, 2017).

Rural roads are labeled, and jurisdiction is determined by the following classifications: local roads, minor collectors, major collectors, minor arterials, other principal arterials and interstates. Federal aid money is available to maintain major collectors, minor arterials, and principal arterials. Table 11

indicates the classifications and jurisdictions of the county’s “federal aid” roadways and provides a description of each classification as defined by the Federal Highway Administration.

**Table 11: Federal Functional Classifications, Fayette County**

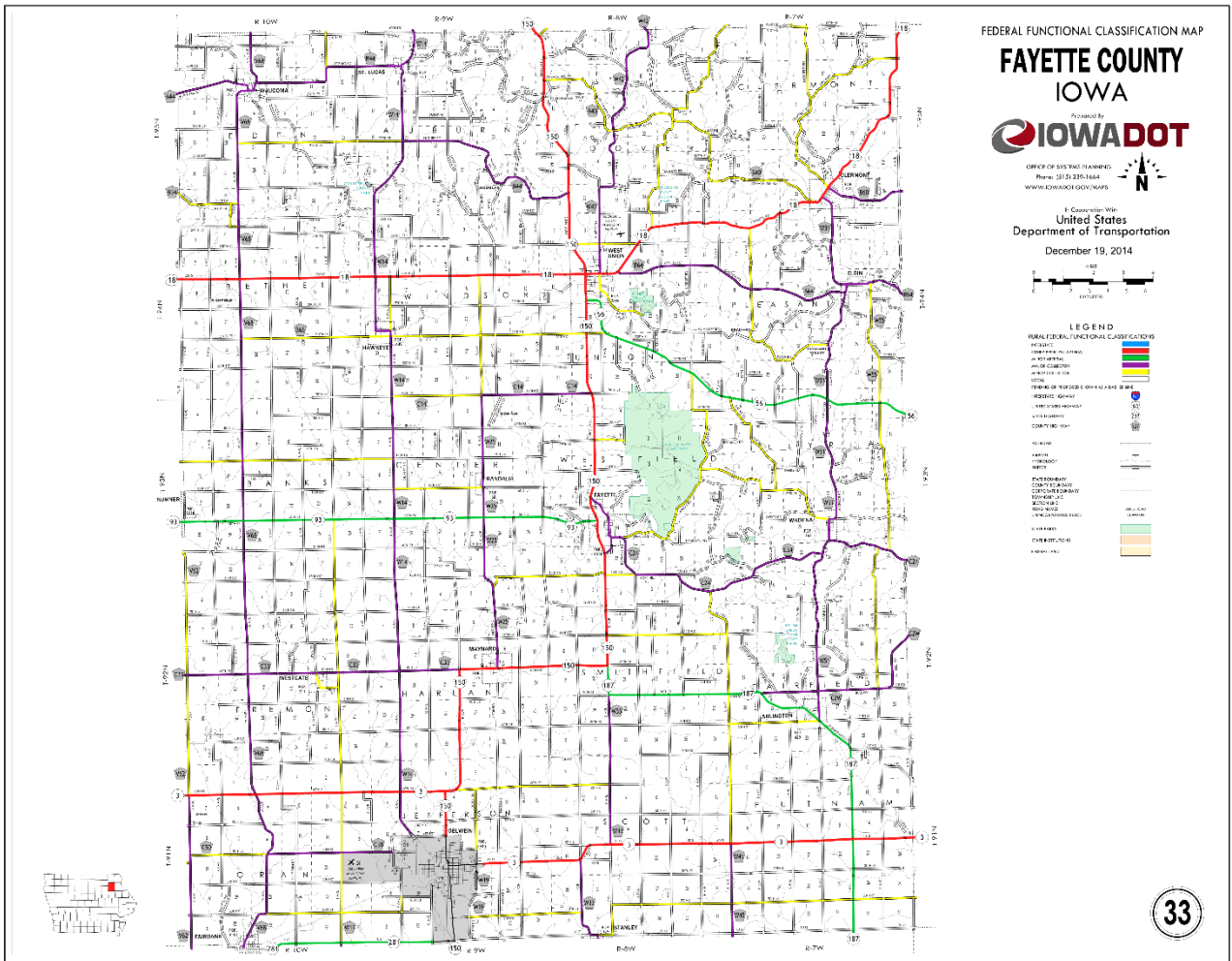
| Roadway | Classification     | Jurisdiction | Miles | Classification Description   |
|---------|--------------------|--------------|-------|--|
| Hwy 18  | Principal Arterial | State        | 84    | A connected network of continuous routes that have substantial trip length and travel density for statewide or interstate travel.  |
| Hwy 150 | Principal Arterial | State        |       |  |
| Hwy 3   | Principal Arterial | State        |       |  |
| Hwy 93  | Minor Arterial     | State        | 42    | Form rural networks that link cities and larger towns and provide interstate/inter-county service. Roads are spaced so that all developed areas of the State are within a reasonable distance of an arterial highway.  |
| Hwy 187 | Minor Arterial     | State        |       |  |
| Hwy 56  | Minor Arterial     | State        |       |  |
| B44     | Major Collector    | County       | 155   | These routes, also known as federal aid farm to market roads, provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators, such as schools, shipping points, county parks, important mining and agricultural areas and link these places with nearby larger towns or cities, or with routes of higher classification.<br><br>Federal aid can be used by the county in conjunction with farm to market funds to maintain these roads. |
| V68     | Major Collector    | County       |       |  |
| W14     | Major Collector    | County       |       |  |
| W42     | Major Collector    | County       |       |  |
| B64     | Major Collector    | County       |       |  |
| W51     | Major Collector    | County       |       |  |
| B60     | Major Collector    | County       |       |  |
| C14     | Major Collector    | County       |       |  |
| W25     | Major Collector    | County       |       |  |
| C24     | Major Collector    | County       |       |  |
| C2W     | Major Collector    | County       |       |  |
| W45     | Major Collector    | County       |       |  |
| W33     | Major Collector    | County       |       |  |
| V62     | Major Collector    | County       |       |  |
| C50     | Major Collector    | County       |       |  |

Source: (Best Places by Sperling, 2022)

Minor collectors and local roads are not eligible for federal aid and use only farm to market funds. There are several minor collectors throughout the county that account for about 189 miles of roadway. Minor collectors are also considered farm to market only roads and are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. They also provide service to the remaining smaller communities and link the locally important traffic generators with the rural areas. Local roads constitute the rest of the roadways in the county, with over 848 miles. The rural local road system provides access to adjacent land and provides service to travel over relatively short distances as compared to collectors or other higher systems. There are no interstates within the county boundaries (Best Places by Sperling, 2022). Figure 26 indicates the FFC of roads in the county.



Figure 26: FCC Classification Map



Source: (Iowa Department of Transportation, 2014)

### Trails

Fayette County has several walking and biking trails as options for non-vehicular transportation. The City of Fayette, the City of Oelwein and the City of West Union have urban trail systems that complement the existing sidewalk infrastructure to create a safe environment for walking and biking. In addition, rural trails exist between Clermont and Elgin and north of Clermont, allowing for more active transportation options in those communities. All county communities have sidewalk infrastructure to some degree that supports walking and biking as a form of transportation.

Fayette County would like to see its trail network grow to where it will connect local communities, recreational areas and provide county-wide walking and biking access. The county will continue to be engaged in conversations to develop a “backbone” to the trail network in the five-county region that will eventually allow for trail connectivity to the entire region and beyond. The county will work with local communities and neighboring counties on a long-term vision, with proper planning to ensure that the trails reach or connect to critical locations around the county (Upper Explorerland Regional Planning Commission, 2012).

## Railway

There are 11.78 total number of railway miles in the county. D and W Railroad, operator of the Iowa Northern Railway Co., operates one line through Fayette County. The railroad operates track running through Oelwein. The main products handled by the rail include farm products (54%), hazardous commodities (23%), chemical and allied products (8%), food and kindred products (7%) and machinery except electrical (3%) (Iowa Department of Transportation, 2017). Oelwein is the beginning of a line and has only occasional train cars pass through (City of Oelwein Utility Superintendent, 2017). From 2007 through 2016 there were two railway accidents or incidents reported. Neither involved highway-rail incidents (Federal Railroad Administration, 2022).

## Airports

Fayette County has two publicly owned general aviation airports, the Oelwein Municipal Airport and the West Union George L. Scott Municipal Airport. The Oelwein Municipal Airport, located about 3 miles west of Oelwein, covers an area of approximately 140 acres. The Airport facilities include a lighted 4,000' concrete runway, an 1,800' turf runway, a tie-down area and hanger facilities. A small terminal building with a parking area is also located on the site. The terminal facility includes air to ground communications (UNICOM), a rotating beacon, and radio-controlled night lighting. The airport has 21 aircraft based on the field, 19 single engine planes, one helicopter, and one ultralight. The airport averages around 77 operations a week, 56% of which are transient general aviation and 44% local general aviation (AirNav, LLC, 2017).

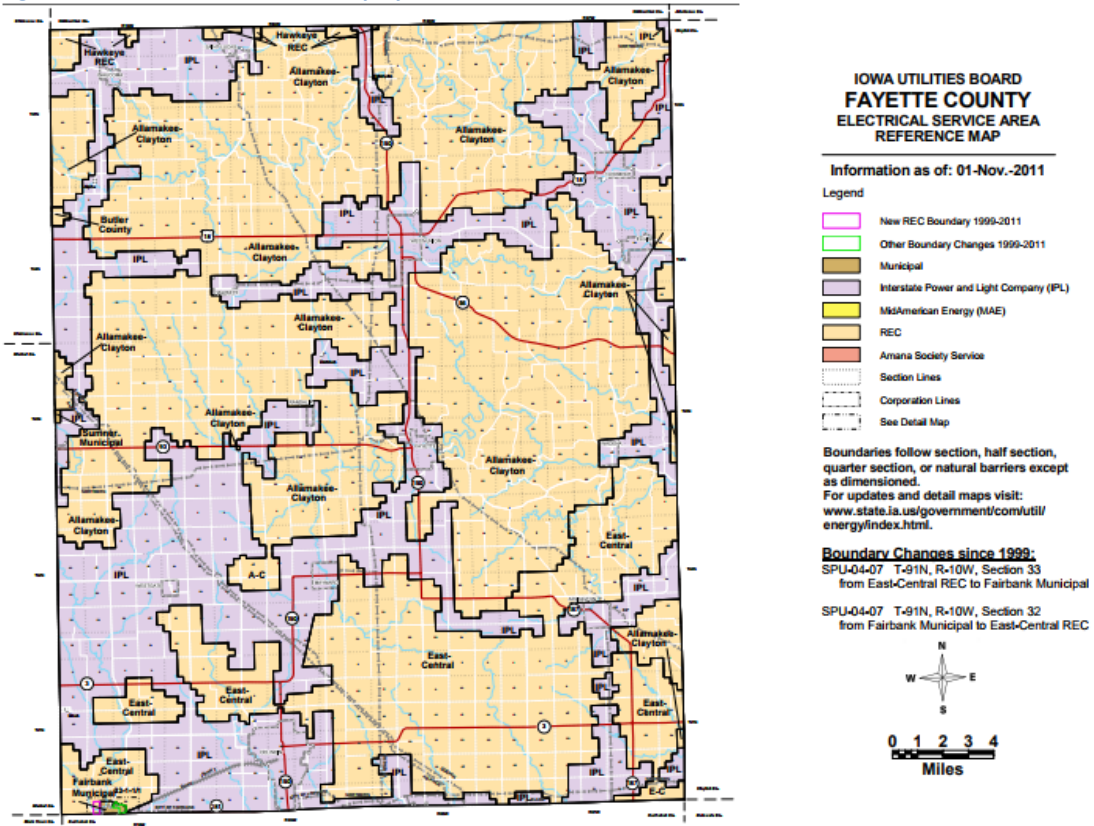
The West Union George L. Scott Airport, located about 1-mile northeast of West Union, covers an area of about 17 acres. Facilities include a lighted 4,149' x 60' concrete runway, a tie-down area and hanger facilities. The airport has 10 aircraft based on the field, nine single engine planes and one glider plane. The airport averages around 24 operations a week 61% of which are transient general aviation and 39% local general aviation (AirNav, LLC, 2017).

The county also has two heliports located within the county. One is located at Gundersen Palmer Lutheran Hospital and Clinics on the north side of West Union. The second is located at Mercy Hospital of the Franciscan Sisters on the east side of Oelwein (Iowa Department of Transportation, 2017).

## Utilities and Pipelines

Residents throughout the county are provided electrical service from a mixture of investor-owned utilities (IOU) and rural electric cooperatives (REC) along with a very small area served by a municipal electric system. The largest power suppliers for the county are Allamakee-Clayton Electric Cooperative, East Central Iowa REC, and Interstate Power and Light (Alliant Energy). Figure 27 shows electrical service area by provider.

Figure 27: Electrical Service Area Map by Provider

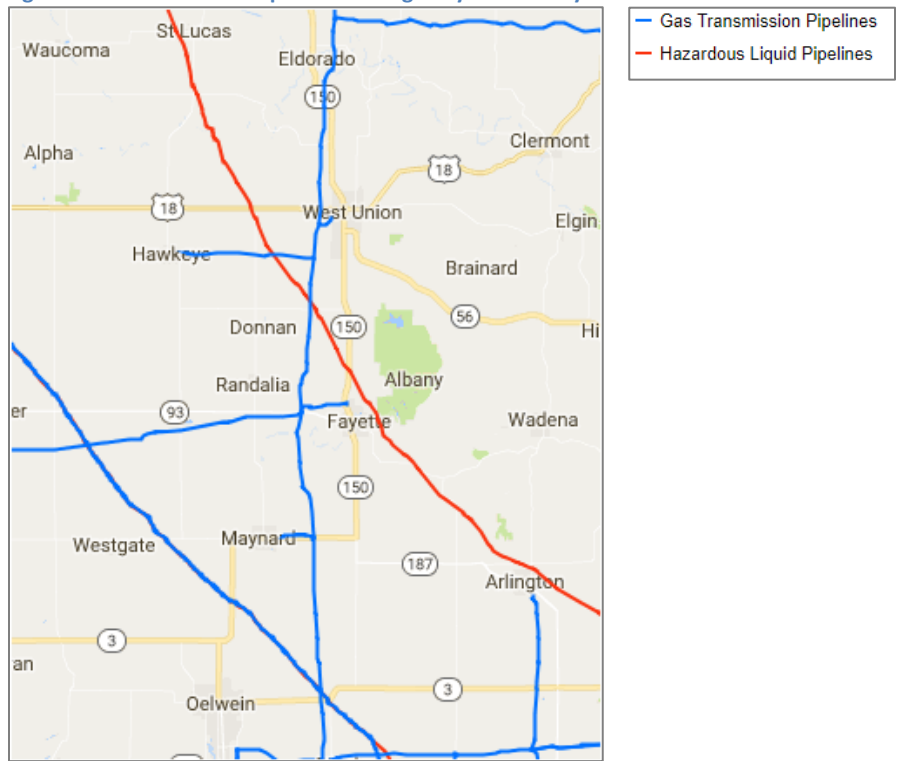


Source: (Iowa Utilities Board, 2022)

Natural gas is not available in all parts of the county. All areas with natural gas are supplied through Northern Natural Gas Company as the interstate pipeline supplier. Local investor owned gas utilities are Black Hills Energy and Interstate Power and Light. Residents also have access to LP gas from a variety of private providers.

There are five pipelines through the county: Alliance Pipeline LP, Amoco Oil Co, Black Hills Energy, City of Fairbank, Kinder Morgan Cochin LCC and Northern National Gas Co. Figure 28 illustrates the general location of these lines within the county (Pipeline and Hazardous Materials Safety Administration, 2022).

Figure 28: Transmission Pipelines through Fayette County



Source: (Pipeline and Hazardous Materials Safety Administration, 2022)

**Dams**

There are six dams within Fayette County with a low hazard potential and one dam with a significant hazard potential (Volga Lake Dam). The primary purposes of the dams within the county are recreational or for “fire protection, stock, small fish ponds.” (U.S. Army Corps of Engineers, 2022).

**Source Water**

The water supply for Fayette County residents comes from two sources, public or private systems, depending on the location. Both public and private systems operate on groundwater wells located throughout the county and draw from several aquifers, depending on the depth of the well. For the most part, water is drawn from the Ordovician, Silurian, Galena, Devonian, and Cambrian-Ordovician Aquifers. Municipal water systems provide water to over 14,000 residents and include the following systems (Iowa Department of Natural Resources, 2022):

- |                                     |                               |
|-------------------------------------|-------------------------------|
| Arlington Water Supply              | Oelwein Municipal Water Works |
| Clermont Water Supply               | Randalia Water Supply         |
| Elgin Municipal Water Supply        | St. Lucas Water Supply        |
| Elgin Municipal Water Supply- South | Wadena Water Supply           |
| Fayette Water Supply                | Waucoma Water Supply          |
| Hawkeye Water Supply                | West Union Water Supply       |
| Maynard Water Supply                | Westgate Water Supply         |

Several rural locations that serve the public outside of municipal service areas operate water systems regulated by the DNR as well (Iowa Department of Natural Resources, 2022). They include:

- |   |                                       |
|---|---------------------------------------|
| Big Rock Country Club                   | Montauk Historical Site               |
| Downing Park- Fayette Conservation      | North Fayette Valley Community School |
| Duttons Cave Park- Fayette Conservation | Oelwein City Park                     |
| Gilbertson Park                         | Oelwein Community School              |
| Gouldsburg Park                         | Oelwein Drive In Theatre              |
| Hickory Grove (Golf Course)             | River Valley Campground               |
| Hillandale Iowa II LLP                  | St. Luke Church                       |
| Hooty’s (hotel/motel)                   | Volga River Recreation Area           |
| Lakeshore RV Resort & Campground        | White House Supper Club               |

**Wastewater**

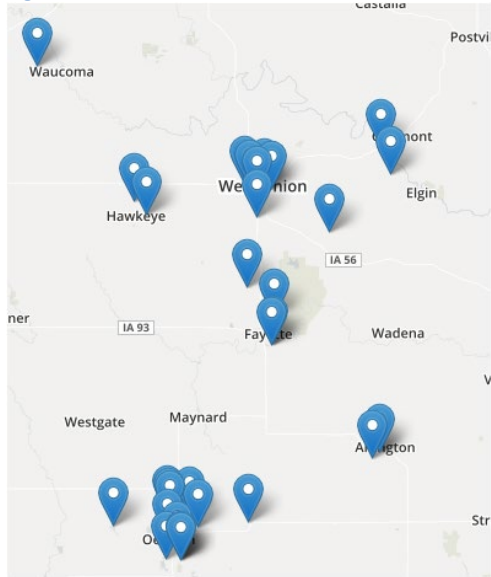
Fayette County household wastewater is treated by either public sanitary systems or a private sewage disposal system such as a septic system. The Iowa Department of Natural Resources is responsible for the regulation of public sewer systems to ensure compliance with the state’s minimum standards for wastewater treatment and disposal. Fayette County Environmental Health Department, under the authority of the Fayette County Board of Health, is responsible for regulating sewer systems that serve no more than four homes or no more than 15 people (Iowa Department of Natural Resources, 2022). The department requires residents to file for permits before installation and enforces the minimum standards as adopted by the county. The following communities maintain public sewer systems (Iowa Department of Natural Resources, 2022):

- |                   |                  |                    |                  |
|-------------------|------------------|--------------------|------------------|
| City of Arlington | City of Hawkeye  | City of St. Lucas  | City of Westgate |
| City of Clermont  | City of Maynard  | City of Wadena     |                  |
| City of Elgin     | City of Oelwein  | City of Waucoma    |                  |
| City of Fayette   | City of Randalia | City of West Union |                  |

**Communications**

Landline telephone service is provided throughout the county by a variety of telecommunications companies depending on location, ensuring that residents and businesses have acceptable telephone service, as well as access to high speed internet and cell phone coverage is an issue that impacts economic development and quality of life. Landline telephone service has remained close to the same since 98.6% of households in 2011 to 98.9% in 2020 (U.S. Census Bureau, 2020). According to the Federal Communications Commission, there are 35 cellular towers in the county. Internet service is available at some level throughout most of the county. Connect Iowa reports that, depending on location, the county is served by fiber broadband, cable broadband, DSL broadband, fixed wireless broadband, and mobile wireless broadband. Not all providers reach all areas of the county. Figure 29 maps out all Federal Communications Commission registered towers in the county. Table 12 provides a list of county communication providers and contact information.

Figure 29: Federal Communications Commission Registered Towers in Fayette County



Source: (Federal Communications Commission, 2017)

Table 12: Communications Provider List

| Provider:                            | Website:                    |
|--------------------------------------|-----------------------------|
| Ace Telephone Association            | Acentek.net                 |
| Allamakee-Clayton Electric Coop      | Acrec.com                   |
| Alpine Long Distance, LC             | Alpinecom.net               |
| AT&T Mobility, LLC                   | Att.com                     |
| Cellco Partnerships/Verizon Wireless | Verizonwireless.com         |
| CenturyTel, Inc./Century Link        | Centurylink.com             |
| Community Digital Wireless, LLC      | Cdwwireless.com             |
| East Buchanan Telephone Cooperative  | Eashbuchanan.com            |
| Hawkeye Telephone Company            | Hawkeyetel.com              |
| Hughes Network Systems, LLC          | Hughes.com                  |
| Jab Wireless                         | Jabbroadband.com            |
| MCC Iowa LLC/Mediacom                | Mediacomcc.com              |
| NEIT Services, LLC                   | Neitel.com                  |
| Oran Mutual Telephone Company        | Orantelco.com               |
| Skycasters                           | Skycasters.com              |
| Spacenet, Inc.                       | Starband.com                |
| Sprint Nextel                        | Sprint.com                  |
| US Cellular Corporation              | Uscellular.com              |
| Windstream Iowa Communications       | Windstream.com              |
| ViaSat                               | Wildblue.com                |
| KRJE 89.9 FM Hawkeye <sup>1</sup>    | Krje-radioforjesus.org      |
| KKHQ 92.3 FM Oelwein <sup>1</sup>    | Q923.net                    |
| Elgin Echo Newspaper                 | Fayettedailyregister.com    |
| Fayette County Union Newspaper       | Fayettedailyregister.com    |
| Fayette Leader Newspaper             | Fayettedailyregister.com    |
| Oelwein Daily Register Newspaper     | Communitynewspapergroup.com |

(Connect Iowa, 2017); (Radio Locator, 2017)



In addition to these local communication systems, several regional television stations from Iowa and Minnesota broadcast to the county. Most commonly watched local channels are broadcast from Cedar Rapids, Waterloo, Mason City, Iowa Public Television, Rochester, MN and La Crosse, WI.

## Care Facilities

### Medical and Hospital Facilities

Two hospitals and several clinics serve the residents of Fayette County. The hospitals are located in Oelwein and West Union. Clinics can be accessed in Arlington, Fayette, Oelwein, and West Union.

Gundersen Palmer Health System is a hospital located in West Union. The facility offers many services and programs including emergency services, urgent care, maternity services, rehabilitation and sports medicine, surgery, radiology, oncology, home health care, hospice, and pharmacy.

MercyOne Hospital is a 25-bed Critical Access hospital located in Oelwein. The hospital is managed by Mercy Health Network. The facility offers many services including emergency services, maternity services, rehabilitation and sports medicine, surgery, radiology, oncology, home health care, hospice, and pharmacy.

Table 13 lists the clinics, home health agencies, and specialty care available to county residents within the county:

**Table 13: Health Care Entities in Fayette County**

| Facility Name  | Facility Type            | City       |
|--|--------------------------|------------|
| Gundersen Palmer Lutheran Hospital and Clinics- Hospital   | Critical Access Hospital | West Union |
| MercyOne Oelwein Medical Center                            | Critical Access Hospital | Oelwein    |
| MercyOne - Arlington                                       | Rural Health Clinic      | Arlington  |
| Gundersen Palmer Lutheran Hospital and Clinics- Fayette    | Rural Health Clinic      | Fayette    |
| Gundersen Palmer Lutheran Hospital and Clinics- West Union | Rural Health Clinic      | West Union |
| Unity Point Family Medicine- Oelwein                       | Rural Health Clinic      | Oelwein    |

Source: (Iowa Department of Inspections and Appeals, Entity List, 2022)

### Child and Senior Care Facilities

Fayette County has 7 registered home daycare and 9 licensed childcare centers in the county. Table 14 lists the licensed childcare centers, their locations, and licensed capacities.

**Table 14: Childcare Providers, Fayette County**

| Community  | Provider Name                             | Provider Capacity |
|------------|---|-------------------|
| West Union | Hippity Hop Preschool                     | 20                |
| West Union | Kaleidoscope Kids Childcare Center Inc.   | 86                |
| Oelwein    | Little Husky Learning Center              | 169               |
| Arlington  | Little Star Childcare                     | 34                |
| Oelwein    | NEICAC- Oelwein Head Start                | 60                |
| West Union | NEICAC- West Union Head Start             | 20                |
| Fayette    | Rainbow Land Preschool and Day Care       | 68                |
| Oelwein    | Sacred Heart Child Care and ELF Preschool | 60                |
| Arlington  | Starmont Child Care Center                | 49                |

|            |  |    |
|------------|--|----|
| West Union | TigerHawk Preschool (North Fayette Valley CSD) | -- |
| Elgin      | Valley Preschool                               | 50 |

Source: (Iowa Department of Human Services, 2022)

Senior care within the county ranges from assisted living facilities to skilled nursing facilities. Table 15 lists the senior care facilities which are located in three of the county’s communities.

**Table 15: Senior Care Facilities, Fayette County**

| Facility Name   | Facility Type  | City       |
|---|--|------------|
| Maples Assisted Living                                      | Assisted living programs   | Fayette    |
| Stoney Brook Village  | Assisted living programs   | West Union |
| Good Samaritan Society- West Union                          | Free Standing Nursing Facility/Skilled Nursing Facility  | West Union |
| Grandview Healthcare Center                                 | Free Standing Nursing Facility/Skilled Nursing Facility  | Oelwein    |
| Maple Crest Manor & Maple Memory Care                       | Free Standing Nursing Facility/Skilled Nursing Facility & Assisted living program for people with dementia | Fayette    |
| MercyOne Oelwein Senior Care                                | Hospital Nursing Facility/Skilled Nursing Facility   | Oelwein    |
| Oelwein Health Care Center                                  | Free Standing Nursing Facility/Skilled Nursing Facility  | Oelwein    |
| Gundersen Palmer Lutheran Hospital and Clinics- Home Health | Home Health Agency   | West Union |
| Arlington Place of Oelwein                                  | Assisted living program for people with dementia   | Oelwein    |
| Copper Creek & Copper Creek Memory Care                     | Assisted living program & assisted living program for people with dementia                                 | West Union |
| Prairie View  | Residential care facility  | Fayette    |
| Prairie View Management, Inc                                | Subacute mental health facilities  | Fayette    |
| RISE Ltd – Frederick  | Residential care facility  | Oelwein    |
| RISE Ltd-Curtis   | Residential care facility  | Oelwein    |
| West Union Dialysis Center                                  | ESRD   | West Union |

Source: (Iowa Department of Inspections and Appeals, Entity List, 2022)

## Economy

The two leading employment industries in the county are “Educational services, health care and social services” and “Manufacturing,” together employing over 40% of the employed labor force. Table 16 compares the leading industries in the county to the state. Table 17 classifies employees into categories by occupation for the county and state. Occupations describe the type of work in which an employee is engaged, regardless of the industry.

**Table 16: Economic Base of Fayette County and the State of Iowa in 2020**

| Industry Category                                  | Fayette County |         | State of Iowa |         |
|--|----------------|---------|---------------|---------|
|  | Number         | Percent | Number        | Percent |
| Agriculture, forestry, fishing and hunting, mining | 749            | 8%      | 60,443        | 38%     |
| Construction                                       | 705            | 7%      | 105,449       | 7%      |
| Manufacturing                                      | 1,384          | 15%     | 236,3277      | 15%     |
| Wholesale trade                                    | 352            | 4%%     | 45, 624       | 3.0%    |



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|   |              |             |                  |              |
|---|--------------|-------------|------------------|--------------|
| Retail trade  | 956          | 10%         | 185,930          | 12%          |
| Transportation and warehousing, and utilities           | 574          | 6%          | 80,042           | 5%           |
| Information   | 90           | 1%          | 25,116           | 2.0%         |
| Finance and insurance, real estate, rental and leasing  | 455          | 5%          | 124,973          | 8%           |
| Professional, scientific, management, admin and waste   | 433          | 5%          | 119,391          | 7%           |
| Educational services, health care and social assistance | 2,419        | 26%         | 391,707          | 24%          |
| Arts, entertainment, recreation, accommodation and food | 548          | 6%          | 116,108          | 7%           |
| Other services, except public administration            | 473          | 5%          | 70,677           | 4%           |
| Public administration                                   | 284          | 5%          | 49,737           | 3%           |
| <b>Total Employed Persons</b>                           | <b>9,422</b> | <b>100%</b> | <b>1,611,524</b> | <b>100.0</b> |

Source: (U.S. Census Bureau, 2020)

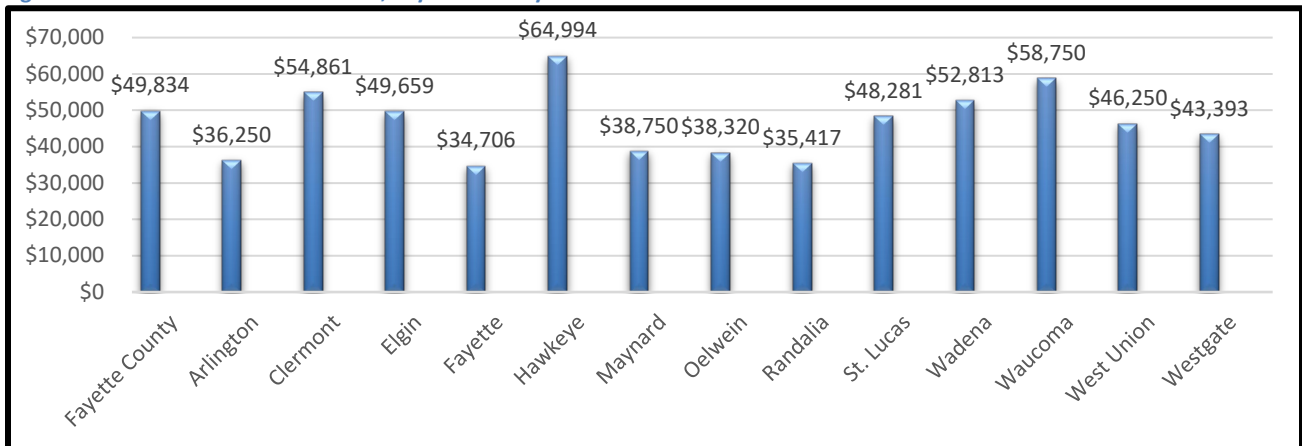
Table 17: Occupation Classification of Fayette County Workers

| Occupation Description                       | Fayette County |             | State of Iowa    |              |
|--|----------------|-------------|------------------|--------------|
|  | Number         | Percent     | Number           | Percent      |
| Management, business, science, arts          | 2,855          | 30.3%       | 599,487          | 37.2%        |
| Service                                      | 1,583          | 16.8%       | 256,232          | 15.9%        |
| Sales and office                             | 1,846.71       | 19.6%       | 328,751          | 20.4%        |
| Natural resources, construction, maintenance | 1,0840         | 11.5%       | 154,706          | 9.6%         |
| Production, transportation, material moving  | 2,054          | 21.8%       | 273,959          | 17.0%        |
| <b>Total Employed Persons</b>                | <b>9,422</b>   | <b>100%</b> | <b>1,611,524</b> | <b>100.0</b> |

Source: (U.S. Census Bureau, 2020)

The median household income in Fayette County is \$44,928. This compares to a state average of \$53,182 and a national average of \$53,889 (U.S. Census Bureau, 2020). Figure 30 compares the median household incomes for each of the incorporated communities and the county. In this comparison, St. Lucas stands out as having the highest median income, while Fayette has the lowest.

Figure 30: Median Household Income, Fayette County and Communities



Source: (U.S. Census Bureau, 2020)

## Jurisdictional Mitigation Capabilities

*Requirement §201.6(c)(3):*

*[The plan shall] document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs*

*Requirement §201.6(d)(3):*

*[The plan shall] be revised to reflect changes in development, progress in local mitigation efforts and changes in priorities*

*Requirement §201.6(c)(3)(ii):*

*[The mitigation plan] must address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate*

The mitigation capabilities for each city jurisdiction are profiled in the section that follows. This profile includes an overview of the jurisdictions and their organizational structure; a description of staff, fiscal, and technical resources; and information regarding existing hazard mitigation capabilities such as adopted plan policies and regulations, if any. The descriptions and capabilities assessments are based on available and applicable data, including information provided by the jurisdictions collected during the planning process.

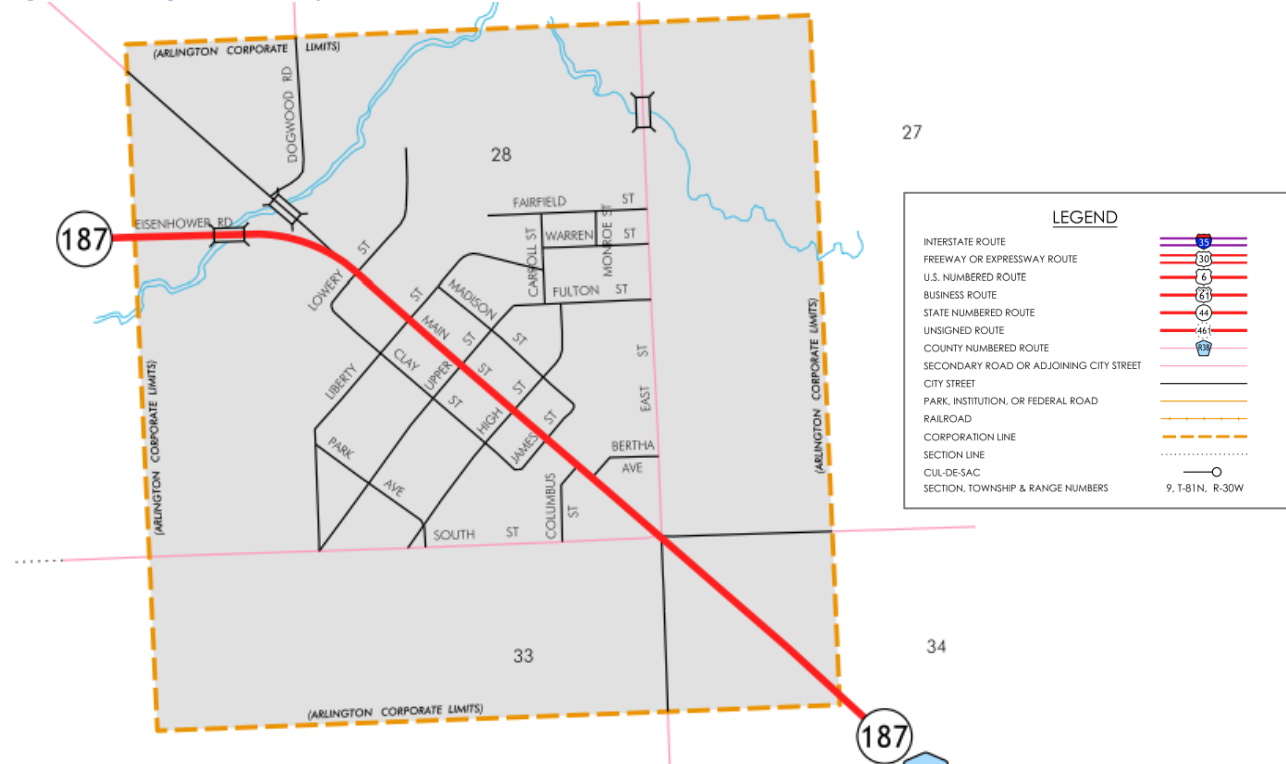
It should be noted that the global COVID-19 pandemic event occurred in the five year time frame of this plan update and did impact the completion of identified mitigation actions as well as changed priorities for many jurisdictions.

## City of Arlington

### History and Overview

Arlington is located in southeastern Fayette County, situated along Highway 187. The city has an elevation of 1130 feet above sea level. The total land area of city limits is 1.05 square miles (City-data.com, n.d.) and is laid out as shown in Figure 31.

Figure 31: Arlington Street Map



Source: (Iowa Department of Transportation, 2016)

Originally entitled “Brush Creek,” the City of Arlington, Iowa was platted in 1856 by B.F. Little. The first settler in Brush Creek was Charles Moe and for some time the location was known as Moetown in his honor. The first Brush Creek lot was sold to O.R. Robinson for \$20.00 and a house was built on this lot in the summer of 1856.

On July 8, 1873, Brush Creek became a stop on the Davenport and St. Paul Railroad Company track. From that day on to approximately 1880, it developed rapidly and had a population of about 1,000

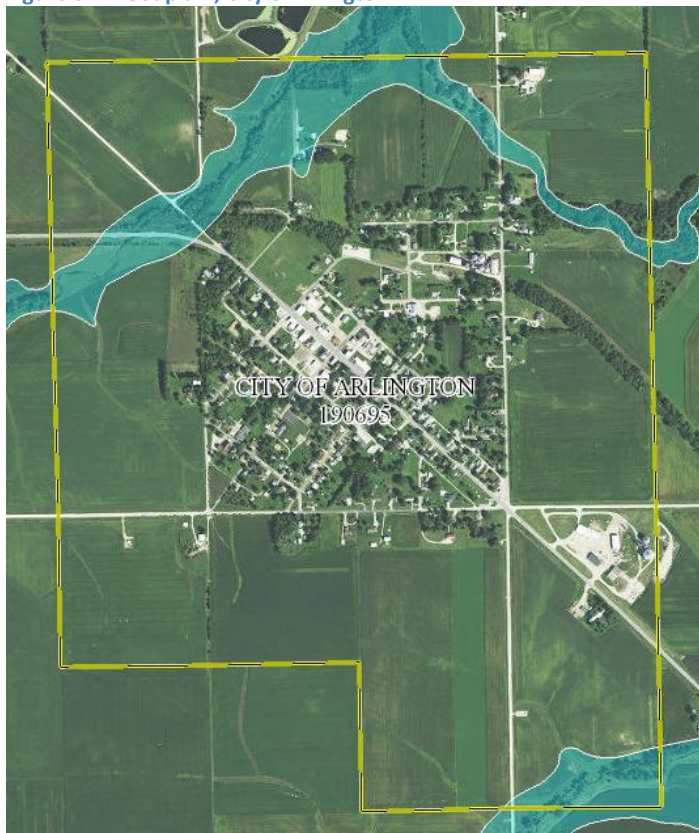
persons. The population declined slowly but steadily to the current population of 419 persons (U.S. Census Bureau, 2020); active railroads no longer exist.

For City of Arlington, the National Register of Historic Places notes the following sites (National Park Service, 2015):

- August Nus Polygonal Barn

Brush Creek cuts through the northwest corner of the City of Arlington, and the Maquoketa River cuts through the southeast. Little developed area falls within the flood zones for these waterways. Figure 32 shows Brush Creek, Maquoketa River, and FEMA DFIRM flood zones.

**Figure 32: Floodplain, City of Arlington**



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment portion of the plan.

### ***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 439 for Arlington, and the 2020 Census recorded a decrease in population to 419 (a 4.5% decrease). The 2010 Census recorded 212 housing units in Arlington, and the 2020 Census recorded an increase in housing units to 232 (a 9% increase). No future land use plan was reported for Arlington. City boundaries have not changed since the 2017 county hazard mitigation plan. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor and a five-member City Council, one of which is the Mayor Pro-Tem.

The City employs:

- Full-time staff: one City Clerk and one Superintendent
- Part-time staff: one Librarian and one Assistant Librarian
- Seasonal employees: one staff for lawn mowing and snow removal needs

Buildings and infrastructure in Arlington are as follows:

- No active railroad in Arlington.
- The City has four government buildings: City Hall (built in 1996), City Shop, Fire Station, Community Center, and Library.
- Arlington has no dam or levees within city limits.
- As of January 2022, the assessed value of all residential structures in the City of Arlington was over \$13.9 million. In addition, commercial structures were assessed at over \$2.3 million (Iowa Department of Management, 2022).

The City of Arlington Fire Department supports the community for fire protection needs. The City has 17 fully trained volunteer members of the Arlington Fire Department. 8 volunteers are fully trained as EMS members of the City of Arlington Ambulance team. The City's ISO rating is: 7.

The City of Arlington Ambulance provides ambulance services. The Fayette County Sheriff's office in West Union is the County's 911 dispatch center and is also contracted to provide law enforcement. Fayette County Emergency Management provides services to the City of Arlington.

The City utilizes Arlington Fire Station (built in 1964 with addition in 2006) as their community shelter location. Purchased and installed in the 1960's, the City's one warning siren is manually activated during emergencies from the Arlington Fire Station. City utilizes three generators as follows: two at Fire Station (fixed generator powered by natural gas), one at Lift Station (portable generator powered by diesel fuel), and one at City Shop (portable generator powered by PTO).

Utilities in Arlington are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes 1 lift station built in 1975 (3 submersible pumps, 9' wide by 22' deep). The City utilizes a three-cell waste stabilization lagoon system built to meet DNR specifications. The lagoon has a total surface area of 9.50 acres.
- The City of Arlington participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3307065. Built in 1984, the City's 104' tall water tower is located at 431 East Street and has capacity for 75,000 gallons of water. The majority of the community installed water mains during 1950's-1960's, a 4" cast iron line. The remainder of the community has 6" PVC installed during 1970's-1990's.

Public service providers for City of Arlington are as follows:

- Electric: Alliant Energy
- Natural Gas: Alliance Pipeline
- LP Gas: Viafield Coop
- Internet: Windstream, Hawkeye Telephone, Comelec
- Land-Line Telephone: Windstream, Hawkeye Telephone
- Ambulance: City of Arlington Ambulance
- Food Supplies: 6 Corners Gas & Grub
- Cultural and Recreational: Arlington Public Library/Community Center

City of Arlington is included in the Starmont Community School District. No district buildings are located within city limits. The City also has one licensed childcare center within city limits.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

Arlington City Code was updated in 2023, and amongst others includes zoning, subdivision, fire prevention, and tree ordinance. Their community is working towards implementation of a floodplain management ordinance.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

An initial Flood Insurance Rate Map (FIRM) was identified for Arlington on August 16, 2011. The current effective FIRM map date is May 18, 2021. The City of Arlington does not participate in the National Flood Insurance Program (NFIP) but has taken steps in the past to become a compliant participant and is interested in completing the process to participate.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Arlington has no repetitive loss properties through 2022.

### *Key Issues*

- Sinkholes –Sinkholes are identified north of the community; however, none are currently found within city limits according to 2009 Iowa DNR data; (Iowa Department of Natural Resources, 2009).

- Flash Floods – The community had two recorded days of flash flood events between 2000 – 2023 (of 25 total countywide for the same period), with over \$100,000 in recorded damage (National Oceanic and Atmospheric Administration, 2023).
- River/Creek Flooding - The NOAA Storm Events Database records three regular flooding events between 2000 – 2023, with \$690,000 in recorded damage (National Oceanic and Atmospheric Administration, 2023).
- Hazardous Materials – A hazardous liquid pipeline runs north of the community about ¼ of a mile, and gas transmission pipelines run south of the community about 1/3 of a mile.
- Tornadoes – possible, potentially dangerous, and unavoidable. Of eleven recorded tornado events in Fayette County between 2000 – 2023, two were in Arlington with almost \$44,000 recorded damage (National Oceanic and Atmospheric Administration, 2023)
- Hailstorm – unpredictable, potentially damaging weather event. The community has eight events reported between 2000-2023 (of 108 countywide for the same period), with a little over \$11,000 in damage reported (National Oceanic and Atmospheric Administration, 2023).
- Windstorms– unpredictable, potentially damaging weather event. Of the 93 Thunderstorm Wind events reported in the county, 3 events were in Arlington with \$44,000 in reported damage (National Oceanic and Atmospheric Administration, 2023).

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances
3. City utilizes the Fayette County Emergency Support Function (ESF)
4. All City Response Personnel follow appropriate protocol and guidance
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City has one warning siren in use
8. City has three backup generators in use
9. City maintains own fire station and ambulance service

#### Status and Progress on Previous Mitigation Actions

1. Continue participation in Turkey River Watershed Management Authority and related planning.
  - a. Status: Ongoing
2. Updated and enhanced fire protection equipment sought.
  - a. Status: Completed purchase of new rescue truck. Replacing equipment is ongoing.
3. Municipal sewer, water main, and street upgrade.
  - a. Status: Completed resurface of East Street (Hwy 57) and removal of Biosolids from lagoons. Still interested in replacing/upgrading water mains.
4. Upgrade/enhance warning siren system.
  - a. Status: Not completed, still interested in pursuing.

Mitigation Actions to Pursue Through MJHMP Implementation

1. Continue participation in Turkey River Watershed Management Authority and related planning.
2. Update and enhance fire protection equipment.
3. Replace/upgrade water mains.
4. Purchase new warning siren system.
5. Complete process to participate in the National Flood Insurance Program (NFIP).  
Develop/update floodplain regulations to meet or exceed minimum State of Iowa regulations.  
Designate and establish work of floodplain administrator as identified in floodplain regulations.
6. Increase public awareness of natural hazards.

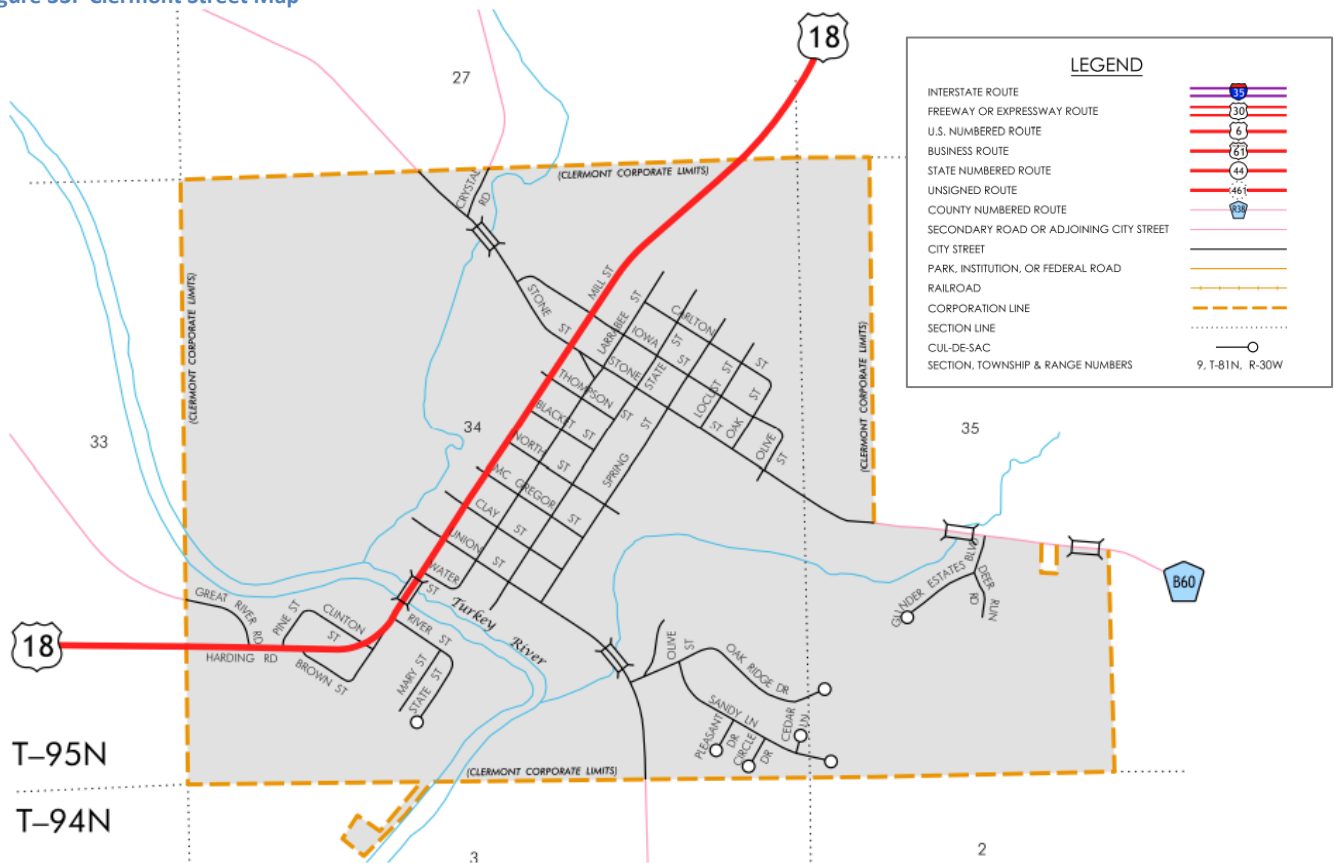


## City of Clermont

### History and Overview

Clermont is located in northeastern Fayette County, situated in the valley on the banks of the Turkey River and along Highway 18. The city has an elevation of 980 feet above sea level. The total land area of city limits is 1.10 square miles (City-data.com, n.d.) and is laid out as shown in Figure 33.

Figure 33: Clermont Street Map



Source: (Iowa Department of Transportation, 2016)

The first settler in Clermont was an individual by the name of Delaplaine who made a claim in Clermont in 1848 and built a cabin. In 1849, Carlton and Thompson, a milling firm in Elkader, came to the Turkey River at the point where Clermont now stands and bought the claim from Delaplaine. Carlton and Thompson let the building contract to Carlton and Sawyer, who moved there in June, 1849, and built

two log houses on what is now Block 24 in Clermont. Clermont at one time was called “Brick City” due to the large number of brick buildings.

For City of Clermont, the National Register of Historic Places notes the following sites (National Park Service, 2015):

- Abraham Lincoln Statue and Park
- Bigler Building
- Church of the Saviour Episcopal Church and David Henderson Statue
- Clermont Public School
- Montauk, AKA: Historical Governor Larrabee Home
- Union Sunday School, AKA: Presbyterian Church

The Turkey River cuts through the southwest corner of Clermont, and Dibble and Dry Run Creeks run through the community. Figure 34 illustrates the Turkey River to the south, Dibble Creek north of river in the west half of the city, Dry Run Creek north of the river in the east half of the city, and FEMA DFIRM flood zones.

Figure 34: Floodplain, City of Clermont



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

### *Changes in Development/Future Land Use*

The 2010 Census recorded a population of 632 for Clermont, and the 2020 Census recorded a decrease in population to 586 (a 7% decrease). The 2010 Census recorded 310 housing units in Clermont, and the

2020 Census recorded a decrease in housing units to 291 (a 6% decrease). No future land use plan was reported for Clermont. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council.

The city employs:

- Full-time staff: one City Clerk and one City Superintendent
- Part-time staff: one Librarian, two Librarian Assistants, three City Clerk Assistants, and two City Superintendent Assistants.

Buildings and infrastructure in Clermont are as follows:

- No active railroad in Clermont.
- The City has nine government buildings including City Hall (built in 1912)
- Clermont has one dam within city limits: located on Hwy 18 between River Street and Water Street. This dam was originally built as a log dam in the 1890's and as a concrete dam in 1912.
- Clermont has one levee within city limits: sewer plant causeway (reconstructed in 2008)
- As of January 2022, the assessed value of all residential structures in the City of Clermont was over \$30.8 million. In addition, commercial structures were assessed at over \$3 million (Iowa Department of Management, 2022).

The City of Clermont Fire Department (station built in 2001-2002) supports the community for fire protection needs. The City has 24 volunteers fully trained as members of the Clermont Fire Department; 16 volunteers are fully trained as EMS. The City's ISO rating is: 9. Area Ambulance out of Postville, Iowa provides ambulance services (the ambulance is housed in the Clermont Fire Station).

The Fayette County Sheriff's office in West Union is the County's 911 dispatch center and is also contracted to provide law enforcement to Clermont. Fayette County Emergency Management provides services to the City of Clermont as well.

The City utilizes Larrabee Building (505 Larrabee Street) and Opera House (400 Mill Street) as their community shelter locations. The City has two warning sirens. They are both automatically and manually activated during emergencies from the Fire Station and tested daily at noon. The City utilizes six generators as follows: three portable generators and one stationary generator at the Fire Station, one portable generator at the maintenance shop and one generator at the water booster station.

Utilities in Clermont are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes two lift stations installed in 2006. The City utilizes a three-cell aerated lagoon system built in 1985.
- The City of Clermont participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3317047. Built in 1994, the city's water tower is located in NE corner of the city and has capacity for 105,000 gallons of water. Water line infrastructure includes mostly 6" mains with 4" and some 2" lines.

Public service providers for City of Clermont are as follows:

- Electric: Alliant Energy
- LP Gas: AgVantage FS
- Internet: Ace Communication
- Landline Telephone: Ace Communication
- Food Supplies: Casey's General Store, T.J. Pizza, Quarry Lodge, Turkey River Saloon, Green Door
- Cultural and Recreational: Opera House
- Other Infrastructure Includes: Trails, Ball Diamonds, Parks
- One public housing center: Clermont Homes (304 Carlton Street)
- City of Clermont is included in the North Fayette Valley Community School District. No district buildings are located within the city limits.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

The Clermont City Code was last updated in 2022, and includes things such as floodplain management, water well protection, and building and land use ordinances. Planning documents in place include Strategic Plan (2005), a Well Head Protection Plan (2006), and Flood Insurance Study (reviewed 8-16-2011). They are currently working on a Source Water Protection Plan.

The City utilizes the Fayette County Multi Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

The City of Clermont participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on March 1, 1986, with an initial Flood Insurance Rate Map (FIRM) identified on March 1, 1986. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the mayor. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the community in

moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Clermont has no repetitive loss properties through 2022.

### *Key Issues*

- Infrastructure Failure – The city had high losses to public infrastructure – especially water and sewer pipes - during 2008 flooding. Estimated damages were around \$800,000.
- Dam Failure – The Clermont Mill Dam is on the Turkey River through town. It is rated as a low hazard dam.
- Sinkholes – A number of sinkholes are identified around the community; however, none are currently found within city limits according to 2009 Iowa DNR data; (Iowa Department of Natural Resources, 2009).
- Floods – Aside from impacting the city’s water and sewer pipe system, 2008 flooding destroyed the causeway. Storm Events Database records identify six flooding events in Clermont between 2000 – 2023, with up to \$205,000 recorded in property damage. (National Oceanic and Atmospheric Administration, 2023).
- Tornadoes – possible, potentially dangerous, and unavoidable
- Landslides – Clermont sits in the Turkey River valley, where development on hill tops or steep terrain and heavy rains can make areas susceptible to landslides
- Hailstorm – unpredictable, potentially damaging weather event
- Windstorms– unpredictable, potentially damaging weather event. Of the ninety-three Thunderstorm Wind events in the county, four events were reported in Clermont with \$25,000 in damage reported (National Oceanic and Atmospheric Administration, 2023).
- Levee Failure – Causeway is susceptible to flooding & was destroyed in 2008 floods. The causeway was elevated in 2018 but is still at risk of failure and/or flooding.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

- The entire County participates in emergency response exercises on a regular basis.
- City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
- City utilizes the Fayette County Emergency Support Function (ESF)
- All City Response Personnel follow appropriate protocol and guidance.
- Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
- City is a part of the Iowa Mutual Aid Compact (IMAC)
- City maintains own fire station.
- City utilizes six generators.
- Causeway/sewer plant road elevated in 2018 (NRCS project) which reduced damage but did not eliminate road flooding.

#### Status and Progress on Previous Mitigation Actions

1. Work with owners of Skip-A-Way Campground to finalize a plan for emergency notifications and/or evacuations during storm events

- a. Status: Ongoing
2. Identify and acquire flood prone properties and convert to open space/green space
  - a. Status: Ongoing
3. Backup power supply for community needs, including at well house and Larrabee Building.
  - a. Status: Ongoing
4. Updated and enhanced fire protection and response equipment sought (e.g. air packs)
  - a. Status: Ongoing
  - b. Status: Completed purchase of new Fire Truck in 2021.
5. Acquire additional warning siren for community.
  - a. Status: Ongoing
6. Maintain/improve flood mitigation equipment, including acquiring new pump for sewer plant
  - a. Status: Ongoing
7. Continue participation in Turkey River Watershed Management Authority and related planning.
  - a. Status: Ongoing
8. Coordinate with landowners along Turkey River (e.g. Pleasant Valley Sports Club) to plan native buffer / riparian plantings along river to reduce impacts from flooding
  - a. Status: Ongoing
9. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing
10. Put up Solar Arrays behind the Opera House and at the Ball Diamond.
  - a. Status: Completed

Mitigation Actions to Pursue Through MJHMP Implementation

1. Add water/sewer shut offs on inlets in Skip A Way Campgrounds.
2. Line the sewer line on the causeway road.
3. Acquire portable light plant.
4. Work with owners of Skip-A-Way Campground to finalize plan for emergency notifications and/or evacuations during storm events.
5. Identify and acquire flood prone properties and convert them to open space/green space.
6. Backup power supply for community needs, including at well house and Larrabee Building.
7. Update and enhance fire protection and response equipment sought (e.g. air packs)
8. Acquire additional warning siren for community.
9. Maintain/improve flood mitigation equipment, including acquiring new pump for sewer plant.
10. Continue work with the county, IDNR, and FEMA to determine acceptable actions to prevent flooding or failure of the causeway.
11. Continue participation in Turkey River Watershed Management Authority and related planning.
12. Coordinate with landowners along Turkey River (e.g. Pleasant Valley Sports Club) to plan native buffer/riparian plantings along river to reduce impacts from flooding.
13. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.

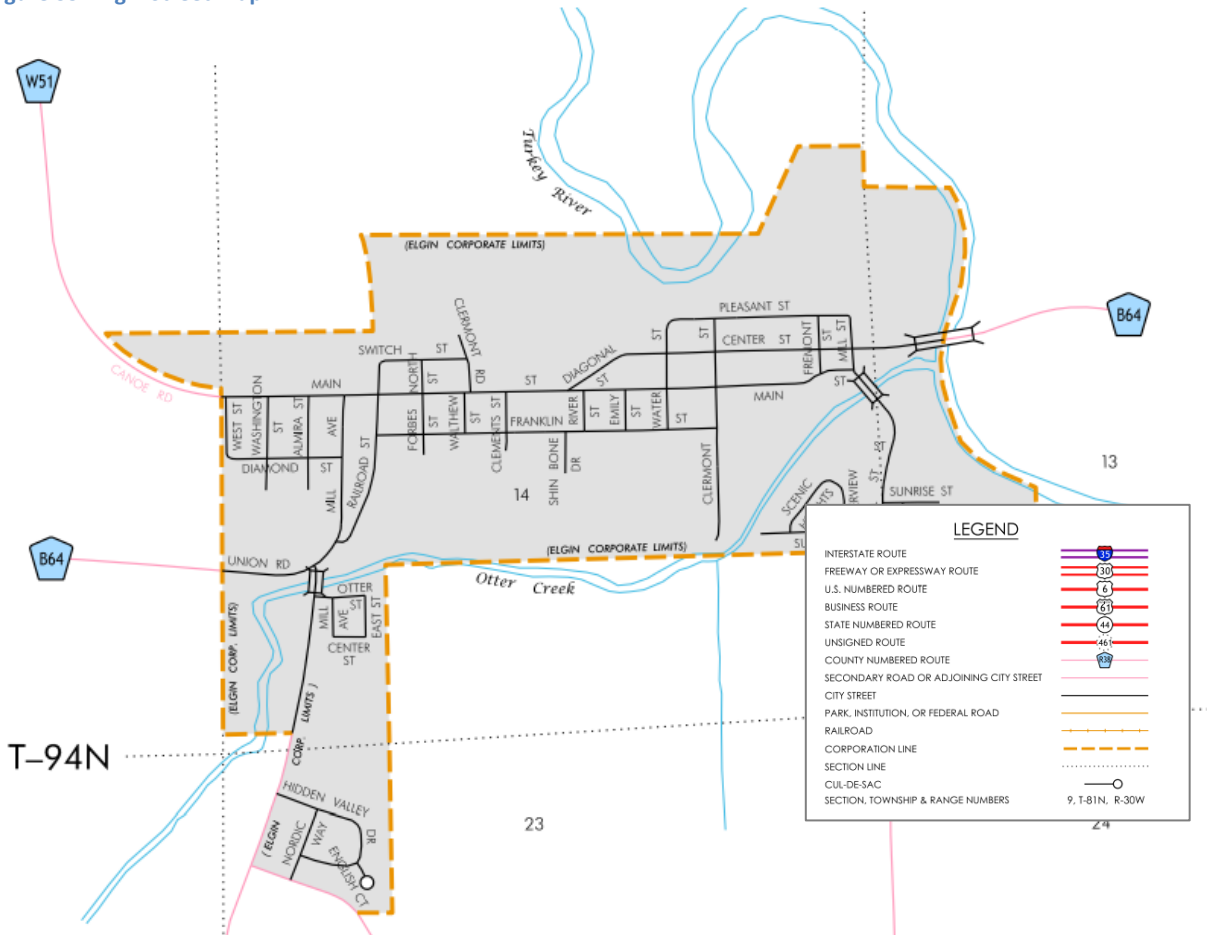


## City of Elgin

### History and Overview

Elgin is located between the Turkey River and Otter Creek in eastern Fayette County. The city has an elevation of 800 feet above sea level. The total land area of city limits is 0.67 square miles (City-data.com, n.d.) and is laid out as shown in Figure 35.

Figure 35: Elgin Street Map



Source: (Iowa Department of Transportation, 2016)

The town of Elgin was laid out in the fall and winter of 1851-1852 on Section 14, by Samuel Conner with M. V. Burdick being the surveyor. Mr. Burdick solicited the honor of christening the new town, which was granted and he gave it the name of Elgin in honor of Elgin, Illinois, his native town. The town plat was not recorded however until March 1855. Many of the early settlers in the area came from Switzerland and the area has become known as the “Little Switzerland of Iowa.”

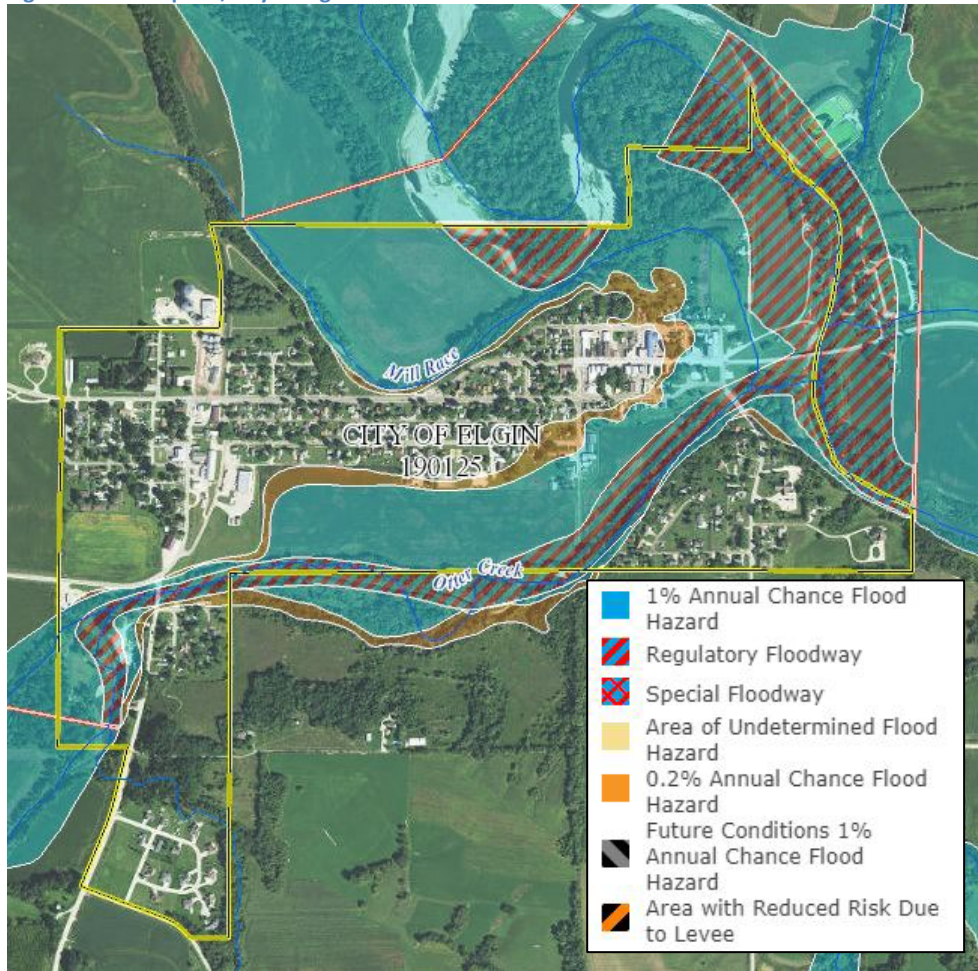
Although Elgin has been a farm community, recreation is growing part of life in the area. The Gilbertson Recreation area just east of town includes a campground, farm museum, petting zoo, and corn maze. The surrounding countryside attracts hunters and campers and vacationers from all over. For City of Elgin, the National Register of Historic Places notes the following sites (National Park Service, 2015):



- The Elgin Block

Elgin lies in the rolling hill country and much of the surrounding area is heavily wooded. The Turkey River abuts the entire east boundary of Elgin, and Otter Creek runs through most of the south portion of the community. Figure 36 illustrates the Turkey River to the east, Otter Creek to the south, and FEMA identified flood zones associated with those waterways.

Figure 36: Floodplain, City of Elgin



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

***Changes in Development/Future Land Use***

The 2020 Census recorded a population of 685 for Elgin, which was a slight increase over the 2010 Census recorded population of 683. The 2010 Census recorded 343 housing units in Elgin, and the 2020 Census recorded an increase in housing units to 350. No future land use plan was reported for Elgin. City boundaries have not changed since the 2012 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council.

The City employs:

- Full-time staff: one City Clerk and one City Superintendent
- Part-time staff: Library and Public Works Assistant

Buildings and infrastructure in Elgin are as follows:

- No active railroad in Elgin.
- The City has four government buildings including City Hall (built in 1996).
- Elgin has one earthen levee within city limits, running the length of the City.
- As of January 2022, the assessed value of all residential structures in the City of Elgin was over \$26.9 million. In addition, commercial structures were assessed at over \$2.2 million (Iowa Department of Management, 2022).

The Elgin Volunteer Fire Department (station built in 2006) supports the community for fire protection needs. The City has 21 volunteers fully trained as members of the Elgin Volunteer Fire Department for city response; rural response includes 9 fully trained volunteers; 24 volunteers are fully trained as first responder members. The City's ISO rating is: 6.

The Elgin Area Ambulance provides emergency medical services, as of summer 2022. The Fayette County Sheriff's office in West Union is the County's 911 dispatch center, and also contracts with Elgin for law enforcement needs. Fayette County Emergency Management provides services to the City of Elgin.

The City has two warning sirens in use, manually activated during emergencies; tested monthly. Both sirens were purchased and installed during 2006, with one located at the Fire Station and other located at SE corner of City. City utilizes two truck mounted generators at the Fire Station, and portable generators at the sewer and water plant.

Utilities in Elgin are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes two lift stations and a three-celled aerated lagoon system.
- The City of Elgin participates in the Iowa Rural Water Association (IRWA). The City's municipal water system includes an elevated water tower.

Public service providers for City of Elgin are as follows:

- Electric: Alliant Energy
- LP Gas: Consolidated Energy ; Viafield
- Fuel Oil: Consolidated Energy ; Viafield
- Internet: Alpine Communications
- Land-Line Telephone: Alpine Communications

- Ambulance: Elgin Area Ambulance
- Food Supplies: Moore's Grocery

City of Elgin is included in the North Fayette Valley Community School District. No district buildings exist within city limits.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

Elgin ordinances in place include tree trimming and flood plain management ordinances. Recent planning documents include a comprehensive plan accomplished during 2010.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

The City of Elgin participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on August 4, 1987, with an initial Flood Insurance Rate Map (FIRM) identified on August 4, 1987. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the city clerk. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Elgin has two repetitive loss properties through 2022. Both repetitive loss properties contain single family structures.

### *Key Issues*

- Landslides – Elgin is in a low area surrounded by hills which are susceptible to landslides due to geology and steep grade. According to meeting attendees, landslides occurring in the Turkey River valley area have impacted roads.
- Flooding – The community is surrounded by the significant waterways of the Turkey River and Otter Creek, and a significant amount of development is in close proximity to the flood zones. A levee was installed in 1993 which helped mitigate flooding. Otter Creek continues to flood more regularly, but Turkey River flooding is still a concern and they have had to sandbag regularly in the past to protect the community from rising waters. The levee needs to be raised again to better protect the community from flooding impacts.
- Hazardous Materials – The new well system is unable to go online because of radon contamination, which needs to be addressed to avoid risks to wells or the aquifer.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station.
8. City utilizes four generators.
9. City has a Comprehensive Plan (2010)

#### Status and Progress on Previous Mitigation Actions

1. New/enhanced fire district facility and response equipment
  - a. Status: Completed. The city has a new fire facility since the last plan update. They will continue to update equipment.
2. New or enhanced water distribution system
  - a. Status: Ongoing. The city has updated their well system but is currently offline because of a radon contamination issue that needs to be resolved.
3. Improved/enhanced infrastructure sought
  - a. Status: Ongoing action.
4. Backup power supply for community needs
  - a. Status: Have additional portable generator at fire station. Would like more in the future.
5. Backup system for hazard/emergency communication (radio communication, etc.)
  - a. Status: Ongoing action.
6. Complete levee certification and pursue plans and funding to raise levee.
  - a. Status: Completed. 2016-2020 levee raised 2 inches, paid for by the citizens of Elgin. No need to certify.
7. New siren.
  - a. Status: Not Completed. Not needed.

8. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulation. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing action.

Mitigation Actions to Pursue Through MJ-22 Implementation

1. New/enhanced fire district response equipment
2. New or enhanced water distribution system, including getting updated well system online after addressing radon issue.
3. Improved/enhanced infrastructure sought – sewer lines.
4. Generators/transfer switches/back-up power supply.
5. Backup system for hazard / emergency communication (radio communication, etc.).
6. Consider an ordinance to limit development in landslide-prone areas, especially in environmentally/historically sensitive areas where other mitigation actions would be prohibited.
7. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.





Today the City of Fayette hosts a public park (Klock's Island), a variety of retail and professional services, and Upper Iowa University, which is home to more than 900 students who live on the residential campus. UIU's landscaped 100-acre campus includes three brand new buildings completed during 2010-2011 as part of a \$75 million building project: a new suite-style residence hall, a new student center, and a new Liberal Arts building in addition to the already excellent facilities.

For City of Fayette, the National Register of Historic Places notes the following sites (National Park Service, 2015):

- Chicago, Milwaukee, St. Paul, and Pacific Railroad Company Depot
- College Hall
- Twin Bridge

The Volga River runs through west and north Fayette. The City is bordered by the Volga River State Recreation Area to the northeast. Figure 38 illustrates the route of the Volga River around the community and FEMA DFIRM flood zones.

**Figure 38: Floodplain, City of Fayette**



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

### ***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 1,338 for Fayette, and the 2020 Census recorded a 6% decrease in population to 1,256. The 2010 Census recorded 485 housing units in Fayette, and the 2020

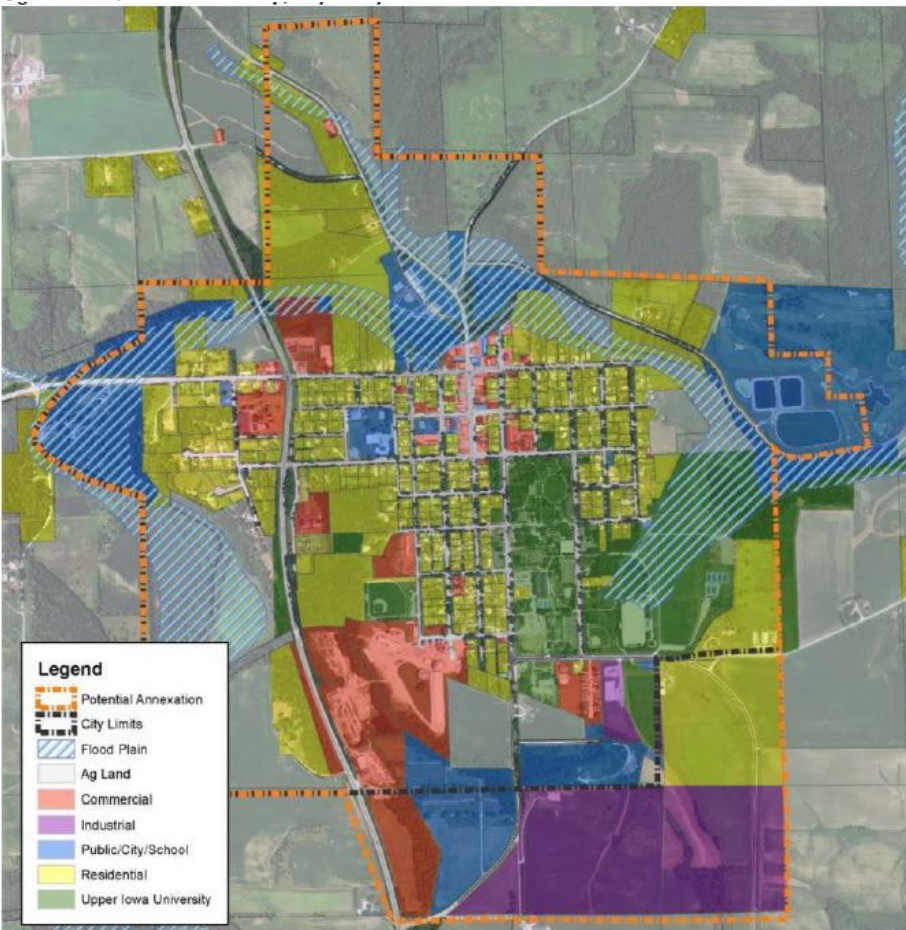


Census recorded an 8% decrease in housing units to 444. A section on City of Fayette development priorities and future land use can be found in the 2012 Fayette County Comprehensive Plan, stating:

The city expects to see future development to occur to the south of the community, east of Highway 150. Fayette is slightly limited for expansion by the river flood plain and bluff lands surrounding the community. The city looks to develop its existing vacant lots and implement mixed use practices in the downtown district for community growth. The downtown area has some current gaps that the city would like to see filled and can target incentives to those areas by designating districts in which the incentives may apply. As development does occur, the city will be cautious about permitting until all potential environmental harms and hazards have been studied.

Figure 39 below illustrates the Fayette Future Land Use map from the 2012 county comprehensive plan.

**Figure 39: Fayette Future Land Use**



Areas east of Hwy 150 are generally located outside the floodplain. Redevelopment areas may land near floodplains depending on where redevelopment occurs. City boundaries have not changed since the 2012 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. The City employs:

- Full-time staff: City Administrator/Clerk, Police Chief, Police Officer (K-9 unit), Public Works Director, Public Works Employees and Library Director
- Part-time staff: Deputy Clerk, Assistant Librarian and Library Clerk

Buildings and infrastructure in Fayette are as follows:

- No active railroad
- The City has one government building, City Hall (built in 1912).
- Fayette has three levees within city limits:
  - Parallel to Volga River, west of Main Street Bridge – 700’ earthen levee that was elevated 8’ (to current height of 1008’ above sea level) after river breached levee in May 1999
  - Parallel to Volga River, east of Main Street Bridge – 450’ earthen levee that was built in 2008
  - Parallel to Volga River, west of Main Street Bridge – 260’ concrete flood wall where bridge meets South Main Street (business address: 2 South Main Street), constructed in October 2009
- As of January 2022, the assessed value of all residential structures in the City of Fayette was over \$40.4 million. In addition, commercial structures were assessed at over \$6.2 million (Iowa Department of Management, 2022).

The City of Fayette Fire Department supports the community for fire protection needs. The City has 19 volunteers fully trained as members of the Fayette Fire Department (station built in 2009 with five bays). In addition, 25 volunteers are fully trained as members of the City of Fayette EMS team. The City’s ISO rating is: 6.

The Fayette Ambulance Service provides ambulance services. The Fayette County Sheriff’s office in West Union is the County’s 911 dispatch center. Fayette County Emergency Management provides services to the City of Fayette. Law enforcement for the community is provided by the City of Fayette.

The City utilizes Upper Iowa University Recreation Center (514 Union Street) and Student Center (603 Washington Street) as their community shelter locations. The City has two warning sirens in use (built/installed September 2001); radio activated during emergencies from the Fayette Fire Station and/or from fire trucks; tested the first Tuesday of each month at 7:00 P.M. Sirens are located at the corner of 7<sup>th</sup> & Mechanic Street and at 191 Lovers Lane. City utilizes two generators as follows: one at Police Garage (portable generator powered by gasoline fuel) and one at the well houses and wastewater treatment plant.

Utilities in Fayette are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes a four-cell lagoon system. The original three cell lagoon system was under construction by 1987. In 1998,

a fourth lagoon cell was added to meet Iowa DNR ammonia nitrate limits. The City meets Iowa DNR wastewater requirements.

- The City of Fayette participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3342041. Built in 1979, the City's 120' tall water tower has capacity for 300,000 gallons of water. The tower exterior was cleaned and repainted in 2009. The City currently utilizes water main infrastructure from the 1940's-1950's in 40% of the community. In 1978, the City replaced 30% of the infrastructure. In 1996, a newly developed 10 acre subdivision included a 6" water main. In 2008, an additional 3.5 acre subdivision was created with a 6" water main.

Public service providers for City of Fayette are as follows:

- Electric: Alliant Energy
- Natural Gas: Black Hills Energy; British Petroleum "BP" Pipeline
- LP Gas: AgVantage FS
- Internet: Windstream; Mediacom
- Land-Line Telephone: Windstream; Mediacom
- Ambulance: Fayette Ambulance Service
- Hospital, Clinic: Gundersen Lutheran Clinic – Fayette
- Nursing Home: Maple Crest Manor Nursing Home
- Senior Care/Living Facilities: Maple Crest Assisted Living Center
- Food Supplies: Gavins Foods; Triple J Mart; The Pumper
- Cultural and Recreational: Fayette Opera House
- Other Infrastructure Includes: Fayette Sports Complex; Fayette Recreation Trail (2.8 miles); Upper Iowa University Recreation Center and campus ball fields (soccer, tennis, baseball, softball); Big Rock Golf Course (18 hole).

The City of Fayette is included within the North Fayette Valley School District. Fayette Elementary School is located within city limits. The City also has one licensed childcare center within city limits.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Community Development Block Grants (CDBG)

### ***Existing Plans and Policies***

Fayette ordinances in place include zoning, subdivision, nuisance, tree trimming, site plan review requirements, and animal control. Planning documents in place include Watershed Plan (2006), Builders

Plan (1997), Downtown Master Plan (March 2010), Urban Renewal Plan (1994), and Flood Insurance Study (1976).

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### ***National Flood Insurance Program***

The City of Fayette participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on September 1, 1987, with an initial Flood Insurance Rate Map (FIRM) identified on September 1, 1987. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the city administrator/clerk. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Fayette has no repetitive loss properties through 2022.

### ***Key Issues***

- Flooding – There were memorable flood events in 1998 and 1999, after which levees were constructed in the community to protect from flood waters. Significant flooding occurred again in 2017. Certain areas of the community also experience stormwater flooding issues. The city identified newly developed areas of the community that are in needs of stormwater management measures (addressed in mitigation actions). Also, areas on the Upper Iowa University campus, including in vicinity to new residence halls and recreation fields, have flooded in recent years. The University is pursuing stormwater management measures to protect these locations. The curb and gutter system is not connected; improvements / expansion of the system may also help to mitigation against flooding in certain areas.
- Animal/Plant Disease – The impacts of Emerald Ash Borer on local ash trees are a concern. The City has been attempting to do an annual replacement of this species but has no official tree treatment and replacement plan.

### ***Mitigation Activities***

#### ***Mitigation Activities Already in Place***

1. The entire County participates in emergency response exercises on a regular basis
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan

4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station and ambulance service.
8. City utilizes two generators.
9. City utilizes two warning sirens.
10. City earmarks funds for flood cleanup/replacement expenses

*Status and Progress on Previous Mitigation Actions*

1. New/enhanced fire district facility and response equipment.
  - a. Status: Ongoing
2. Upgraded water facilities (new wells).
  - a. Status: Not completed, no interest in pursuing at this time.
3. Additional police resources
  - a. Status: Ongoing, working to hire an additional officer.
4. New/enhanced wastewater treatment system.
  - a. Status: Completed, solar panels installed.
5. Backup power supply for community needs
  - a. Status: Not completed, still interested in pursuing.
6. Maintain/add sirens.
  - a. Status: Ongoing.
7. Waterway and structural changes/maintenance/upgrades/construction.
  - a. Status: Not completed, not interested in pursuing at this time.
8. Expand technology infrastructure and equipment.
  - a. Status: Ongoing, improvements to new City Hall locations currently in progress.
9. Address flooding/drainage issues near development on Mechanic St. Consider options for city purchase of flooded areas for installation of stormwater management measures. Project may be expanded to create wetland or open space recreation opportunities in combination with adjacent ballpark and wooded property.
  - a. Status: Not completed, no interest in pursuing at this time.
10. Upper Iowa University to implement stormwater management structures and measures near University housing and recreation field areas.
  - a. Status: Not completed, unknown if Upper Iowa University is still interested in pursuing.
11. Create/update Fayette Comprehensive Plan, to address long term land use, development, and natural resource protection issues for the community.
  - a. Status: Ongoing
12. Continue participation in Turkey River Watershed Management Authority and related planning.
  - a. Status: Ongoing
13. Street infrastructure improvements, including new curb and gutter in areas.
  - a. Status: Ongoing
14. Upper Iowa University to continue mandatory emergency response meetings.
  - a. Status: Ongoing
15. Implement tree treatment and replacement plan. Work to re-activate Tree Board.
  - a. Status: Not completed, ongoing tree removal.

16. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing

Mitigation Actions to Pursue Through MJHMP Implementation

1. New/enhanced fire district facility and response equipment.
2. Additional police resources.
3. Backup power supply for community needs.
4. Maintain/add sirens.
5. Expand technology infrastructure and equipment.
6. Create/update Fayette Comprehensive Plan to address long term land use, development, and natural resource protection issues for the community.
7. Continue participation in Turkey River Watershed Management Authority and related planning.
8. Street infrastructure improvements, including new curb and gutter in areas.
9. Upper Iowa University to continue mandatory emergency response meetings.
10. Implement tree treatment and replacement plan.
11. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulation.

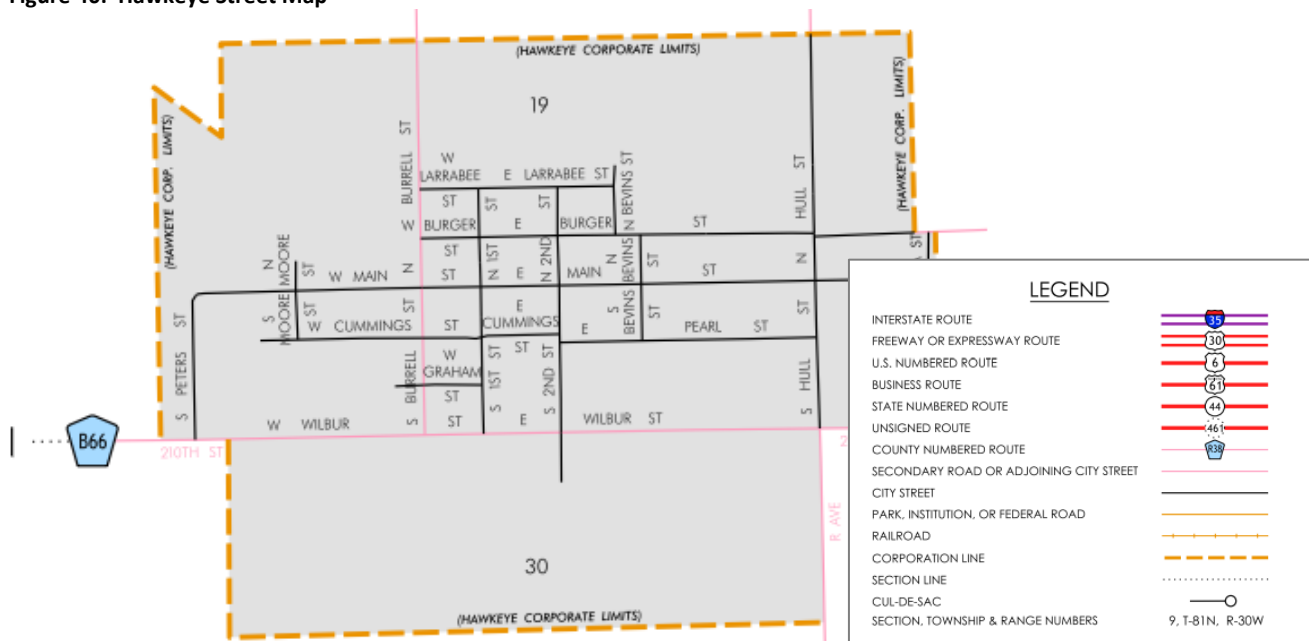


## City of Hawkeye

### History and Overview

Hawkeye is located in central Fayette County two miles south of Highway 18. The city has an elevation of 1160 feet above sea level. The total land area of city limits is .67 square miles (City-data.com, n.d.) and is laid out as shown in Figure 40.

Figure 40: Hawkeye Street Map



Source: (Iowa Department of Transportation, 2016)

The community of Hawkeye was settled in the rolling meadows of the southwest corner of Windsor Township by four farm residences in 1855. A post office was established in 1868 and the official name of the town was changed from “Hawk Eye” to Hawkeye. In 1878 the Davenport & St. Paul branch of the Chicago, Milwaukee & St. Paul railroad was built, and an 80-acre tract of wet meadowland, considered poor for farming, was selected as the location for the train station. Once the train station was proposed, the town began to develop as a trading place and grain market. This industry was followed by a hotel and other businesses such as livery stable, mechanical shops, lumber yard, creamery; churches; a four-room schoolhouse; and two banks. The town of Hawkeye was incorporated on April 9th, 1895.

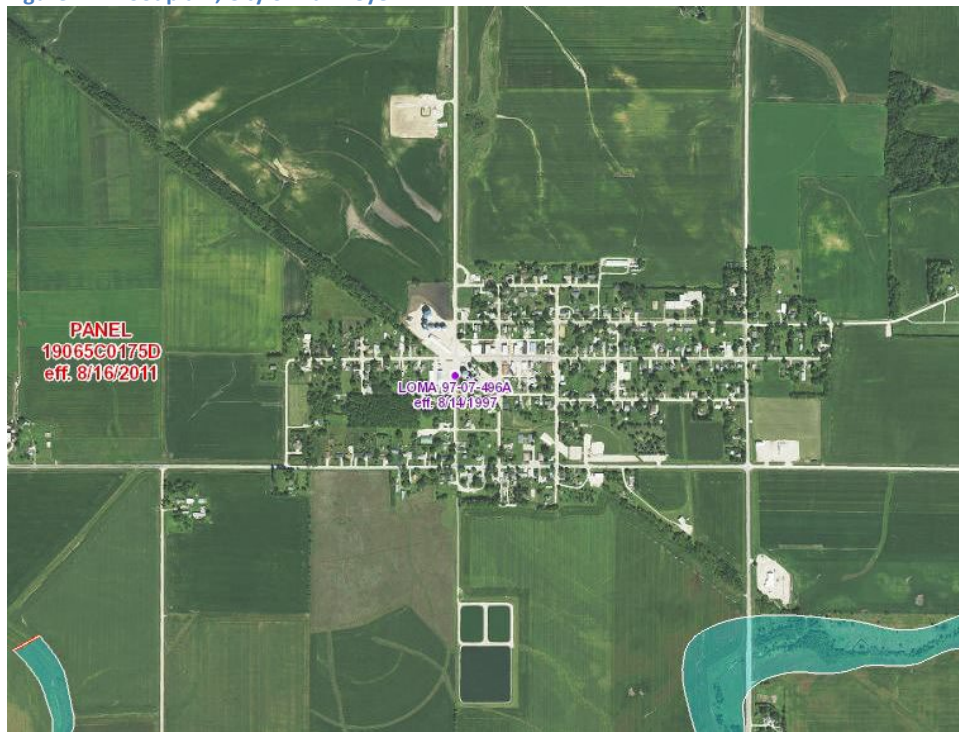
Hawkeye is still a very active town of over 449 residents and multiple businesses. The Hawkeye Cooperative Company Elevator, the Hawkeye Library, the United Methodist Church, the Trinity Lutheran Church, and the Hawkeye Post Office are operating to this day. The City owns and operates two parks, including Houth Memorial Park. For the City of Hawkeye, the National Register of Historic Places notes no sites within city limits (National Park Service, 2015).

The North Branch Volga River runs just south of the southeast corner of the City of Hawkeye. Minimal land area within the corporate boundaries falls in the Federal Emergency Management Agency (FEMA)



identified floodplains as shown on Digital Flood Insurance Rate (DFIRM) maps. Figure 41 illustrates the river and FEMA DFIRM flood zones.

Figure 41: Floodplain, City of Hawkeye



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 449 for Hawkeye, and the 2020 Census recorded a decrease in population to 438 (a 2% decrease). The 2010 Census recorded 227 housing units in Hawkeye, and the 2020 Census recorded a decrease in housing units to 220 (a decrease of 7 units). No future land use plan was reported for Hawkeye. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

***Governance, Facilities and Services***

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Full-time staff: Director of Public Works

Buildings and infrastructure in Hawkeye are as follows:

- No active railroad.
- The City has one government building, City Hall (built in 1994).
- Hawkeye has no dam or levees within city limits.

- As of January 2022, the assessed value of all residential structures in the City of Hawkeye was over \$14.5 million. In addition, commercial structures were valued at over \$1.8 million (Iowa Department of Management, 2022).

The Hawkeye Community Fire Department provides service to the City of Hawkeye. The City has 29 volunteers fully trained as members of the Hawkeye Community Fire Department (station built in 1940's-1950's; remodeled in 2007) for city response; rural response includes 6 fully trained volunteers. The City's ISO rating is: 7.

The Fayette County Sheriff's office in West Union is the County's 911 dispatch center. Ambulance services are provided by Tri-State Regional Ambulance Service/Hawkeye First Responders. The Hawkeye First Responders Team includes 10 volunteers fully trained as first responders. Fayette County Emergency Management provides services to the City of Hawkeye as well, and law enforcement for the community is provided by the Fayette County Sheriff's Office.

The City utilizes the community hall/fire station basement as their community shelter location. The City has two warning sirens in use, activated during emergencies, from the Fire Station. Sirens were purchased from City of Fayette in 2004 and are located by the elementary school and on the west side of town. City utilizes four generators as follows: one at Hawkeye Telephone Office, a portable unit at Fire Station (powered by gasoline fuel), one at the well house at the west end of town, and one at the lift station.

Utilities in Hawkeye are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift station (built December 2004) and a three-cell lagoon system.
- The City of Hawkeye participates in the Iowa Rural Water Association (IRWA). The City's municipal water system includes a water tower built in the 1930's that has capacity for 30,000 gallons of water.

Public service providers for City of Hawkeye are as follows:

- Electric: Alliant Energy
- Natural Gas: Black Hills Energy
- Internet: Hawkeye Telephone
- Land-Line Telephone: Hawkeye Telephone
- EMS/Ambulance: Tri-State Regional Ambulance Service and Hawkeye First Responders
- Hospital, Clinic: Gundersen Lutheran Clinic (West Union); Palmer Lutheran Hospital (West Union)
- Senior Care/Living Facilities: Traditions (West Union); Stoney Brooke (West Union)
- Food Supplies: Gas N Goods, Coop
- Cultural and Recreational: Hauth Park; City Park; Library; Community Hall
- Other Infrastructure Includes: Trails; ball diamonds; tennis courts; ice rink

The City of Hawkeye is part of the North Fayette Valley Community School District.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

The Hawkeye code of ordinance was updated five years ago.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

The City of Hawkeye participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on November 30, 2022. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the city clerk/mayor. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Hawkeye has no repetitive loss properties through 2022.

### *Key Issues*

- Hazardous Materials – The local Coop has a large anhydrous tank and is located near the city.
- Flooding – The city’s storm sewers are under capacity which has resulted in increased flash flood events. Also, culverts in the community need to be cleared/maintained so they function well. The fire department is no longer able to maintain the culverts and the city needs to identify funding options for paying for cleaning or otherwise upgrading the culverts. Also, curb and gutter throughout the community isn’t complete, which may increase the likelihood of flash flood events through town. Cost of putting in new curb and gutters is a prohibiting factor.
- Damaged/Nuisance Structures – There are certain locations in the community where the city would like to address damaged or nuisance structures. Coordinating with property owners to address this issue can be a challenge, but the city would like to pursue grant options to help.

## *Mitigation Activities*

### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan
4. All City Response Personnel follow appropriate protocol and guidance
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station and EMS
8. City utilizes four generators
9. City utilizes two warning sirens
10. City performs weather spotting
11. City maintains basic flood mitigation equipment/resources

### Status and Progress on Previous Mitigation Actions

1. Create a plan for how the Lutheran Church and/or community hall can be used as a community shelter during a storm event.
  - a. Status: Not completed. Still Interested.
2. Fill in gaps in curb and gutter/storm sewer system, which is currently under capacity.
  - a. Status: Ongoing. Improvements are made a little at a time as funds roll in.
3. Consider pervious paving projects in areas that require improved stormwater management.
  - a. Status: Not completed. Still interested.
4. Install native turf or perennial plantings near culverts to help trap sediment and reduce maintenance requirements.
  - a. Status: Not completed.
5. Consider modified culverts in areas that are susceptible to flooding.
  - a. Status: Ongoing. Completed at East Main/Hull St/Burger/Alley behind Fire Station.
6. Update fire district facility (e.g. new roof)
  - a. Status: Completed with new building at new address.
7. New/enhanced fire response equipment (e.g. bunkers, self-contained breathing apparatus).
  - a. Status: Completed.
8. Upgrade/replace city emergency siren.
  - a. Status: Completed. Two new sirens in December 2019.
9. Acquire and demolish damaged/nuisance structures.
  - a. Status: Ongoing. One property completed and working on others.

### Mitigation Actions to Pursue Through MJHMP Implementation

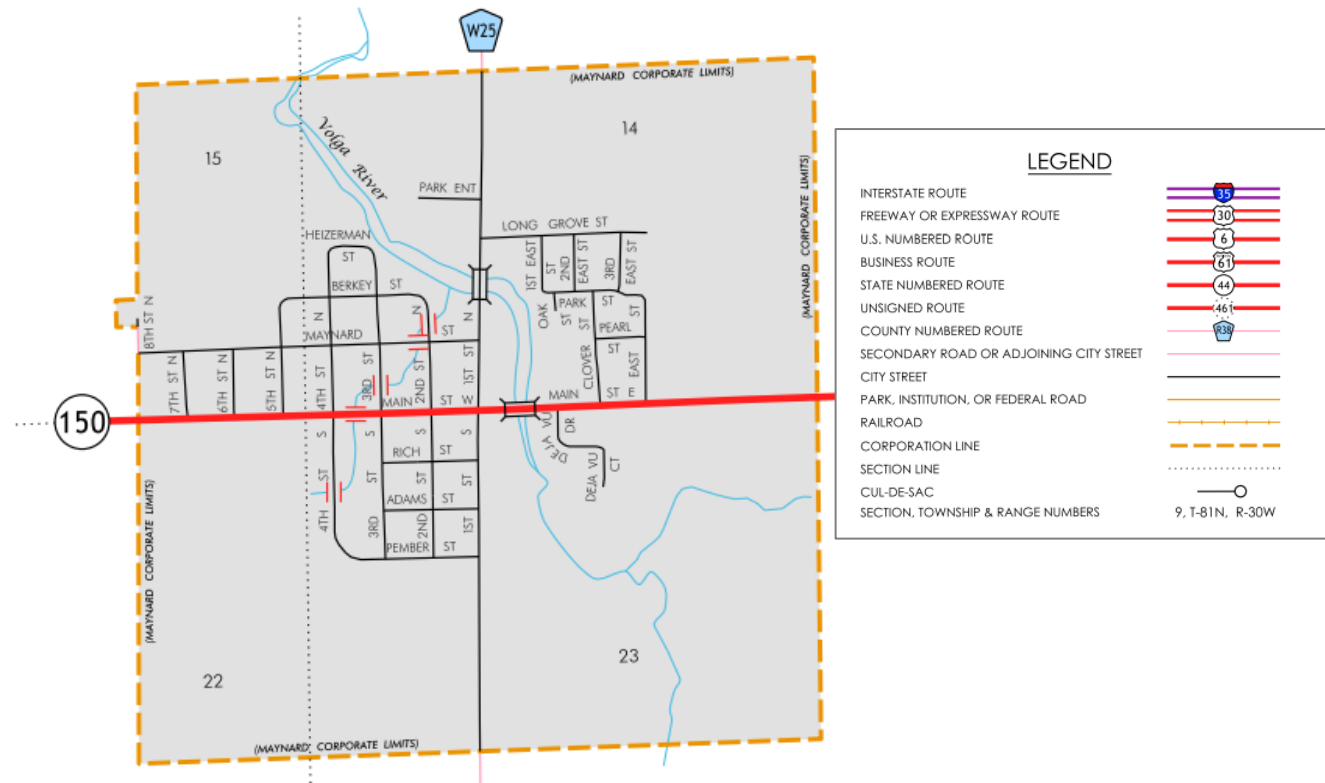
1. Create a plan for how the Lutheran Church and/or community hall can be used as a community shelter during a storm event.
2. Fill in gaps in curb and gutter/storm sewer system, which is currently under capacity.
3. Consider pervious paving projects in areas that require improved stormwater management.
4. Consider modified culverts in areas that are susceptible to flooding.
5. Acquire and demolish damaged/nuisance structures.
6. Increase public awareness of natural hazards.

## City of Maynard

### History and Overview

Maynard is located in south central Fayette County, situated along Highway 150. The city has an elevation of 1101 feet above sea level. The total land area of city limits is .99 square miles (City-data.com, n.d.) and is laid out as shown in Figure 42.

Figure 42: Maynard Street Map



Source: (Iowa Department of Transportation, 2016)

The first entry made in Harlan Township was by Henry Maynard in 1851, but he did not come from Illinois to live on the land until 1861. Judge Green gave the city the name of "Maynard" after he donated land as the site for the first depot. The original settlement was called Long Grove, for the stretch of virgin timber along this branch of the Volga River.

Until the railroad came in 1873 Maynard was composed of a few houses and possibly a store. With the railroad in place, lots sold rapidly and homes and stores erected from lumber brought in on the new railroad. By the 1890's the town had reached nearly its present size.

For City of Maynard, the National Register of Historic Places notes the following site (National Park Service, 2015):

- Maynard Town Hall and Jail

The Little Volga River runs south to north through the City of Maynard. Significant land area within the corporate boundaries falls in the Federal Emergency Management Agency (FEMA) identified floodplains,

though largely through less developed areas. Figure 43 illustrates the Little Volga River and FEMA DFIRM flood zones.

Figure 43: Floodplain, City of Maynard



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

#### *Changes in Development/Future Land Use*

The 2010 Census recorded a population of 518 for Maynard, and the 2020 Census recorded an 8% decrease in population to 476. The 2010 Census recorded 239 housing units in Maynard, and the 2020 Census recorded a decrease of three housing units to 236. No future land use plan was reported for Maynard. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

#### *Governance, Facilities and Services*

The governing body includes one Mayor, and a five-member City Council, one of which is the Mayor Pro Tem. City employees include:

- Full-time staff: City Superintendent and Library Director
- Part-time staff: City Clerk, Custodian and City Superintendent Assistant
- On-Call staff: Library Assistant, Seasonal Public Works Assistant



Buildings and infrastructure in Maynard are as follows:

- No active railroad.
- The City has six government buildings including City Clerk's office (built 1950's), Library, Post Office, Community Hall, Fire Station, and City Shop
- Maynard has one dam located at City Park. The City has one earthen levee within city limits, built parallel to the west bank of the river during the 1970's, stretching ¼ mile in length.
- As of January 2022, the assessed value of all residential structures in the City of Maynard was over \$19.1 million. In addition, commercial structures were valued at approximately \$3 million (Iowa Department of Management, 2022).

The City of Maynard is served by the Maynard/Harlan Township Fire District (station built in 1981) for fire protection needs. The City has 25 to 27 volunteers fully trained as members of the fire department for city response. In addition, 10 volunteers are fully trained as first responder members/EMS of the City of Maynard First Responders team. The City's ISO rating is: 6. The fire department conducts safety programs with West Central School students.

The Mercy-Oelwein Ambulance Service provides ambulance services. The Fayette County Sheriff's Office in West Union is the County's 911 dispatch center and is also contracted to provide law enforcement for the community. Fayette County Emergency Management provides services to the City of Maynard.

The City utilizes Community Hall (135 3<sup>rd</sup> St. South), the Fire Station, and the West Central Community School as their community shelter locations. The City has one warning siren in use, manually activated during emergencies from the fire station; tested during trainings or as needed. Installed during the 1950's, the siren was relocated from the old water tower in 2005. The siren is now located in the northeast corner of the City at the corner of 1<sup>st</sup> East Street and Park Street and is activated at the fire station. City utilizes four generators as follows:

- 1<sup>st</sup> East Street and Park Street (powered by natural gas)
- 10665 Neon Road (powered by natural gas)
- South Well House, 350 Pember Street (powered by natural gas)
- 210 Main Street W. at fire station (battery operated)

Utilities in Maynard are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes two lift stations, both with a generator; newer station installed during 1999. The City utilizes a three-celled lagoon built in 1999, meeting Iowa DNR requirements.
- The City of Maynard participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3350059. Built in 2005, the City's elevated water tower is located at the city shop (130 Maynard Street) and has capacity for 100,000 gallons of water. City water infrastructure was largely installed during the 1960's; a subdivision was built in 2002 with 6" mains.



Public service providers for City of Maynard are as follows:

- Electric: Alliant Energy
- Natural Gas: Alliant Energy
- LP Gas: AgVantage FS,
- Internet: Windstream, Mediacom, Hawkeye
- Land-Line Telephone: Windstream, Mediacom
- Ambulance: Wheaton Ambulance Service (Oelwein), Fayette Ambulance Service (Fayette)
- Food Supplies: Casey's General Store
- Cultural and Recreational: City Park & Campground, Maynard Library

City of Maynard is included in the West Central Community School District, with the district-wide building located within city limits. The community school is pre-school through high school.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through revenue bonds
- Community Development Block Grants (CDBG)
- Other state and federal funding programs

City of Maynard is mapped for flood utilizing Flood Insurance Rate Map (FIRM) technology.

### ***Existing Plans and Policies***

Updated via Iowa Codification 2012, Maynard ordinances in place include, amongst other things, a zoning, subdivision, and flood plain management ordinance. Planning documents in place include Builders Plan (1994), City of Maynard Disaster Plan, Land Use Plan (1999) and Flood Insurance Study (1975).

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa.

### ***National Flood Insurance Program***

The City of Maynard participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on August 1, 1986, with an initial Flood Insurance Rate Map (FIRM) identified on August 1, 1986. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). Floodplain permits are submitted to the city clerk, and are reviewed by the city superintendent, and the mayor and city council. The permitting process includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator

responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

There are no National Flood Insurance Program (NFIP) policies in force in the community currently. However, the city identified areas near the length of the Volga River within the community as areas of flood risk with limited NFIP policy coverage. No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Maynard has no repetitive loss properties through 2022.

### *Key Issues*

- Flooding – Flooding is a concern for the community, especially in areas where the Highway 150 bridge crosses the Volga River. Residential areas north of the bridge are especially impacted by flooding events.
- Infiltration of sanitary sewer from excessive rains or snow melt.

### *Mitigation Activities*

#### *Mitigation Activities Already in Place*

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City is part of the Maynard/Rural-Harlan Township Fire District
8. City utilizes four generators.
9. Flood mitigation efforts put forth by the City including an earthen levee.
10. City utilizes one warning siren.

#### *Status and Progress on Previous Mitigation Actions*

1. Improved/enhanced infrastructure sought including upgrades to lift station system.
  - a. Status: Incomplete, still interested in pursuing.
2. Community shelter – new shower house/safe room at city park campground.
  - a. Status: Incomplete, still interested in pursuing.
3. Backup power supplies/generators at Community Hall, water tower, and city hall.
  - a. Status: Incomplete, still interested in pursuing.
4. Enhanced warning sirens.
  - a. Status: Incomplete, still interested in pursuing.
5. Expand/improve communications and technology infrastructure and equipment (new digital map/files for city water system)

- a. Status: Incomplete, still interested in pursuing.
6. Consider land acquisition or easements along properties north of Hwy 150 bridge and on Little Volga River to provide space for stormwater structures, natural buffers, or open space areas to help mitigate against flooding.
  - a. Status: Incomplete, still interested in pursuing.
7. Waterway and structural changes/maintenance/upgrades/construction, including construction of levee along the Little Volga River.
  - a. Status: Incomplete, still interested in pursuing.
8. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing

Mitigation Actions to Pursue Through MJHMP Implementation

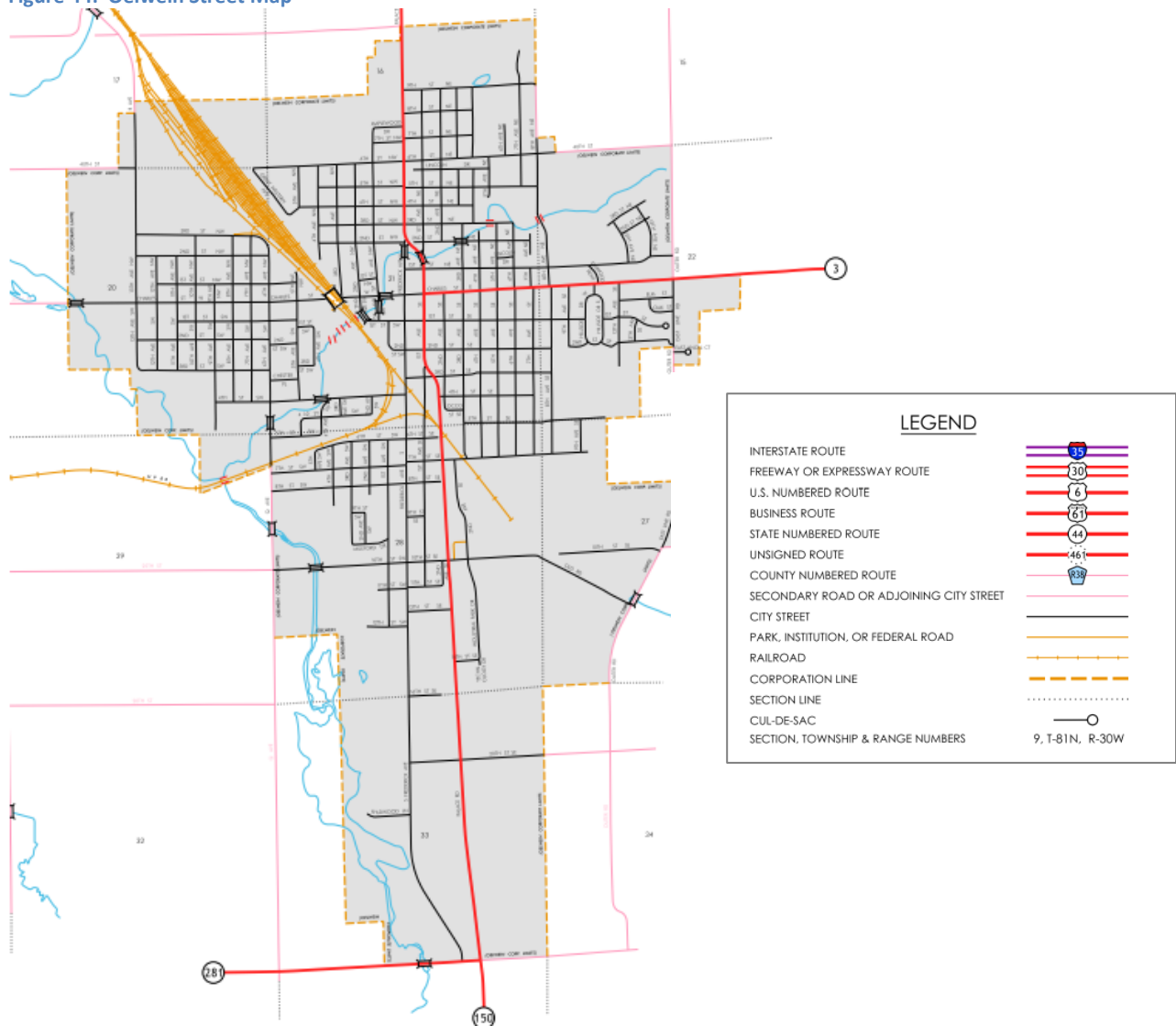
1. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
2. Improved/enhanced infrastructure sought including upgrades to lift station system.
3. Community shelter – new shower house/safe room at city park campground.
4. Backup power supplies/generators at Community Hall, water tower, NE well house, and city hall.
5. Enhanced warning sirens.
6. Expand/improve communications and technology infrastructure and equipment (new digital map/files for city water system)
7. Consider land acquisition or easements along properties north of Hwy 150 bridge and on Little Volga River to provide space for stormwater structures, natural buffers, or open space areas to help mitigate against flooding.
8. Waterway and structural changes/maintenance/upgrades/construction, including construction of levee along the Little Volga River.
9. Improve infrastructure to limit infiltration due to heavy rain and snow melt impacting lift stations and the lagoon health as required by IDNR.

## City of Oelwein

### History and Overview

Oelwein is located on the southern edge of Fayette County along Highway 150 and Highway 3. The city has an elevation of 1050 feet above sea level. The total land area of city limits is 4.79 square miles (City-data.com, n.d.) and is laid out as shown in Figure 44.

Figure 44: Oelwein Street Map



Source: (Iowa Department of Transportation, 2016)

The town of Oelwein was laid out in a corn field purchased from Gustav Oelwein on the coming of the Burlington, Cedar Rapids and Minnesota Railroad in 1872. The City of Oelwein was instituted in 1873, and was incorporated as a town in 1888, with Dr. Pattison becoming its first mayor.

By January 1892, Oelwein was chosen to become the center of the Chicago Great Western Railway (CGW), which made the town the site of their locomotive and car repair shop. Thus, Oelwein became known as the "Shop City" and later the "Hub City" because of the rail lines coming into town and the

repair shops located here. Oelwein remained a "railroad town" until the early 1980's when most of the railroad tracks to the East, North and then West directions were abandoned.

In 1890 the census gave the population as 830, and by 1900 Oelwein had 5,142 people within the city limits, of whom 789 were foreign-born. Oelwein was one of few Iowa towns to experience an influx of Italian immigrants who were employed in the railroad industry. By 1940 the population was 7,801.

The town suffered its chief setback in 1887, when nearly all old Main Street business district (now First Avenue SE) was destroyed by fire. In 1968, the town suffered another setback when a tornado swept through the main business district. 68 homes were destroyed, including some in F5 damage, 132 sustained major damage and 600 sustained less damage. Every business in the district suffered damage including 51 that were destroyed. Two churches, an elementary school, and the middle school were destroyed. Along the path, 5 people died (one in Oelwein), 156 were injured, and \$21 million worth of (\$18 million in Oelwein) damage was done, inflated to \$130.4 million today.

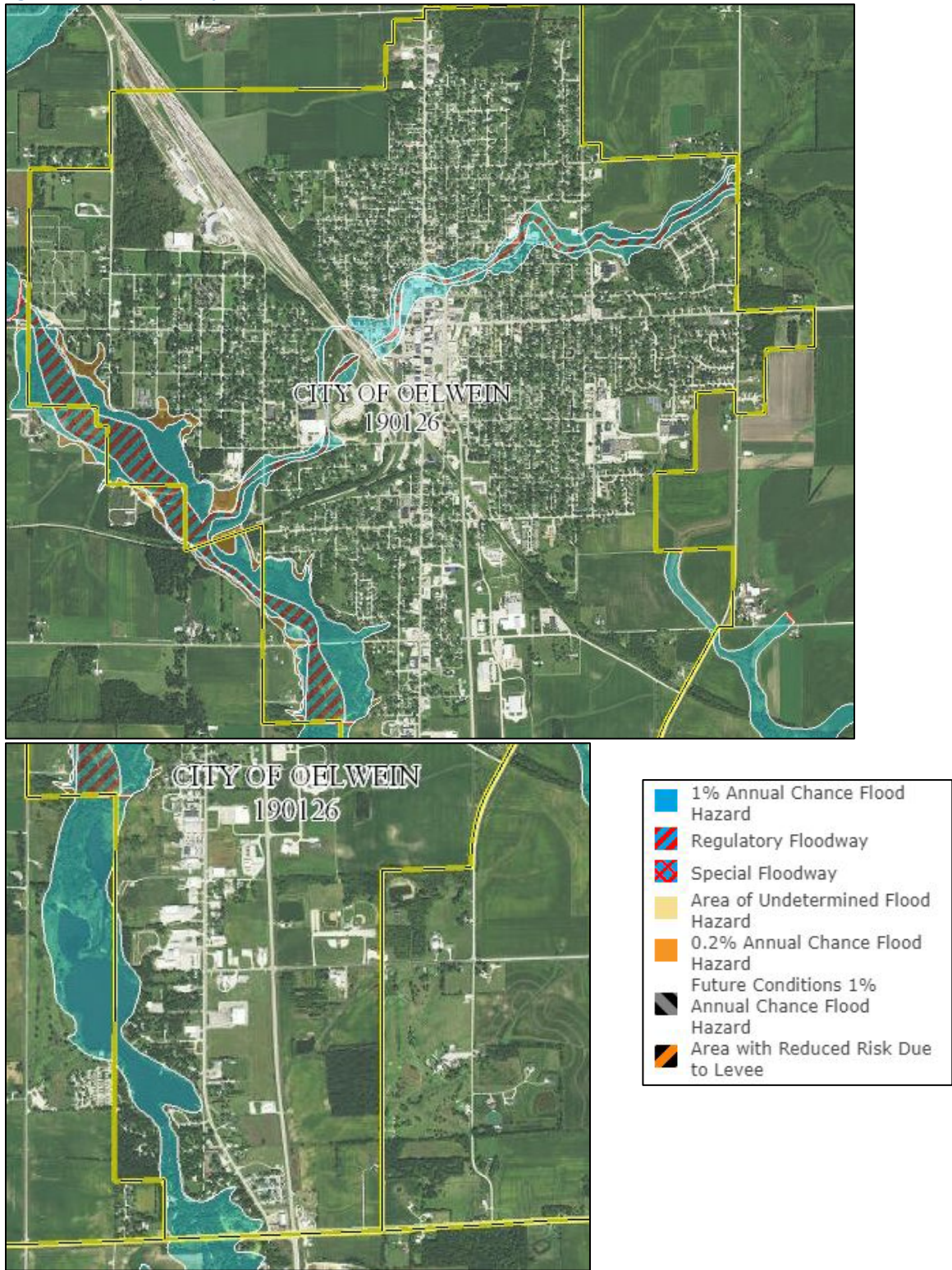
For City of Oelwein, the National Register of Historic Places notes the following sites (National Park Service, 2015):

- Alfred Hanson House
- Hotel Mealey

Otter Creek runs through Lake Oelwein in south Oelwein and extends along most of the west boundary of the community. From the northeast city limit, Dry Run Creek (primarily dry, open drainage ditch) cuts through the center of the city to connect with Otter Creek to the south. Areas of 100 yr. flood zone and regulatory floodway surround the creek's routes through the city. Figure 45 illustrates the route of the two creeks and the FEMA DFIRM identified flood zones.



Figure 45: Floodplain, City of Oelwein



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are provided in the Vulnerability Assessment.



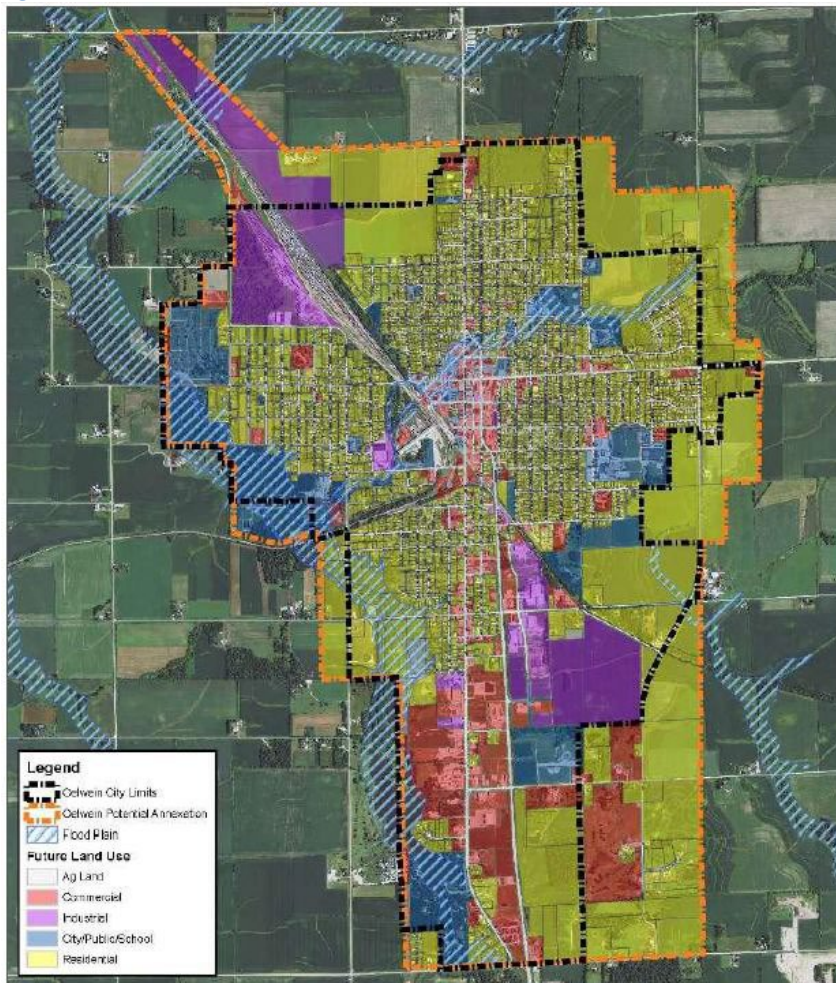
***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 6,445 for Oelwein, and the 2020 Census recorded an 8% decrease in population to 5,920. The 2010 Census recorded 3,058 housing units in Oelwein, and the 2020 Census recorded a 4% decrease in housing units to 2,936. A section on City of Oelwein development priorities and future land use can be found in the 2012 Fayette County Comprehensive Plan, which provides the following:

The city expects to see future development and potential annexation to occur to the northwest along the railway corridor and surrounding the community north, east, and south of the city. Oelwein has some limitation to growth from natural barriers. Otter Creek creates several areas prone to flooding and will be avoided in future development. The city still has some undeveloped land within its existing borders and will encourage appropriate development in those areas.

Figure 46 below illustrates the Oelwein Future Land Use map from the 2012 county comprehensive plan.

**Figure 46: Oelwein Future Land Use**



Areas nearby the railway corridor in the northwest corner of the exiting boundary of Oelwein do not sit in floodplain, but areas outside of the north, east, and south boundaries of Oelwein may sit in floodplain



depending on where annexation and development occur. Further detail on planned developments would be needed to identify development location against the floodplain.

Since the last plan update, the northwest boundary of Oelwein was extended north towards 45<sup>th</sup> St. around Transco Railway Products right-of-way. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a seven-member City Council. City employees include:

- 43 full-time staff including: Police Chief, Administration, Community Development, Public Works, Parks, and Library.
- 14 part-time staff including: Cemetery, Crossing Guards and Library
- 75 seasonal employees including: Lifeguards, Parks, and Cemetery

Buildings and infrastructure in Oelwein are as follows:

- There is one active railroad within Oelwein city limits with one "5 grade level" viaduct.
- The City has seven government buildings including City Hall (built in 1950's – former Railroad Depot).
- Oelwein has one low head dam (built 1915) within city limits, with a major rebuild in 2000.
- As of January 2022, the assessed value of all residential structures in the City of Oelwein was over \$206.5 million. In addition, commercial structures were assessed at over \$39.1 million (Iowa Department of Management, 2022).

Law enforcement is provided to the community by the Oelwein Police Department. The new Oelwein Police Station (finished in 2014) includes 12 staff.

The Oelwein Fire Department supports the community for fire protection needs. The City has 26 non-paid volunteers fully trained as members of the Oelwein Fire Department for city response.

MercyOne Ambulance Service provides ambulance services to the City of Oelwein. Fayette County Emergency Management provides services to the City of Oelwein.

The City utilizes the Oelwein Fire Department Station (founded in 1893; station built in 1969) basement as a community shelter location. Also, the following buildings were identified as shelter locations by Fayette County Emergency Management: Zion Lutheran Church, Oelwein Middle School, Peace Lutheran Church, Grace United Methodist Church, Oelwein High School, Christ United Presbyterian Church, Parkside Elementary School, Wings Park Elementary, the Oelwein Community Enrichment Center, and Harlan Elementary School.

The City utilizes five generators as follows: one at City Hall (powered by LP fuel) and four at the waste treatment plant (powered by diesel). The City has five warning sirens in use, activated during emergencies from the Oelwein Fire Station and Oelwein Police Department. The sirens are tested on

the 15th of each month at 11:00 A.M. If the 15th falls on a Sunday, the system is tested on the following Monday. If the test day has poor weather conditions, the test will be conducted on the next clear weather day. Siren locations include the following:

- Southeast - 9<sup>th</sup> Avenue & 2<sup>nd</sup> Street SE
- Northeast – 700 4<sup>th</sup> Avenue NE
- South – South Frederick & 20<sup>th</sup> Street SE
- West – 7<sup>th</sup> Avenue & 3<sup>rd</sup> Street SW

Utilities in Oelwein are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes five lift stations built from 1928 – 2000. The last update of the City’s sewage system was in 1987, with the system now having capacity of 2.4 million gallons per day.
- The City of Oelwein participates in the Iowa Rural Water Association (IRWA). The City’s municipal ID for water is 3353088. Built in 1959, the newer of the City’s elevated water towers has capacity for 500,000 gallons of water. Built in 1937, the older of the City’s elevated water towers has capacity for 500,000 gallons of water. The water main infrastructure includes mains installed during 1920 – 2011 with 4” – 12” diameter.

Public service providers for City of Oelwein are as follows:

- Electric: Alliant Energy
- Natural Gas: Alliant Energy
- LP Gas: AgVantage FS
- Internet: Qwest; Mediacom; TRX
- Land-Line Telephone: Qwest
- Ambulance: Mercy Hospital
- Hospital, Clinic: Mercy Hospital
- Senior Care/Living Facilities: Mealey Apartments (32 rooms)
- Food Supplies: Fareway
- Cultural and Recreational: William Center for the Arts; school baseball diamonds; city baseball diamonds

City of Oelwein is included in the Oelwein Community School District. All district schools are located within city limits. The City also has two licensed childcare centers within city limits (Iowa Department of Human Services).

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities

- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

Oelwein ordinances in place include flood plain management, subdivision, zoning, nuisance, landscape, site plan review requirements, tree trimming, building code, open burning, grass mowing, stop signs, speeding, and seat belts. Planning documents in place include Strategic Plan, Economic Development Plan, Land-Use Plan, Capital Improvement Plan, and Comprehensive Plan.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

The City of Oelwein participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on July 4, 1988, with an initial Flood Insurance Rate Map (FIRM) identified on July 4, 1988. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the Building and Zoning Inspector, who is in the process of becoming certified for floodplain management. NFIP administrative services for Oelwein include plan review, GIS, and inspections. For the permitting process, the developer wishing to develop or significantly change a parcel of land inside of the flood zone or floodplain must submit a written and detailed print/plan of the parcel in question. The floodplain administrator then goes to the flood rate maps to see if the parcel is in the flood hazard and if so, instructs the developer of his/her options to meet the code. Once they have satisfied all required regulations the permit is issued. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance and described above will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). Oelwein had a Community Assistance Contact (CAC) in the fall of 2017. As shown on Table 35 Oelwein has seven repetitive loss properties through 2022, including single family, two - 4 unit housing structures, and non-residential structures.

### *Key Issues*

- Flooding – Flooding is a key concern for the community. The city identified key areas impacted by flooding (though not exclusively impacted), such as areas south of 10<sup>th</sup> St., areas north of East Ave., where Dry Run Creek runs through residential areas, 7<sup>th</sup> St. south, and by Platt Park (near condos).
- Terrorism – Local schools have been undergoing training/planning for potential terrorism or active shooting events, including identifying evacuation routes.

- Animal/Plant Disease – The City would like to develop a tree treatment and replacement plan to mitigate against potential invasion by Emerald Ash Borer.
- Hazardous Materials – The City contains 19 industrial properties valued at over \$14,000,000 and has eleven Tier II Chemical sites. The City and the County Emergency Management Agency will continue to work productively with such businesses to ensure the communities and businesses are mitigating against any potential HAZMAT incidents.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station and has ambulance service within city limits.
8. City utilizes five generators.
9. City utilizes five warning sirens and tests monthly.

#### Status and Progress on Previous Mitigation Actions

1. New/enhanced fire district facility and response equipment including storage building and aerial/rescue unit.
  - a. Completed/Not Completed. Aerial unit acquired. Storage unit still needed.
2. Improved/enhanced infrastructure sought including collection system.
  - a. In progress.
3. Backup power supply/supplies for community needs
  - a. Not Completed.
4. Implement a tree treatment and replacement plan.
  - a. Completed

#### Mitigation Actions to Pursue Through MJHMP Implementation

1. Participate in Upper Wapsi Watershed Management Authority. Invite representatives of watershed authority or Fayette County Conservation to present to Oelwein City Council.
2. Work with watershed authority and Fayette County Conservation to identify flooding and stormwater management projects in areas of need (e.g. north of East Ave., along Dry Run Creek, 7th St. South, by Platt Park, etc.)
3. Implement flood mitigation measures for Dry Run Creek as determined by consultant study. Overall, the city's vulnerability to hazards has not changed as a result of changes in development. Flooding occurred in 2020 and in previous years shutting down access to the viaduct and the Fire Station.
4. New/enhanced fire district facility
5. Improved/enhanced infrastructure sought including collection system.
6. Conduct inventory and assessment of current city generators
7. Support stormwater management, including infiltration, retention basins, bioswale, rain garden, and siltation removal projects.
8. Construct, retrofit or maintain drainage systems (pipes, culverts, and channels) to provide adequate and proper functioning systems.

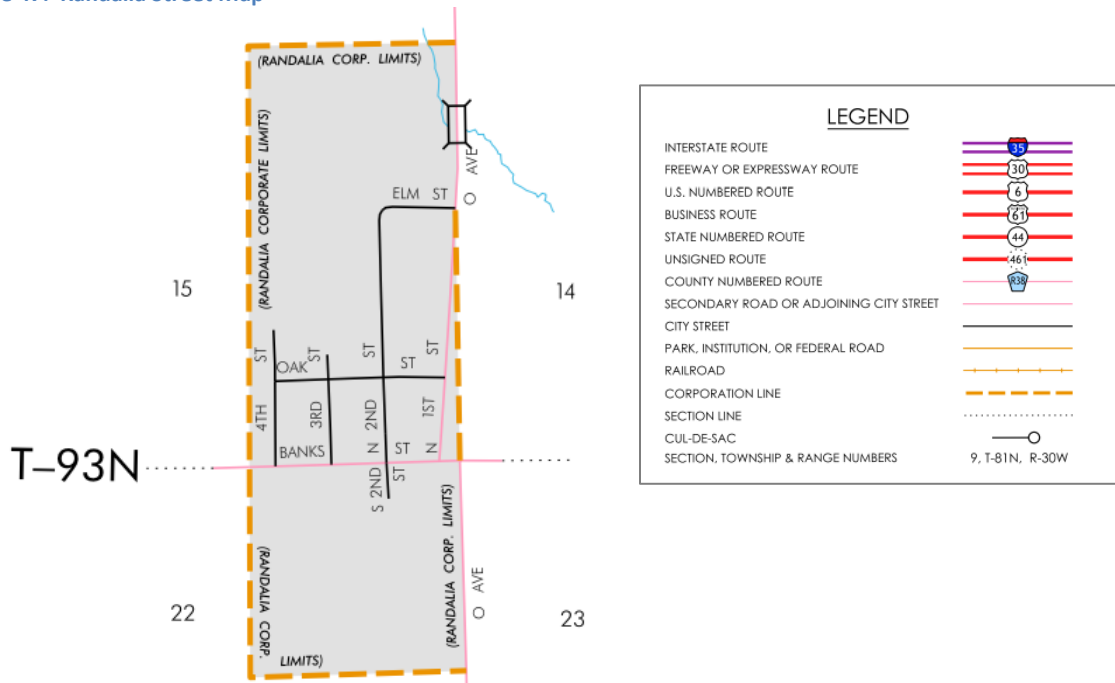
9. Waterway and structural changes/maintenance/upgrades/construction
10. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.

## City of Randalia

### History and Overview

Randalia is located in central Fayette County. The city has an elevation of 1108 feet above sea level. The total land area of city limits is 0.22 square miles (City-data.com, n.d.) and is laid out as shown in Figure 47.

Figure 47: Randalia Street Map



Source: (Iowa Department of Transportation, 2016)

Randalia is located on the east half of the SE1/4, Section 15, Center Township. The town was surveyed by P. F. Randall in November, 1874; and the plat was filed for record December 9, 1874. In 1874, A. F. Randall began the construction of a two-story building on Lot 22, Block 10, on First Street. It was designed for a store on the first floor and for a swelling house on the second floor. At one time, the building was also the location of the town’s post office.

For City of Randalia, the National Register of Historic Places notes no sites within city limits (National Park Service, 2015).

An unnamed branch of Coulee Creek to the Volga River cuts through the northeast corner of Randalia. The majority of land area within the corporate boundaries does not fall within the Federal Emergency Management Agency (FEMA) identified floodplains. Figure 48 illustrates the FEMA DFIRM flood zone.

Figure 48: Floodplain, City of Randalia



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 68 for Randalia, and the 2020 Census recorded a 26% decrease in population to 50. The 2010 Census recorded 37 housing units in Randalia, and the 2020 Census recorded a decrease of eight housing units to 29. No future land use plan was reported for Randalia. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

***Governance, Facilities and Services***

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Two part-time staff: City Clerk and maintenance (mowing and sewer)
- One seasonal staff: lawn mowing of City Park and City Hall

Buildings and infrastructure in Randalia are as follows:

- No active railroad.
- The City has one government building, City Hall (built in 1948, was a fire station before becoming City Hall).
- Randalia has no dam or levees within city limits.



- As of January 2022, the assessed value of all residential structures in the City of Randalia was over \$1 million. In addition, commercial structures were assessed valued at \$67,750 (Iowa Department of Management, 2022).

The City of Fayette Fire Department supports the community for fire protection needs. Fayette Fire Department's ISO rating is: 6.

The Fayette Ambulance Service provides ambulance services. The Fayette County Sheriff's Office in West Union is the County's 911 dispatch center and provides law enforcement for the community. Fayette County Emergency Management provides services to the City of Randalia.

The City utilizes City Hall and the Methodist Church basement as their community shelter locations. The City has no warning sirens in use currently. The City utilizes one portable generator located at City Hall (powered by gasoline fuel).

Utilities in Randalia are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift station installed in 2001 and a four-celled lagoon system built in 2001.
- The City of Randalia does not participate in the Iowa Rural Water Association (IRWA). The City does not utilize municipal water services.

Public service providers for City of Randalia are as follows:

- Electric: Alliant Energy
- Natural Gas: Alliant Energy
- LP Gas: Viafield
- Internet: Windstream
- Land-Line Telephone: Windstream
- Other Infrastructure Includes: Centennial Park

City of Randalia is included in the West Central Community School District. No district buildings are located within the community.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### ***Existing Plans and Policies***

Randalia ordinances in place include: no semi-trucks park on city streets, clean trash from yards, and recycling.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

An initial Flood Insurance Rate Map (FIRM) was identified for Randalia on August 16, 2011. The current effective FIRM map date is May 18, 2021. The City of Randalia does not participate in the National Flood Insurance Program (NFIP) and is not currently compliant with the program. The community is currently working towards implementation of a floodplain management ordinance.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Randalia has one single family repetitive loss property through 2022.

### *Key Issues*

- Hazardous Materials – The City is concerned about the Viafield Coop less than a mile south of Randalia near the corner of 93 and 1<sup>st</sup>. The community has a higher population of elderly individuals and is concerned that if a hazardous materials incident occurs at the nearby facility evacuation and care for residents may be difficult. Also, the community relies on emergency response services from nearby Fayette, and lag time in emergency response as a result of the commute is a concern. Further, the city would like to better assess the mobility options and challenges of residents to better prepare for the potentiality of a hazardous materials incident.
- Animal/Plant/Crop Disease – The city is small and surrounded closely by agricultural land and enterprises. Attendees at the Randalia city meeting expressed concern about agroterrorism or the potential fast spread and impacts of animal disease.
- Wildfire – Because of the City's close proximity to natural areas, there is concern for the potential spread of out of hand wildfire toward the community. Coupled with the more elderly population, evacuation could again be a concern. The city recalls nearby wildfire events in the past.
- Windstorms/Tornados – A tornado or strong windstorm impacted rural areas outside of Randalia in 2017. The city currently has no warning siren, and has a more vulnerable population, so acquiring a warning siren is a key need to mitigate against storm events.

## *Mitigation Activities*

### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Emergency Support Function (ESF) Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City utilizes one generator.
8. City is currently working to become NFIP compliant.

### Status and Progress on Previous Mitigation Actions

1. New warning siren.
  - a. Status: Not completed, still interested in pursuing.
2. Community storm shelters – communication with residents regarding where located, including sending information out in community newsletter, and look at posting a sign on the shelter location.
  - a. Status: Not completed.
3. Solidify evacuation plan for limited mobility community members in the event of an emergency; work with Fayette County Emergency Management to understand planned response.
  - a. Status:
4. Work with Fayette County Emergency Management and Public Health to complete a special needs inventory of vulnerable seniors in the community.
  - a. Status:
5. Community beautification enhancements sought including demolition or restoration of currently uninhabitable properties.
  - a. Status: Completed, one structure torn down.

### Mitigation Actions to Pursue Through MJHMP Implementation

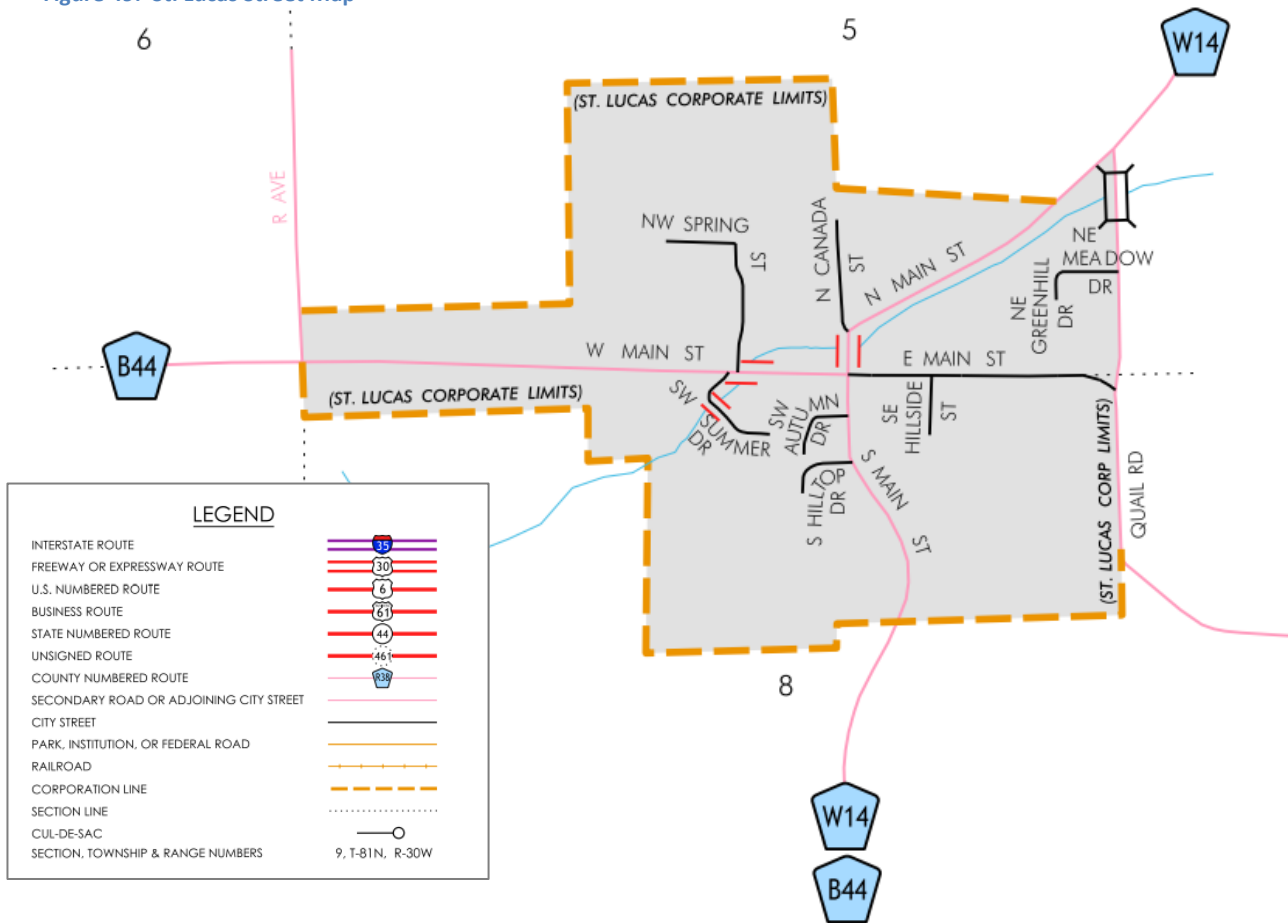
1. New warning siren.
2. Increase public awareness of natural hazards.

## City of St. Lucas

### History and Overview

St. Lucas is located in the northwestern corner of Fayette County, just south of the Winneshiek County border. The city has an elevation of 1060 feet above sea level. The total land area of city limits is 0.27 square miles (City-data.com, n.d.) and is laid out as shown in Figure 49.

Figure 49: St. Lucas Street Map



Source: (Iowa Department of Transportation, 2016)

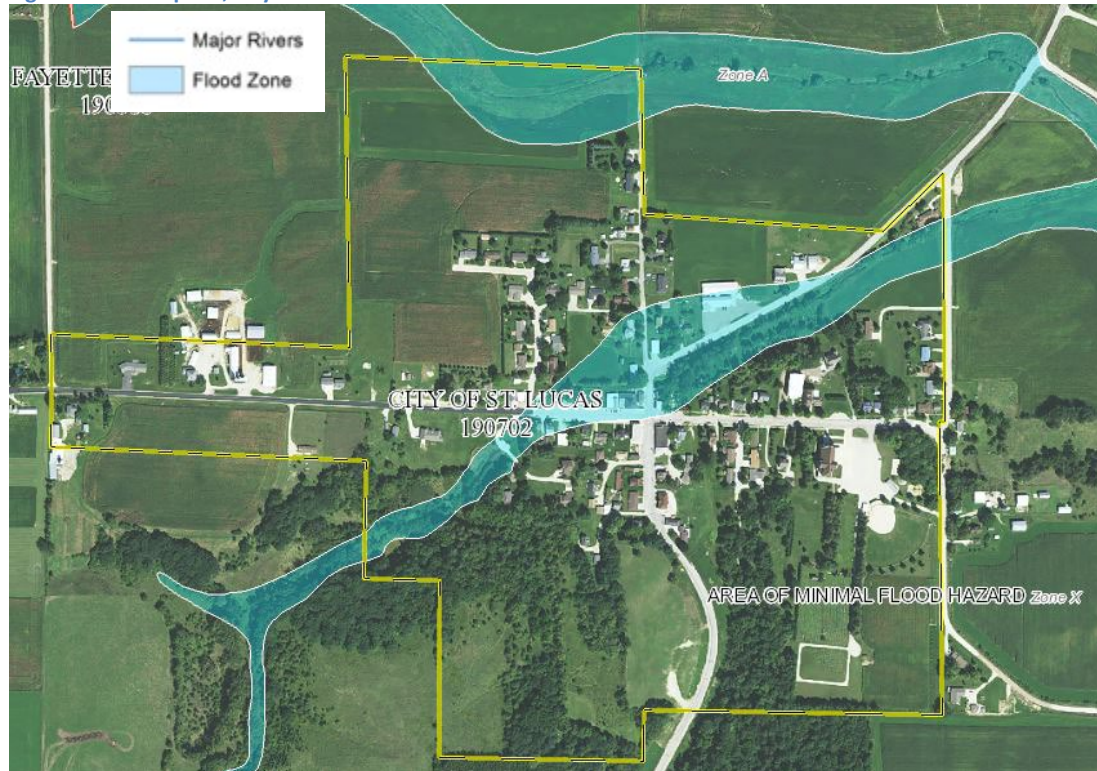
The City of St. Lucas was developed around St. Luke Catholic Church. In the fall of 1848, an exploratory trip was made to the area after Northeast Iowa became open for settlement upon the removal of Winnebago Indians from Neutral Ground to Minnesota. Settlers reached the Fort Atkinson area soon after. In 1854, when the log church along the Turkey River burned, the settlers decided to build churches closer to their homes. St. Lucas, then called Statheltown, built St. Luke Church in 1855 (Christ Our Hope Cluster, n.d.). The Post office was established in 1882. The City was incorporated in 1900.

For the City of St. Lucas, the National Register of Historic Places notes the following site (National Park Service, 2015):

- St. Luke’s School and Recreation Center

Bass Creek passes through the north boundary of St. Lucas, and an unnamed tributary of Bass Creek runs northeast to southwest through the community through the downtown area. Figure 50 illustrates the two creek extents and the FEMA DFIRM flood zones.

Figure 50: Floodplain, City of St. Lucas



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 143 for St. Lucas, and the 2020 Census recorded a 17% increase in population to 167. The 2010 Census recorded 85 housing units in St. Lucas, and the 2020 Census recorded a decrease of one housing unit to 84. St. Lucas has a 2005 Comprehensive Plan, but future land use was not attained for the city. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

***Governance, Facilities and Services***

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Part-time staff: one City Clerk, one Wastewater Maintenance employee and one City Maintenance employee

Buildings and infrastructure in St. Lucas are as follows:

- No active railroad.
- The City has one government building, City Hall (built in 1900).
- St. Lucas has no dam or levees within city limits.
- As of January 2022, the assessed value of all residential structures in the City of St. Lucas was over \$8.7million. In addition, commercial structures were assessed valued at \$685,131 (Iowa Department of Management, 2022).

The Rural-Auburn Township Fire District supports the community for fire protection needs. The fire department's ISO rating is 8-B.

Gunderson-TriState Ambulance Service (West Union) provides ambulance services to the City of St. Lucas. The Fayette County Sheriff's office in West Union is the county's 911 dispatch center and is also contracted to provide law enforcement to the community. Fayette County Emergency Management provides services to the City of St. Lucas.

The City utilizes the St. Lucas Fire Station (107 North Main Street) as their community shelter location. The fire station also has the city's current warning siren and one generator for community use (portable generator powered by gas). A planned warning siren will serve the City Hall/Community Center.

Utilities in St. Lucas are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift station and three lagoon cells.
- The City does not offer municipal water services.

Public service providers for City of St. Lucas are as follows:

- Electric: Alliant Energy
- LP Gas: Consolidated Energy Company
- Internet: Hawkeye Telephone Company
- Land-Line Telephone: Hawkeye Telephone Company
- Food Supplies: M&M's Convenience Store
- Cultural and Recreational: St. Luke's Historical Society

City of St. Lucas is included within the Turkey Valley Community School District. No district buildings are located within city limits.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:



- Capital improvements project funding
- Fees for utility services
- Debt through general obligation bonds
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

The City of St. Lucas does not have a zoning or subdivision ordinance. The community does have site plan review requirements. Planning documents in place include the St. Lucas Comprehensive Plan (2005). St. Lucas is in the process of working towards compliancy with the National Flood Insurance Program (NFIP).

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

An initial Flood Insurance Rate Map (FIRM) was identified for St. Lucas on August 16, 2011. The current effective FIRM map date is May 18, 2021. The City of St. Lucas does not participate in the National Flood Insurance Program (NFIP) and is not currently compliant with the program.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 St. Lucas has no repetitive loss properties through 2022.

### *Key Issues*

- Flooding – Stormwater/flash flooding has occurred in several areas throughout the community, such as near the culvert/bridge over E. Main St. by downtown and on W. Main St. through town. The city recalls especially bad flooding events in 2008 and 2012. Also, there is a steep slope south of downtown St. Lucas that slopes towards downtown and has been a factor in flooding of the downtown area in the past. In recent years, Northeast Iowa Resource Conservation and Development assisted with a study of this flooding and recommended that stormwater structures or ponds be developed to mitigate the flooding.
- Hazardous Materials – St. Lucas does not have city water, and the community is concerned about potential contamination of groundwater, wells, or aquifers that residents rely on. There is no clear picture for the city right now regarding how well protected these resources are, or whether or not there may already be contamination dangers the city should be aware of. Ground water protection from agriculture related hazardous materials/chemicals/fertilizers is one concern for groundwater protection.

## *Mitigation Activities*

### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances
3. City utilizes the Fayette County Emergency Support Function (ESF)
4. All City Response Personnel follow appropriate protocol and guidance
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City is part of the Rural-Auburn Township Fire District
8. City utilizes one generator

### Status and Progress on Previous Mitigation Actions

1. Additional generators.
  - a. Status: Not completed, still interested in pursuing. Have an agreement in place with the City of Calmar to use their spare generator if needed at the wastewater treatment plan.
2. Replace or retrofit bridges and culverts to meet capacity requirements – improvements to culvert on E. Main St. through downtown to reduce flooding in area (e.g. modified culvert).
  - a. Status: Not completed, still interested in pursuing. Some grading and tree removal has occurred in this area to help with flooding but no larger project is planned at this time. It is still considered a necessary project.
3. Pursue stormwater pond construction in steeply sloped area south of downtown (based on recommendation of NE Iowa Resource Conservation and Development study).
  - a. Status: Not completed, still interested in pursuing.
4. Contact Iowa DNR to discuss Groundwater Protection Plan and groundwater protection measures for the community.
  - a. Status: Not completed, still interested in pursuing.
5. New siren.
  - a. Status: Completed, new siren installed.
6. Consider NFIP participation.

Status: Not completed. Overall, the city's vulnerability to hazards has not changed as a result of changes in development. Council decided in 2022 not to pursue participating at this time.

### Mitigation Actions to Pursue Through MJHMP Implementation

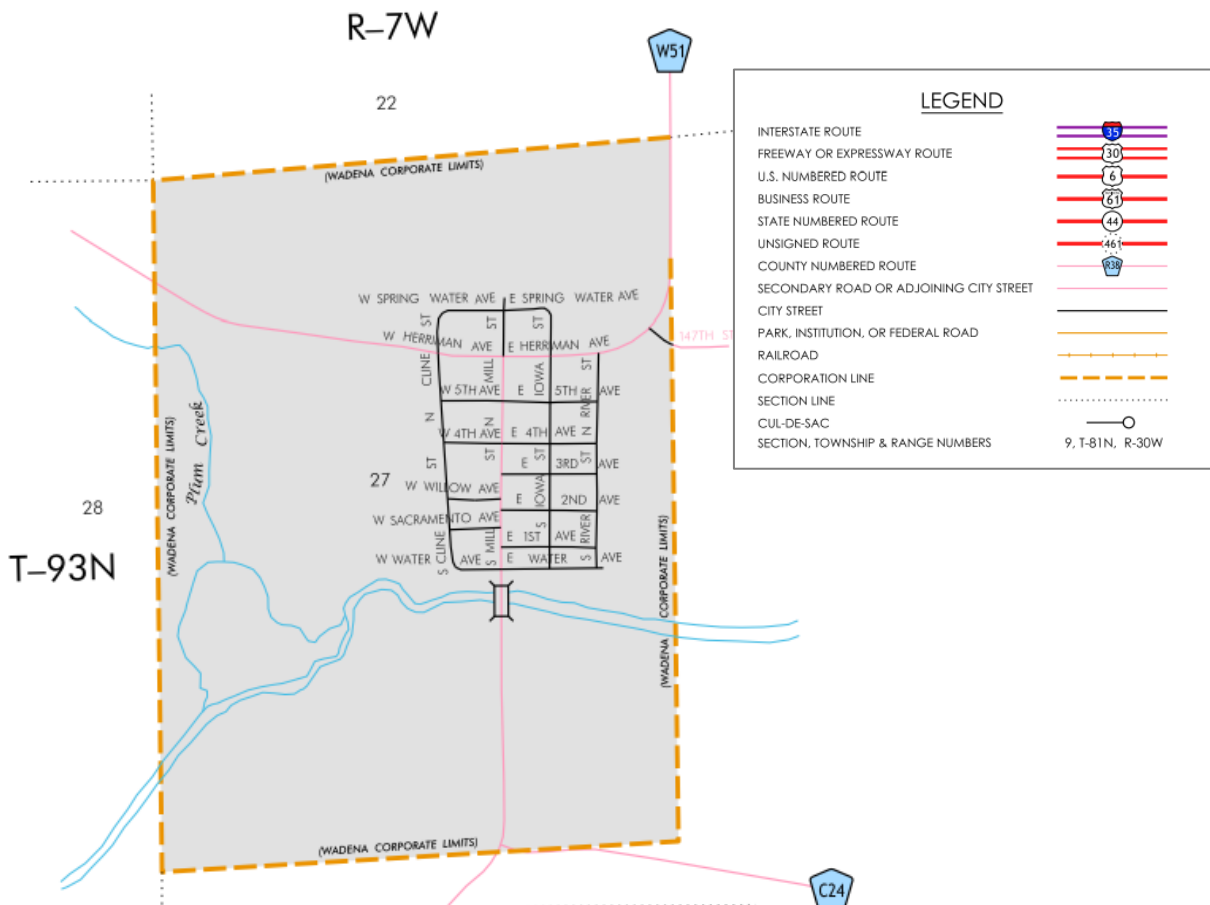
1. Additional generators.
2. Replace or retrofit bridges and culverts to meet capacity requirements – improvements to culvert on E. Main St. through downtown to reduce flooding in area (e.g. modified culvert).
3. Pursue stormwater pond construction in steeply sloped area south of downtown (based on recommendation of NE Iowa Resource Conservation and Development study).
4. Contact Iowa DNR to discuss Groundwater Protection Plan and groundwater protection measures for the community.

## City of Wadena

### History and Overview

Wadena is located in east central Fayette County near the Clayton County border. The city has an elevation of 865 feet above sea level. The total land area of city limits is 0.74 square miles (City-data.com, n.d.) and is laid out as shown in Figure 51.

Figure 51: Wadena Street Map



Source: (Iowa Department of Transportation, 2016)

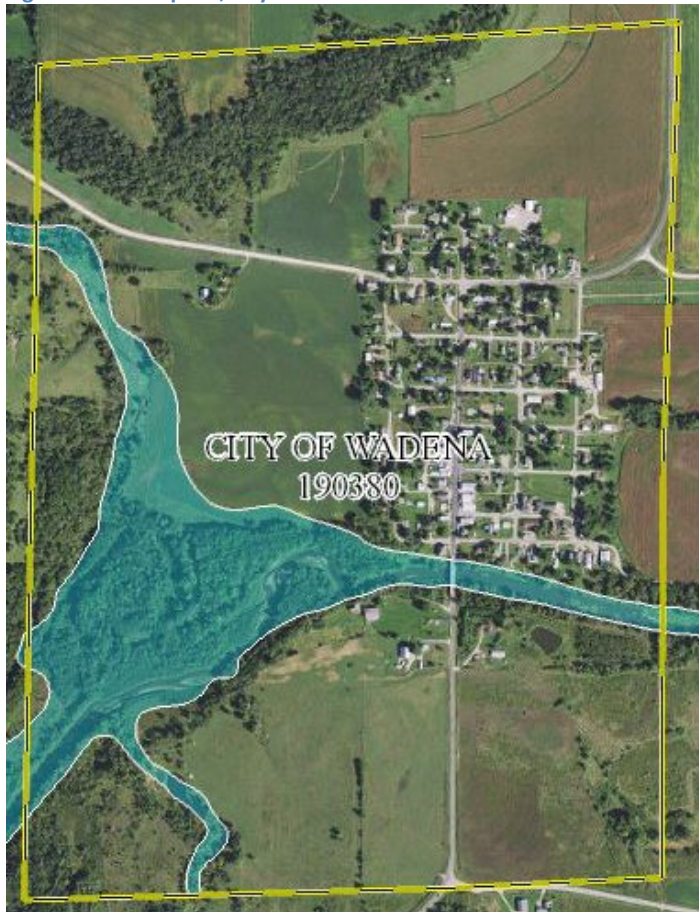
The site for the town of Wadena was purchased by Samuel Stevens in 1851; and the beginning of the town was made in 1855 by Horace Countryman and his father, who built a house and a sawmill. In 1858 Major David B. Herriman purchased the Countryman mill property and in conjunction with his son began to build a flouring mill on the north bank of the Volga River. At the same time, a substantial dam was constructed. The name of Wadena was given to the town by Major Herriman, who selected the name of an Indian Chief who had been a warm friend of the major's while he was living at Crow Wing, Minnesota. The town of Wadena plat was recorded May 11, 1859. On June 2, 1878, the Volga Valley Railroad reached the town.

For City of Wadena, the National Register of Historic Places notes the following sites (National Park Service, 2015):

- Hardware Building

Plum Creek flows through the west portion of Wadena meeting the Volga River in south Wadena. Figure 52 illustrates the creek, the river and FEMA DFIRM flood zones.

Figure 52: Floodplain, City of Wadena



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

### *Changes in Development/Future Land Use*

The 2010 Census recorded a population of 262 for Wadena, and the 2020 Census recorded a 20% decrease in population to 209. The 2010 Census recorded 123 housing units in Wadena, and the 2020 Census recorded a decrease of fourteen housing units to 109. No future land use plan was reported for Wadena. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Full-time staff: Police Chief, Fire Chief, Administration, Building Department, Street Department, Waste and Water Department, Parks, and Cemetery
- Part-time staff: Cemetery, Crossing Guards and Library
- Seasonal employees: Lifeguards, Parks, Cemetery, Streets and Utilities

Buildings and infrastructure in Wadena are as follows:

- No active railroad.
- The City has four government buildings, including City Hall, the fire station, the library, and the post office.
- Wadena has no dam or levees within city limits. The Christen Dam is located just north of city limits.
- As of January 2022, the assessed value of all residential structures in the City of Wadena was over \$7.5 million. In addition, commercial structures were assessed valued at \$444,491 (Iowa Department of Management, 2022).

The Wadena-Illyria Fire Department supports the community for fire protection needs and has 14 volunteers fully trained for response. In addition, 9 volunteers are fully trained as first responder members of the Wadena-Illyria Fire Department First Responders Team. The fire station was built in 1976.

Tri-State Regional Ambulance Service provides ambulance services to the City of Wadena. The Fayette County Sheriff's Office in West Union is the County's 911 dispatch center, and also provides law enforcement to the community. Fayette County Emergency Management also provides services to the City of Wadena.

The City currently has one warning siren, manually activated during emergencies from the Wadena-Illyria Fire Department. It is temporarily out of use but will be kept on hand. An additional new siren is currently being sought. The city utilizes two generators, one portable at the lift station building (powered by diesel), and an additional portable generator on a trailer. A community shelter is located in the American Legion across the street from the fire station.

Utilities in Wadena are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift station installed in 1972 with upgrades since. Sewer infrastructure includes a three-celled lagoon which all City properties utilize.
- The City of Wadena participates in the Iowa Rural Water Association (IRWA). Built in 1991, the City's water storage tank is located at the North end of the city and has capacity for 63,000 gallons of water. City water main infrastructure includes 6" mains installed in 1991.

Public service providers for City of Wadena are as follows:

- Electric: Alliant Energy
- LP Gas: Viafield Co-op; Fauser Energy Resources
- Internet: Windstream
- Land-Line Telephone: Windstream
- Ambulance: Northeast Iowa Medical Transport (West Union)
- Hospital, Clinic: Gundersen Lutheran (West Union)
- Senior Care/Living Facilities: Maple Crest (Fayette)
- Food Supplies: Charley's Gas Gauge

City of Wadena is included in the North Fayette Valley Community School District. No district school buildings are located within city limits.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

Updated via Iowa Codification 2005, Wadena ordinances in place include: flood plain management, building code, zoning/land use and nuisance.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

An initial Flood Insurance Rate Map (FIRM) was identified for Wadena on August 16, 2011. The current effective FIRM map date is May 18, 2021. The City of Wadena does not participate in the National Flood Insurance Program (NFIP) and is not currently compliant with the program. A SFHA has been mapped in the City of Wadena, but because the assets at risk are considered minimal, the city has thus far decided not to participate in the NFIP.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Wadena has no repetitive loss properties through 2022.

### *Key Issues*

- Flooding – River flooding is a concern. In 2017 Volga River flood waters reached the wastewater treatment plant property but was still setback from the lagoons.



- Dam Failure – The Volga Lake Dam, the only significant hazard dam in the County, is situated north of Wadena approximately 5 miles. There was concern about downriver impacts to the community should the dam fail.
- Storm Events – The community has been impacted by a variety of storm events in the past, sometime associated with flooding. A campground south of town does not have a storm shelter, and there may be a vulnerable population there.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Multi-Hazard Emergency Operations Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station.
8. City utilizes two generators.

#### Status and Progress on Previous Mitigation Actions

1. Enhance fire district facility and response equipment.
  - a. Status: Completed. City has replaced all bunker gear for the fire department. A building addition was completed that includes a separate meeting room and kitchen area. UTV was upgraded to a larger unit that includes a skid in the back to haul water. All radios for EMS and Fire were replaced with county upgrades.
2. Improve/upgrade water/sewer facilities (loop water lines in certain areas of city, including across Mill St., from City Hall, north to 4<sup>th</sup> St.)
  - a. Status: Incomplete, still interested in pursuing.
3. Work with local campground to create an emergency notification/evacuation plan for storm events.
  - a. Status: In progress, will be completed Spring 2024.
4. Upgrade to siren at fire station.
  - a. Status: Incomplete, still interested in pursuing.
5. Expand law enforcement, fire, or emergency response capacity (recruitment/outreach for fire and EMS volunteers; continue trainings)
  - a. Status: Ongoing, continually working to recruit new members. Recently increased Fire Department by 1 member and EMS by 3 members. Also worked out an arrangement with EMS providers from the Elgin area that are willing to respond to Wadena calls.
6. Continue to maintain/build up levee/landform around wastewater treatment site to protect against flooding.
  - a. Status: Incomplete, still interested in pursuing.

Mitigation Actions to Pursue Through MJHMP Implementation

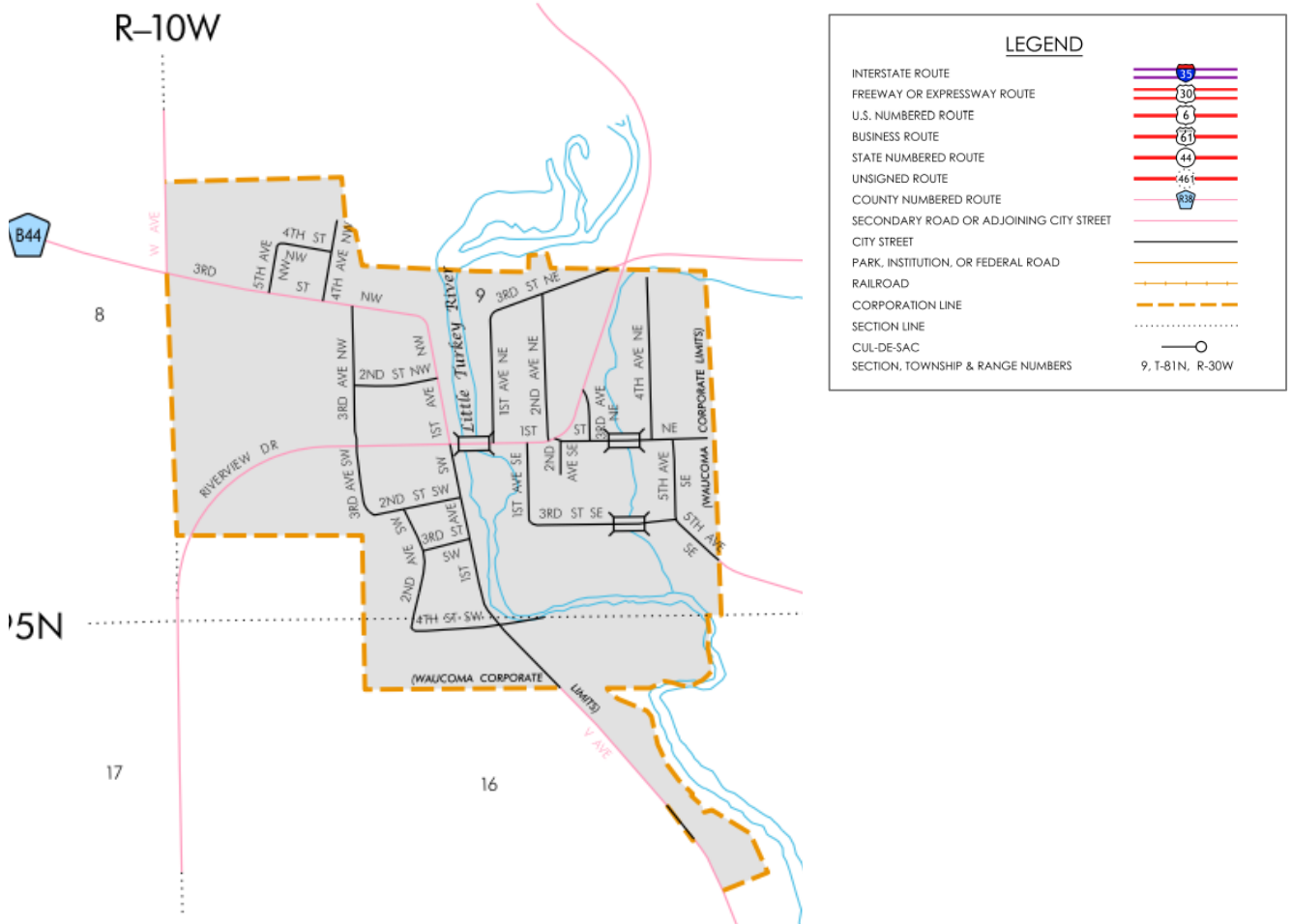
1. Improve/upgrade water/sewer facilities (loop water lines in certain areas of the city, including across Mill St., from the City Hall, north to 4<sup>th</sup> St. )
2. Upgrade to siren at fire station.
3. Expand law enforcement, fire, or emergency response capacity (recruitment/outreach for fire and EMS volunteers)
4. Continue training for emergency response volunteers
5. Continue to maintain/build up levee/landform around wastewater treatment site to protect against flooding.
6. Increase public awareness of natural hazards.

## City of Waucoma

### History and Overview

Waucoma is located in northwestern Fayette County. The city has an elevation of 1040 feet above sea level. The total land area of city limits is 0.43 square miles (City-data.com, n.d.) and is laid out as shown in Figure 53.

Figure 53: Waucoma Street Map



Source: (Iowa Department of Transportation, 2016)

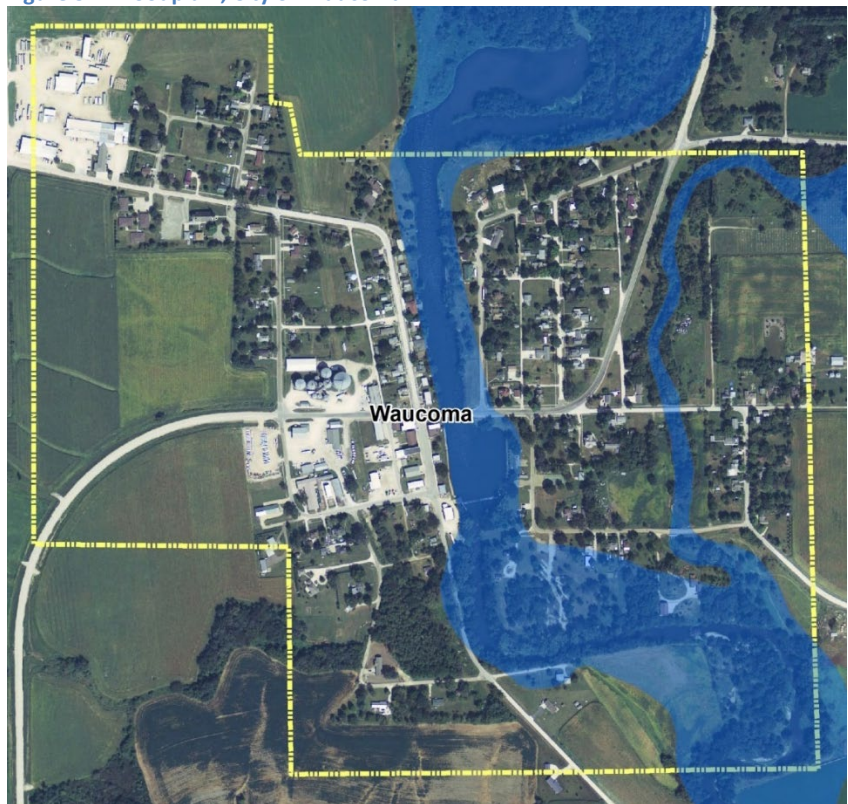
The town of Waucoma was laid by J. P. Webster in 1854. The first house on the town plat was built by Baldwin Kirkpatrick, in 1855, which later became known as the Empire House. In the early days, the village had a good flouring mill, several stores, and mechanic shops. It was thought that upon construction of the Davenport and Northwestern Railway through the town, the town itself would

become of considerable importance. The town of Waucoma is located in the SW ¼, Section 9, Eden Township.

For the City of Waucoma, the National Register of Historic Places notes no sites within city limits (National Park Service, 2015).

The Little Turkey River runs through the middle of the City of Waucoma. Significant land area within the corporate boundaries falls in the Federal Emergency Management Agency (FEMA) identified floodplains as shown on Digital Flood Insurance Rate (DFIRM) maps. Figure 54 illustrates the river and FEMA flood zones.

Figure 54: Floodplain, City of Waucoma



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment portion of the plan.

### *Changes in Development/Future Land Use*

The 2010 Census recorded a population of 257 for Waucoma, and the 2020 Census recorded an 11% decrease in population to 229. The 2010 Census recorded 134 housing units in Waucoma, and the 2020 Census recorded an 8% decrease in housing units to 123. No future land use plan was reported for Waucoma. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city's vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Part-time staff: one City Clerk, one Water Superintendent/Wastewater and three others

Buildings and infrastructure in Waucoma are as follows:

- No active railroad.
- The City has four government buildings, including City Hall (built in 1985), a library, a post office, and a fire station.
- Waucoma has one dam within city limits on the Turkey River, the Waucoma Mill Dam; this dam is classified as Low Hazard.
- As of January 2022, the assessed value of all residential structures in the City of Waucoma was over \$9.3 million. In addition, commercial structures were valued at over \$2.4 million (Iowa Department of Management, 2022).

The Waucoma Fire District supports the community for fire protection needs. The City has 31 fire hydrants and 18 volunteers fully trained as members of the Waucoma Fire Department for rural response. An additional 15 volunteers are fully trained as first responder members. The City's ISO rating is: 8.

Waucoma First Responders / Tri-State Regional Ambulance service provides ambulance service to the City. The Fayette County Sheriff's Office in West Union is the County's 911 dispatch center and is also contracted to provide law enforcement to the community. Fayette County Emergency Management provides services to the City of Waucoma.

The City utilizes the Community Center (105 1<sup>st</sup> Avenue SW), the Waucoma Events Center (308 Riverview Dr. W.), and the fire station (105 1<sup>st</sup> Ave. SW) as their community shelter locations. The City has one warning siren in use (installed in 1991), manually activated during emergencies from the Waucoma Fire Station and tested monthly. City utilizes three generators, all located at the Fire Station (all powered by gas).

Utilities in Waucoma are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes two lift stations and three lagoon cells. The lift station is a single wet well structure, a concrete upright cylinder with sloping floor and grinder pumps. The lagoon system was built in 1991 and consists of three ponds with approximately 0.62 acres of water surface.
- The City of Waucoma participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3375001. The water main infrastructure was built in 1979 and is utilized in 100% of town, which includes 8" and 6" mains. Also built in 1979, the City's elevated water tower is 120 feet tall, has a maximum pressure of 55 psi and capacity for 75,000 gallons of water (located on 2<sup>nd</sup> Avenue NW).

Public service providers for City of Waucoma are as follows:

- Electric: Alliant Energy
- LP Gas: Fredericksburg Farmers Coop, Five Star Coop, Fencil Oil
- Internet: Windstream, Allamakee-Clayton REC
- Land-Line Telephone: Windstream
- Ambulance: Waucoma First Responders
- Hospital, Clinic: Mercy Medical Center (New Hampton), Palmer Lutheran Health Center (West Union)
- Food Supplies: M & M Convenience Store

City of Waucoma is included in the Turkey Valley Community School District. No district buildings are located within city limits.

### *Fiscal and Technical Resources*

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following

- Capital improvements project funding (for repair of buildings)
- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds (done for recent sewer upgrade)
- Loan from SRF

### *Existing Plans and Policies*

The Waucoma code of ordinances includes zoning, subdivision, and floodplain management ordinances. Planning documents in place include Builder's Plan (1995), Land-use Plan (2006), Watershed Plan (2006), and water and sewer vulnerability assessments.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

The City of Waucoma participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on September 29, 1986, with an initial Flood Insurance Rate Map (FIRM) identified on September 29, 1986. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted a floodplain ordinance. The ordinance meets minimum State of Iowa floodplain regulations (which exceed minimum FEMA regulations). The identified floodplain administrator is the city clerk. The permitting process by the floodplain administrator includes a determination as to whether proposed floodplain development meets applicable standards of the floodplain ordinance. The floodplain administrator responsibilities and floodplain development permitting process identified in the floodplain ordinance will be implemented



by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Waucoma has one single family repetitive loss property through 2022.

### *Key Issues*

- Hazardous Materials – The Farmers Co-op just north of Waucoma near Jackson Junction could pose a threat to the community should a hazardous materials incident occur. The Turkey Valley school is located near the co-op (between the two communities) and would need to be evacuated quickly in the case of a hazardous materials release event.
- Flooding – The city recalled regular serious flooding, and named recent events in 2008, 2010, and 2016 as causing a significant amount of damage. The city identified multiple areas that flood such as the Little Turkey Campground, the ball fields northeast of town, low areas to the north, homes near 1<sup>st</sup> St. and west of the river, over the road south of town (1<sup>st</sup> Ave. SW), and north of town on V68. Also, the city’s wastewater treatment plant has been breached by flood waters during recent events and has failed, causing release of sewage into the river. Repetitively flooded properties are a concern, and the city would consider options for acquisition of these structures to restore problem areas to open space or public space.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Multi-Hazard Emergency Operations Plan.
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team.
6. City is a part of the Iowa Mutual Aid Compact (IMAC).
7. City maintains own fire station.
8. City utilizes three generators.
9. Ultraviolet treatment of wastewater.

#### Status and Progress on Previous Mitigation Actions

1. Backup generator for event center – stationery, for outside of building.
  - a. Status: Not completed, still interested in pursuing.
2. Consider acquisition/buy out of flood prone properties for conversion to public/green space.
  - a. Status: Not completed, still interested in pursuing.
3. Maintain/improve emergency responder equipment.
  - a. Status: Ongoing

4. Replace Self-Contained Breathing Apparatus (SCBA) breathing tanks for Fire Department.
  - a. Status: Completed, the Waucoma Fire Department purchased 10 new SCBA units and the older units will be replaced on an ongoing basis as they age beyond time required by law.
5. Pursue remotely activated siren/new siren.
  - a. Status: Not completed, no longer interested in pursuing at this time due to availability via cellular phone.
6. Study to develop strategies for protection of wastewater treatment facility from flooding; identify flood mitigation projects for wastewater plant and apply for funds.
  - a. Status: Completed. After the flood in 2021, work was done at the lagoon to build up the area that was compromised. Large rocks were hauled in where flood waters undermined the VU treatment system to prevent this from happening in the future.
7. Work with campground to create an emergency notification/evacuation plan for storm events.
  - a. Status: Completed. Fire Chief has worked with the campground owners. Measures are not in place for evacuations, if necessary. The fire department has trained on this.
8. Pursue better equipment for filling sandbags during flooding events.
  - a. Status: Not completed, still interested in pursuing.
9. Support stormwater management, including infiltration, retention basins, bioswale, rain garden, and siltation removal projects.
  - a. Status: Completed. A larger drain has been installed in the NW corner of Waucoma to handle runoff water and take the water into the storm sewer to prevent street flooding in that area of town.
10. Waterway and structural changes/maintenance/upgrades/construction.
  - a. Status: Not completed, still interested in pursuing.
11. Construct, retrofit, or maintain drainage systems to provide proper functioning systems.
  - a. Status: Not complete, still interested in pursuing.
12. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing. The City of Waucoma 2023 Code of Ordinances has a Floodplain Management Chapter for the City Council and Waucoma residents to refer to.

*Mitigation Actions to Pursue Through MJHMP Implementation*

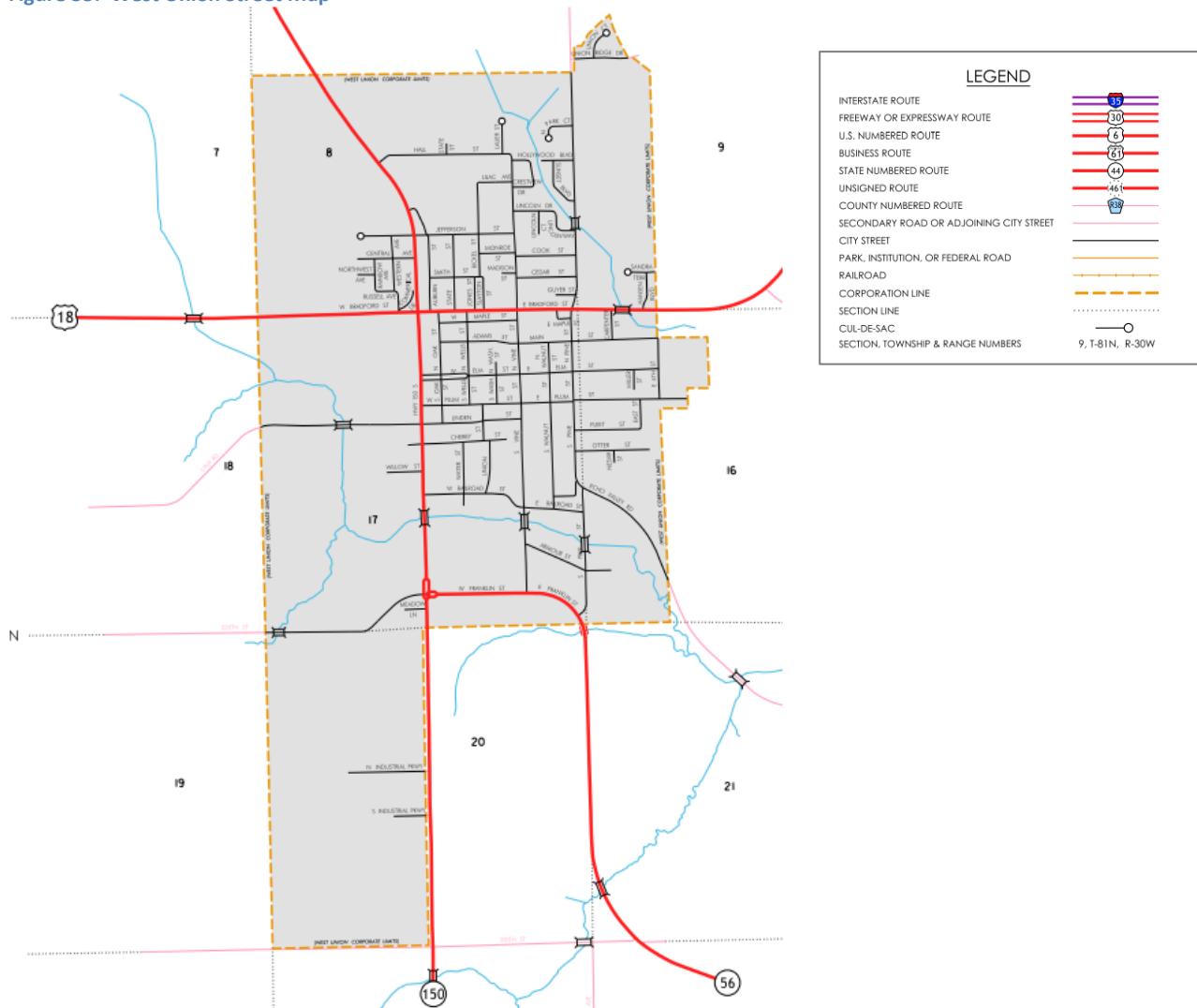
1. Backup generator for event center – stationery, for outside of building.
2. Consider acquisition/buyout of flood prone properties for conversion to public/green space.
3. Maintain/improve emergency responder equipment.
4. Pursue better equipment for filling sandbags during flooding events.
5. Waterway and structural changes/maintenance/upgrades/construction.
6. Construct, retrofit, or maintain drainage systems to provide proper functioning systems.
7. Continue membership in NFIP.

## City of West Union

### History and Overview

West Union is located in central Fayette County, situated around the juncture of Highway 18 and Highway 150. The city has an elevation of 1197 feet above sea level. The total land area of city limits is 2.69 square miles (City-data.com, n.d.) and is laid out as shown in Figure 55.

Figure 55: West Union Street Map



Source: (Iowa Department of Transportation, 2016)

West Union was the first town in the county and was laid out in the fall of 1849 and resurveyed in 1850. Originally called Knob Prairie, it was founded by William Wells, naming it for his hometown, also called West Union, in Ohio.

The first house on the town plat was built by J. W. Rogers in 1849; and in January, 1850, Mr. Rogers was appointed postmaster. The first store was opened in September 1849, in part of a house owned by William Wells, near the center of Section 17. West Union was later picked by the voters of the county for the location of the county seat.

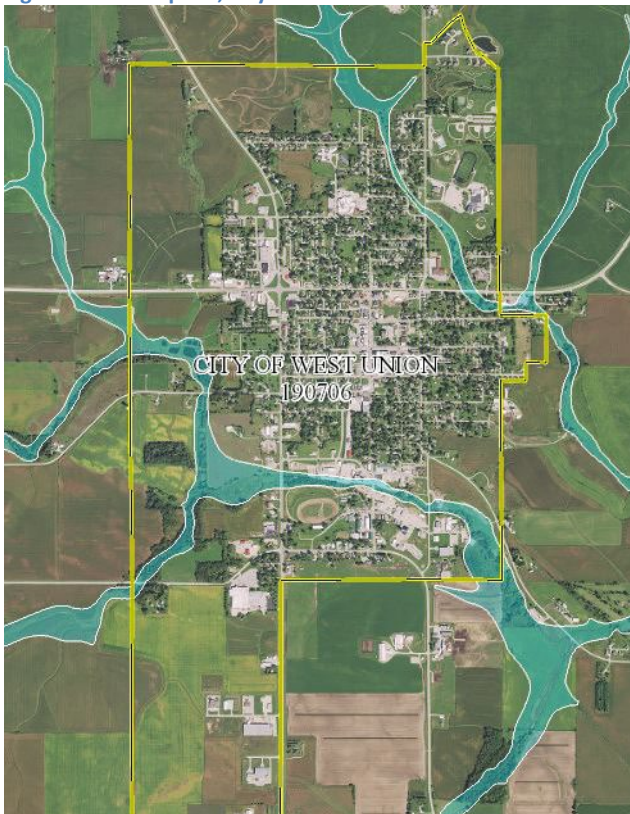
In 2008, West Union decided to champion the practices of sustainable urban design and was designated a Green Pilot Program by the Iowa Department of Economic Development. In addition, the community has an active food and fitness program, an 1867 brick Baptist Church, County courthouse, County Fairgrounds, and only eight miles separating city limits and Iowa's largest private college.

For City of West Union, the National Register of Historic Places notes the following sites (National Park Service, 2015)

- Fayette County Courthouse
- First Baptist Church of West Union
- Grimes Octagon Barn
- Hobson Block
- Maple View Sanitarium
- Mill Race Bridge
- Vine Street Bridge
- West Auburn Bridge
- West Union Commercial Historic District

Otter Creek flows through the south portion of the City of West Union, south of the historic downtown area. Also, Glover Creek flows through the northeast corner of the community in the vicinity of the West Union Recreation Center and North Fayette Valley schools. Figure 56 illustrates the path of the two creeks and the FEMA DFIRM flood zones.

Figure 56: Floodplain, City of West Union



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.



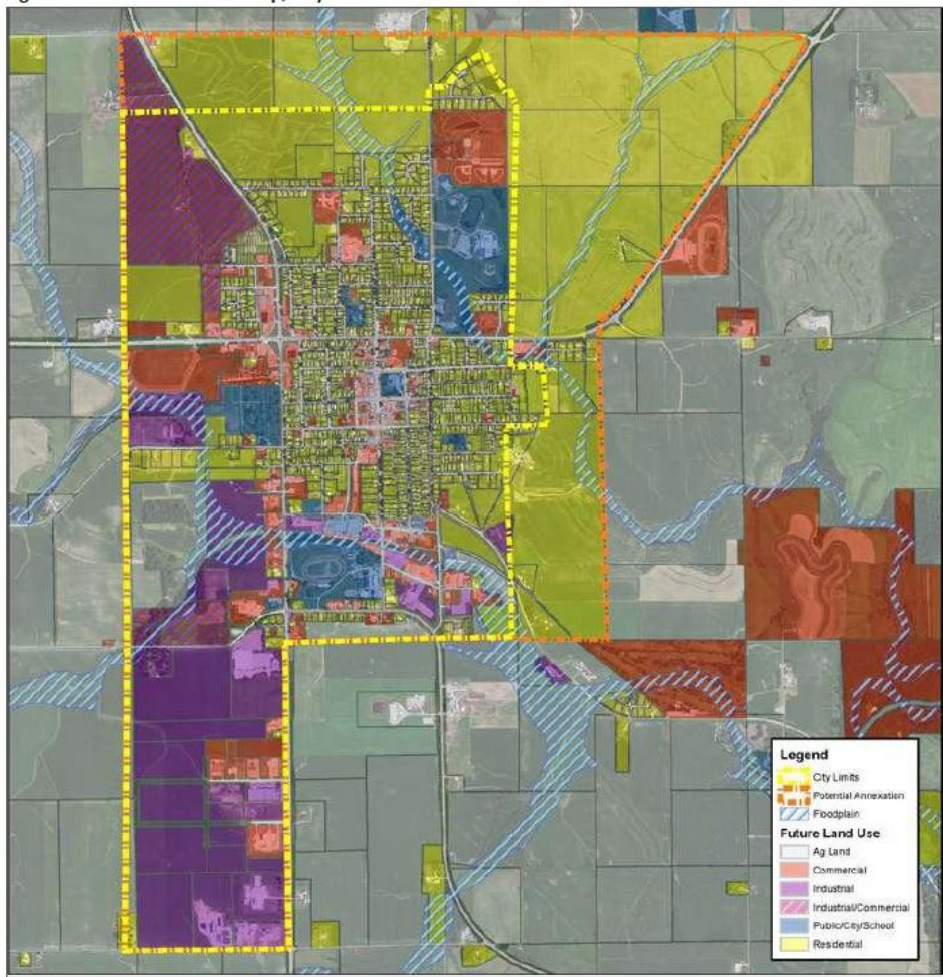
**Changes in Development/Future Land Use**

The 2010 Census recorded a population of 2,486 for West Union, and the 2020 Census recorded a slight increase in population to 2,490. The 2010 Census recorded 1,240 housing units in West Union, and the 2020 Census recorded a decrease in eight housing units to 1,232. A section on City of West Union development priorities and future land use can be found in the 2012 Fayette County Comprehensive Plan, which provides the following:

The city expects to see future development occur to the west within existing limits and potential annexation growth to the north and northeast. West Union has little limitations to growth from natural barriers. Otter and Glover Creeks provide some areas prone to flooding and will be avoided in future development. The city still has quite a bit of undeveloped land within its existing borders and will encourage appropriate development [there].

Figure 57 illustrates the West Union Future Land Use map from the 2012 county comprehensive plan.

**Figure 57: West Union Future Land Use**



Areas in west-central and northwest West Union do not sit in the floodplains (looking at the existing city boundary), which has not changed since the 2018 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

### *Governance, Facilities and Services*

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- 15 full-time staff
- 8 part-time staff
- 32 seasonal employees

Buildings and infrastructure in West Union are as follows:

- No active railroad.
- The City's government buildings include the main City Hall (built in 1978) and police station, as well as a fire station, library, post office and water department.
- West Union has no dam or levees within city limits.
- As of January 2022, the assessed value of all residential structures in the City of West Union was over \$107 million. In addition, commercial structures were assessed valued at over \$25.8 million (Iowa Department of Management, 2022).

The West Union Police Department (station rebuilt in 1978) includes 5 full-time staff and 1 reserve staff. The Police Station is staffed 24 hours/day.

The City of West Union Fire Department supports the community for fire protection needs. The City has 28 volunteers fully trained as members of the City of West Union Fire Department for city response.

Tri-State Regional Ambulance Service serves the City of West Union. The Fayette County Sheriff's Office in West Union is the County's 911 dispatch center. Fayette County Emergency Management provides services to the City of West Union as well.

The City utilizes North Fayette Valley High School (600 Pine St.), West Union Elementary (400 Pine St.), and the Fayette County Courthouse (114 N. Vine St.) as community shelter locations. The schools have storm safe rooms. The City has three warning sirens, located by the Fire Station (South Vine Street), and on N. Pine St. near the Kaleidoscope Kids Day Care, and on the 100 Block of Auburn (near the intersection of Hwy 150 and Hwy 18). The sirens are controlled by the Fire Station and the Fayette County Communications Center.

The City has three generators, one at the wastewater treatment plant, one at the lift station, and a portable generator for the water supply system. Other public locations such as the bank and the hospital, also have generators.

Utilities in West Union are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift station installed in 2000. In 1988 the wastewater treatment plant was updated and can now accommodate 850,000 gallons daily.



- The City of West Union participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3383014. Built in 1974, the newer of the City's elevated water towers is located on West Linden and has capacity for 500,000 gallons of water. Built in 1934, the older of the City's elevated water towers is located on Walnut Street and has capacity for 150,000 gallons of water. City water main infrastructure includes 34 miles of water mains 50-80 years old.

Public service providers for City of West Union are as follows:

- Electric: Alliant Energy
- Natural Gas: Black Hills
- LP Gas: AgVantage
- Fuel Oil: Fauser
- Internet: Mediacom; Hawkeye InterConnect provides Fiber Optic too
- Land-Line Telephone: CenturyLink
- Ambulance: Tri-State Ambulance
- Hospital, Clinic: Gundersen Palmer Hospital and Clinics
- Senior Care/Living Facilities: Traditions Assisted Living; Stoney Brook Village; Good Samaritan Nursing Center and Assisted Living; Cedar Courts Assisted Living; Prader-Willi Houses (Washington, State St. and Jefferson)
- Food Supplies: Quillins
- Cultural and Recreational: Echo Valley; City Parks; Fayette County Historical, Rec Foundation
- Other Infrastructure Includes: West Union Community Library, the Aquatic Center

City of West Union is included in the North Fayette Community School District. West Union Elementary and North Fayette Valley High School are located within city limits. The City also has three licensed childcare centers within city limits.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### ***Existing Plans and Policies***

West Union ordinances in place include zoning, subdivision, snow removal, parking, tree trimming, nuisance, storm water, building code, site plan review requirements, and landscape. Planning documents in place include Comprehensive Plan (2006) and Land Use Plan (1996).

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with

the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### ***National Flood Insurance Program***

The City of West Union participates in the National Flood Insurance Program (NFIP) and is considered compliant. The community joined the NFIP on December 17, 2012, with an initial Flood Insurance Rate Map (FIRM) identified on August 16, 2011. The current effective FIRM map date is May 18, 2021.

As required by the NFIP, the community has adopted floodplain regulation practices (per Resolution 2013-13) meeting minimum State of Iowa requirements (which exceed minimum FEMA regulations). The identified floodplain administrator is the City Administrator. The floodplain administrator is given the responsibility and authority to request information concerning the use of the floodplain, to work with Federal, State, and local agencies and private firms to manage local flood plain and work with adjoining flood plain areas, to supply data for reports when asked, maintain and update boundaries as needed, and enforce flood plain regulations. In addition, the community's building permitting process requires submission of information pertaining to location in the floodplain. The floodplain administrator responsibilities and floodplain development review process described will be implemented by the community in moving ahead to maintain compliance with the NFIP. The ordinance addresses substantial improvement/substantial damage in the permitting process requirements.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 West Union has no repetitive loss properties through 2022.

### ***Key Issues***

- No specific issue was raised. The community would be vulnerable to hazards that are common throughout the county, such as hail, thunderstorm and lightning, or windstorm events. Flooding is less of a concern for West Union, however rural areas north and west of West Union could help address flooding in downstream communities by considering options for flood mitigation projects (e.g. flood structures).

### ***Mitigation Activities***

#### ***Mitigation Activities Already in Place***

1. The entire County participates in emergency response exercises on a regular basis
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances
3. City utilizes the Fayette County Multi-Hazard Emergency Operations Plan
4. All City Response Personnel follow appropriate protocol and guidance
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City maintains own fire station and police station
8. City utilizes three generators

Status and Progress on Previous Mitigation Actions

1. Water tower maintenance.
  - a. Status: Completed. The oldest water tower had the lead paint removed, repairs made, and was repainted in 2023.
2. New/enhanced fire district facility and response equipment
  - a. Status: Ongoing
3. Backup power supply for community needs.
  - a. Status: Completed. The city has added a generator at the wastewater treatment plant, lift station, and a portable generator for the water supply system.
4. Improved/enhanced infrastructure sought including City Hall re-location to core of City.
  - a. Status: Not completed; no longer a priority. There are no plans at this time to move City Hall due to costs.
5. Improved/upgraded water/sewer facilities (e.g. wastewater plant expansion, new lagoon).
  - a. Status: Completed. New aero mod wastewater treatment facility was built 2021-2023.
6. Continue participation in Turkey River Watershed Management Authority and related planning.
  - a. Status: Ongoing
7. Coordinate with watershed authority to identify and work with property owners north and west of town to install stormwater structures for retaining and slowing floodwaters going downriver.
  - a. Status: Completed. City did a sponsored project with SRF and replaced Cook Street with pavers, and also a stormwater drainage project on West Jefferson Street behind Palmer Apts.
8. Support stormwater management, including infiltration, retention basins, bioswale, rain garden, and siltation removal projects.
  - a. Status: Completed. Several were placed downtown as part of the Streetscape project in 2010-2012, volunteers maintain the weeding of them each year.
9. Develop water and/or soil conservation strategies.
  - a. Status: Ongoing
10. Add fiber optics throughout community.
  - a. Status: Completed. Hawkeye Fiber was added throughout West Union in 2022.
11. New siren.
  - a. Status: Ongoing. Grant was applied for, but no funding has been committed.
12. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
  - a. Status: Ongoing

Mitigation Actions to Pursue Through MJHMP Implementation

1. Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.
2. New/enhanced fire district facility and response equipment
3. Continue participation in Turkey River Watershed Management Authority and related planning.
4. Develop water and/or soil conservation strategies.
5. New siren.
6. Continue annually televising water/sewer lines and making CIIP lining and other needed repairs.
7. Linden Street Reconstruction from Vine Street by Fire Station to Hwy 150 and replacing water/sewer.

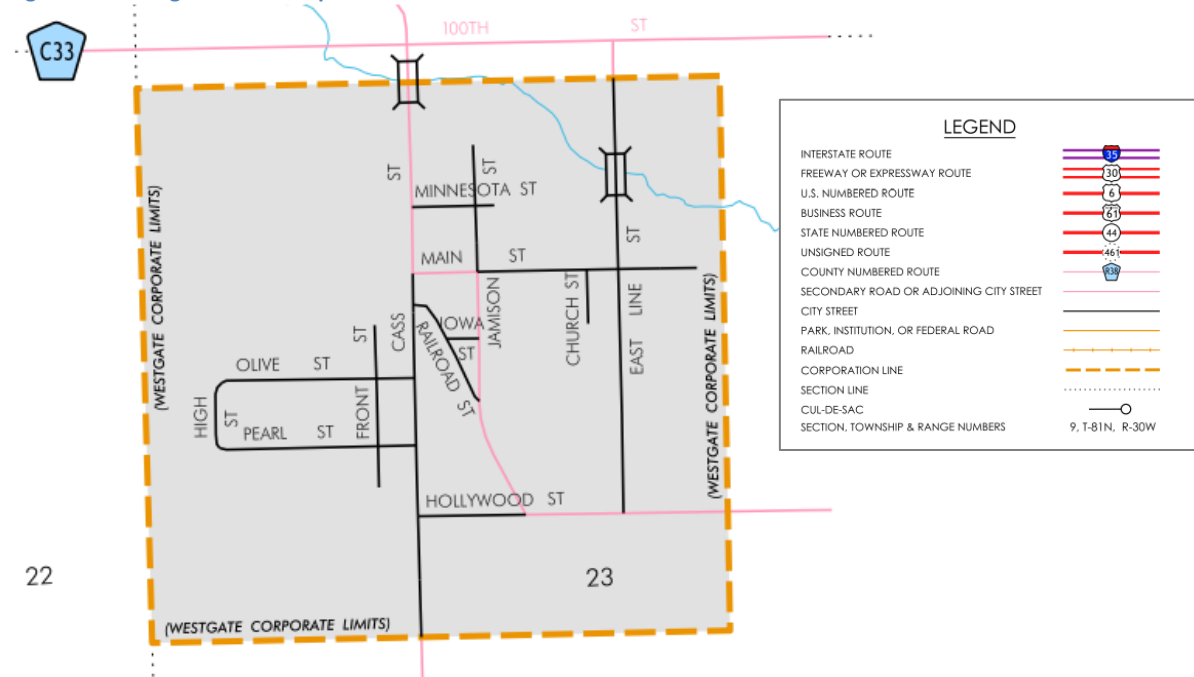
8. Construct multiuse trail through the old golf course on Echo Valley Road connecting West Union from S. Pine corner of Echo Valley Road to Echo Valley State Park
9. Consider possible annexation to increase municipal boundaries
10. Increase public awareness of natural hazards.

## City of Westgate

### History and Overview

Westgate is located in southwestern Fayette County. The city has an elevation of 1092 feet above sea level. The total land area of city limits is 0.36 square miles (City-data.com, n.d.) and is laid out as shown in Figure 58.

Figure 58: Westgate Street Map



Source: (Iowa Department of Transportation, 2016)

Surrounded by historic Freemont Township, the City of Westgate was developed when the Minnesota & Northwestern Railroad needed a station. Long before formal “roads” existed, the diagonal tracks across the prairies were the pathways for Freemont Township residents. In 1886, with the coming of the railroad, the town came to life. In 1887, the first sidewalks were built and by the following spring they extended to the depot. Main Street was well graded by 1890 and by 1894, the population had doubled. The Westgate election was held on May 9, 1896, formalizing the incorporated community. The town was named for the Sylvester S. Westgate family, who donated the land west of the tracks, referred to in the plat books as the “Westgate Addition.”

For the City of Westgate, the National Register of Historic Places notes no sites within city limits (National Park Service, 2015).

A branch of Stoe Creek cuts through the northeast corner of the City of Westgate.(DFIRM maps). Figure 59 illustrates the creek route and FEMA DFIRM flood zones.

Figure 59: Floodplain, City of Westgate



Source: (Federal Emergency Management Agency, 2017)

As available, additional details regarding the Special Flood Hazard Area (SFHA) and valuation data are located within the Vulnerability Assessment.

***Changes in Development/Future Land Use***

The 2010 Census recorded a population of 211 for Westgate, and the 2020 Census recorded a 9% decrease in population to 192. The 2010 Census recorded 97 housing units in Westgate, and the 2020 Census recorded a decrease of 3 housing units to 94. No future land use plan was reported for Westgate. City boundaries have not changed since the 2018 county hazard mitigation plan. Overall, the city’s vulnerability to hazards has not changed as a result of changes in development.

***Governance, Facilities and Services***

The governing body includes one Mayor, one Mayor Pro-Tem, and a five-member City Council. City employees include:

- Part-time staff: one City Clerk, one Water/Wastewater Superintendent
- Seasonal employees include: two part time staff for lawn mowing and snow removal needs.

Buildings and infrastructure in Westgate are as follows:

- No active railroad.
- Three government buildings- City Hall/Library/Fire Station (built in 2012).
- Westgate has no dam or levees within city limits.



- As of January 2022, the assessed value of all residential structures in the City of Westgate was over \$5.9 million. In addition, commercial structures were valued at \$411,778 (Iowa Department of Management, 2022).

The Westgate Fire and Rescue supports the community for fire protection and emergency response needs. It has 30 members certified as FF1, FF2, and EMT levels. The City's ISO rating is: 6.

Westgate Ambulance Service provides ambulance services to the City of Westgate. The Fayette County Sheriff's Office in West Union is the 911 dispatch center for the City of Westgate and is also contracted to provide law enforcement. Fayette County Emergency Management provides services to the City of Westgate.

The City utilizes the Westgate Fire Station (105 Jamison St.) as their community shelter location. The City has one warning siren in use, manually activated during emergencies, from the Westgate Fire Station. The siren is located on the water tower and was installed in the 1960's. The City utilizes one generator at well house (portable generator powered by PTO), has another portable generator on a tractor for the lift station, and the fire station also has two generators.

Utilities in Westgate are as follows:

- The City provides municipal sewer for property owners. Sewer infrastructure includes one lift, installed in 2003, and a three-cell lagoon.
- The City of Westgate participates in the Iowa Rural Water Association (IRWA). The City's municipal ID for water is 3379009. Built in 1906, the City's elevated water tower is located at the intersection of South Jamison Street and Railroad Street and has capacity for 18,000 gallons of water.

Public service providers for City of Westgate are as follows:

- Electric: Alliant Energy
- Internet: Hawkeye Telephone
- Land-Line Telephone: Hawkeye Telephone

City of Westgate is included in the West Central Community School District. No district buildings are located within city limits.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that the City could potentially use to help fund mitigation activities include the following:

- Fees for utility services
- Taxes for specific purposes
- Debt through general obligation bonds
- Debt through private activities
- Community Development Block Grants (CDBG)

### *Existing Plans and Policies*

Updated via Iowa Codification 2000, Westgate has nuisance ordinances. The city does not have a comprehensive plan, or zoning or subdivision ordinance.

The City utilizes the Fayette County Multi-Hazard Emergency Operations Plan, last updated August 2023. All City response personnel follow appropriate protocol and guidance. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team, a specialized HAZMAT Team out of Cedar Rapids, Iowa. Cedar Rapids is approximately 60 miles south of Fayette County, Iowa.

### *National Flood Insurance Program*

An initial Flood Insurance Rate Map (FIRM) was identified for Westgate on August 16, 2011. The current effective FIRM map date is May 18, 2021. The City of Westgate does not participate in the National Flood Insurance Program (NFIP) and is not currently compliant with the program. A SFHA has been mapped in the City of Westgate but because the assets at risk are considered minimal, the city has thus far decided not to participate in the NFIP.

No communities in Fayette County are currently required to undergo Community Assistance Visits (CAVs). As shown on Table 35 Westgate has no repetitive loss properties through 2022.

### *Key Issues*

- Windstorms – Fremont Township near Westgate has experienced damages from recent windstorm events.
- Flooding/Infrastructure – The Main St. culvert between East Line Road and Jamison needs to be maintained and/or updated to maintain functionality.

### *Mitigation Activities*

#### *Mitigation Activities Already in Place*

1. The entire County participates in emergency response exercises on a regular basis.
2. City utilizes local ordinances, defaulting to the State of Iowa for all other ordinances.
3. City utilizes the Fayette County Multi-Hazard Emergency Operations Plan
4. All City Response Personnel follow appropriate protocol and guidance.
5. Fayette County contracts with the Linn County Regional Hazardous Materials Response Team
6. City is a part of the Iowa Mutual Aid Compact (IMAC)
7. City/rural township maintains fire station.
8. City utilizes four generators.

Status and Progress on Previous Mitigation Actions

1. Maintain/improve emergency responder equipment.
  - a. Status: Ongoing
2. New warning siren.
  - a. Status: Completed, installed a new siren next to water tower in 2019.
3. Participate in Rural Water Association.
  - a. Status: Not completed, too expensive.
4. Loop the water mains for better water quality and flow, water main updates, and repair manholes.
  - a. Status: Not completed., still interested in improvements.

Mitigation Actions to Pursue Through MJHMP Implementation

1. Maintain/improve emergency responder equipment.
2. Update water system to include new well, water main updates, repair manholes, and new water tower.
3. Increase public awareness of natural hazards.

## **North Fayette Valley Community School District**

### ***Overview***

The North Fayette Valley Community School District was established in 2018 with the merger of the North Fayette Community School District and the Valley Community School District. The high school is officially named North Fayette Valley High School, located at 600 North Pine Street in West Union. The middle school is officially named the North Fayette Valley Middle School and is located at 23493 Canoe Road, Elgin Iowa (the former Valley Community High School Site). Elementary buildings are West Union Elementary at 400 North Pine Street in West Union, Fayette Elementary in Fayette at 400 Volga Street and Valley Elementary at 23493 Canoe Road in Elgin. The school also operates a special needs center in downtown West Union called the NFV Downtown Academy.

There are no North Fayette Valley Community School District schools located in FEMA identified Special Flood Hazard Areas (SFHAs). FEMA DFIRM floodplains and North Fayette Valley Community School District schools are shown on Figure 9: City of Elgin Planning Area, Figure 10: City of Fayette Planning Area and Figure 18: City of West Union Planning Area.

### ***Changes in Development/Future Land Use***

The North Fayette Valley Community School District has no plans for future development at this time.

### ***District Infrastructure and Resource Inventory***

District offices and the 9-12 High School are located in West Union. The school boasts excellent facilities with newly renovated athletic fields, with a state of the art Performing Arts Center. The athletic complex hosts football, track, and cross county events as well as baseball and softball on the high school premises. A 2017 addition to the building provided for a 2nd gymnasium and tornado safe structure that also serves as classrooms. An outdoor classroom/native area lies between the High School and West Union Elementary, allowing native prairie species to thrive along the banks of Otter Creek as it winds through town to confluence in Elgin with the Turkey River. The 107,000SF High School was constructed in 1970 and expanded in 2007 and 2017.

North Fayette Middle School is located in Elgin, Iowa, in the K-8 building that also houses Valley Elementary. This 111,000 SF one story structure was first constructed in 1959, added on in 1980, 1998, and 2013. The Valley Preschool building is attached to the south end of the building and North Fayette Valley Community Coalition is housed in a building on the north end of the parking lot.

The district elementary buildings also consist of 16,000 SF classroom facility and a stand- alone gymnasium in Fayette, and the West Union Elementary, a 41,000 SF two story building. The district houses transportation fleet in two bus barns, one complex of a 20,000 SF maintenance and a storage building on 10024 Golden Road. The second is a 6000 SF structure constructed in 2017 on the Valley Campus.

Other Assets include a fleet of 24 School Buses, all ranging from 53 passenger to 78, and model years 2000-2018, plus 10 vehicles consisting of 2 suburbans, 4 minivans, 2 cars and 2 cargo vans. They are a 1:1 computing district and hold approximately 100 laptop and desktop computers. Classrooms are all

equipped with projection equipment, and many lower grades have a selection of tablets and Chromebooks at their disposal.

Public service providers for the City of West Union and the North Fayette Valley High School, West Union Elementary, and district offices include:

- Water/Sewer: City of West Union
- Electric: Alliant Energy
- Natural Gas: Black Hills And Encore Energy
- LP Gas: AgVantage
- Internet: Hawkeye Telephone
- Ambulance: Tri-State Ambulance
- Hospital, Clinic: Gunderson Palmer Lutheran Hospital, Gundersen Lutheran Clinic
- Food Supplies: Martin Brothers, local growers, state commodities

Public service providers for the Valley Campus and the NFV MS and Valley Elementary include:

- Electric: Alliant Energy
- Propane: AgVantage
- Internet: Hawkeye Telephone
- Hospital, Clinic: Gunderson Palmer Lutheran Hospital, Gundersen Lutheran Clinic
- Ambulance: Elgin Ambulance
- Hospital, Clinic: Gundersen Lutheran Clinic (West Union); Palmer Lutheran Hospital (West Union)
- Food Supplies: Martin Brothers, state commodities
- Other School Infrastructure Includes: Elementary playground

Public service providers for the City of Fayette and the North Fayette Middle School:

- Water/Sewer: City of Fayette
- Electric: Alliant Energy
- Natural Gas: Black Hills Energy; British Petroleum “BP” Pipeline
- LP Gas: AgVantage FS
- Internet: Windstream
- Land-Line Telephone: Windstream
- Ambulance: Fayette Ambulance Service
- Hospital, Clinic: Gundersen Lutheran Clinic – Fayette; Palmer Lutheran Hospital (West Union)
- Food Supplies: Martin Bros, state commodities
- Other School Infrastructure Includes: Gymnasium and ball diamond, soccerfields, outdoor basketball court, playground

North Fayette Valley middle school in Elgin and high school in West Union both serve as community shelter locations. The high school and Valley Elementary both have tornado safe rooms; the other district schools do not. The school district has several small generators but needs larger generators. Schools have outdoor weather/emergency sirens placed near them, and also have weather radios in their main offices monitored by staff. They also receive “Alert Iowa” messages.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that North Fayette Valley Community School District could potentially use to help fund mitigation activities include the following:

- Property taxes and income surtaxes
- Debt through bonding
- Grants
- Fundraising
- Local Option Sales Tax (LOST) for infrastructure

### ***Existing Plans and Policies***

In addition to the planning and emergency response plans and policies available in each supporting community and the county, the school district maintains the following existing plans and policies pertaining to hazard mitigation and emergency response:

- Handbooks that include prevention and response information for potential emergencies such as tornado, fire, or weapons.
- A written crisis policy.
- Requirement that all visitors to the school campuses check in at the main offices to obtain permission to be in the buildings.
- An updated Emergency Operations Plan (EOP) and regular drills to practice the plan.

### ***Key Issues***

School security and cyber security are key issue for all schools in Fayette County and Upper Iowa University. North Fayette Valley Community School District stated support for identified priority hazards and had no additional hazard concerns to specify.

### ***Mitigation Activities***

#### **Mitigation Activities Already in Place**

1. Each building has emergency warning systems for fire/tornado (all schools)
2. Fire extinguishers throughout building (all schools)
3. Evacuation and tornado drills are practiced (all schools – 2 tornado drills & 2 fire drills annually)
4. Staff has completed ALICE training (all schools)
5. Emergency information binders in all rooms (all schools)
6. Emergency kits in all classrooms, offices, and bus barn (all schools)
7. Regular lock-down (Middle School & Valley Elementary School)
8. Each construction project at West Union campus has followed storm water management practices. The prairie areas along Otter Creek are protected by retention basins for runoff from the KKCC building site and the 2017 addition at the High School. With improvements in the High school and WUE Elementary, a water retention plan was designed and implemented into the sites. Funding sources include school PPEL funds and SAVE funds (Sales Tax Proceeds)



Status and Progress on Previous Mitigation Actions

1. Tornado evacuation plans for all outdoor activities at school venues will be developed to best implement the tornado safe rooms.
  - a. Status: In progress.
2. Fire alarms and protection devices will be updated in West Union Elementary and NFV High School to provide for strobes and voice alarms to accommodate blind and hard of hearing students and patrons.
  - a. Status: Complete.
3. Attain large back-up generators and necessary hook-up/operation equipment.
  - a. Status: Not complete, interested in still pursuing.
4. Pursue additional school safety/security measures at all schools as determined to be necessary; continue staff and student active shooter trainings.
  - a. Status: Ongoing
5. Storm safe rooms for West Union Elementary 2018 and middle school in the future.
  - a. Status: Complete.

Mitigation Actions to Pursue Through MJHMP Implementation

1. Pursue additional school safety/security measures at all schools as determined to be necessary; continue staff and student active shooter trainings.
2. Attain large back-up generators and necessary hook-up/operation equipment.

## Oelwein Community School District

### *Overview*

The Oelwein Community School District serves students from the cities of Oelwein, Hazleton, and Stanley and surrounding rural area. The district includes:

- Little Husky Learning Center, located at 317 8<sup>th</sup> Ave. SE, Oelwein, IA. Little Husky Learning Center serves Pre-K through Kindergarten.
- Wings Park Elementary, located at 111 8<sup>th</sup> Ave. NE in Oelwein, IA. Wings Park Elementary serves grades 2 – 5.
- Oelwein Middle School, located at 300 12<sup>th</sup> Ave. SE in Oelwein, IA. Oelwein Middle School serves grades 6 – 8.
- Oelwein High School, located at 315 8<sup>th</sup> Ave. SE in Oelwein, IA. The Oelwein High School serves grades 9 – 12.

No Oelwein Community School District schools are located in FEMA identified Special Flood Hazard Areas (SFHAs). FEMA DFIRM floodplains and Oelwein Community School District schools are shown on Figure 13: City of Oelwein Planning Area.

### *Changes in Development/Future Land Use*

The Oelwein Community School District has no plans for future development at this time.

### *District Infrastructure and Resource Inventory*

District offices and all of the school buildings are located within the community of Oelwein. They each benefit from the services and emergency response infrastructure in existence in each community.

Public service providers for the City of Oelwein and the Oelwein Community School District include:

- Water/Sewer: City of Oelwein
- Electric: Alliant Energy
- Natural Gas: Alliant Energy
- LP Gas: AgVantage FS
- Internet: Qwest; Mediacom; TRX
- Land-Line Telephone: Qwest
- Ambulance: Mercy Hospital
- Hospital, Clinic: Mercy Hospital
- Other School Infrastructure Includes: High school athletic fields and track, ball diamond and 2 elementary playgrounds

Oelwein Middle School serves as a community shelter location. This school currently has a storm safe room. Other district schools have no tornado safe storm shelters at this time. The school district has several small generators but needs larger generators. Schools have outdoor weather/emergency sirens placed near them, and also have weather radios in their main offices monitored by staff. They also receive “Alert Iowa” messages.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that Oelwein Community School District could potentially use to help fund mitigation activities include the following:

- Property taxes and income surtaxes
- Debt through bonding
- Grants
- Fundraising
- Local Option Sales Tax (LOST) for infrastructure

### ***Existing Plans and Policies***

In addition to the planning and emergency response plans and policies available in each supporting community and the county, the school district maintains the following existing plans and policies pertaining to hazard mitigation and emergency response:

- An updated Emergency Operations Plan (EOP) and regular drills to practice the plan.

### ***Key Issues***

Of the hazards shown, school security and cyber security are key issues for all schools in Fayette County and Upper Iowa University. Also, storm related hazards (tornadoes, winds, flooding, etc.) could be of greater concern to schools due to the concentration of students in buildings.

### ***Mitigation Activities***

#### ***Mitigation Activities Already in Place***

1. Buildings have emergency warning systems for fire/tornado (all schools)
2. Fire extinguishers throughout all buildings (all schools)
3. Evacuation and tornado drills are practiced (all schools)
4. Staff has completed ALICE training (all schools); students completed ALICE training (Little Husky)
5. Emergency information binders in all rooms (all schools); information binders in offices & bus barn as well (Little Husky)
6. Emergency kits in all classrooms (all schools)
7. Regular lock-down (Little Husky)

#### ***Status and Progress on Previous Mitigation Actions***

1. Attain large backup generators and necessary hook-up/operation equipment.
  - a. Status: Not completed, still interested.
2. Work to implement storm safe rooms at all schools.
  - a. Status: Not completed, still interested.
3. Pursue additional school safety/security measures at all schools as determined to be necessary; continue staff and student active shooter trainings.
  - a. Status: Ongoing
4. Continue maintenance and updating of emergency information binders as needed.
  - a. Status: Ongoing
5. Continue maintenance and updating of emergency kits as needed.

a. Status: Ongoing

Mitigation Actions to Pursue Through MJHMP Implementation

1. Work to implement storm safe rooms at all schools.
2. Attain large back-up generators and necessary hook-up/operation equipment.
3. Pursue additional school safety/security measures at all schools as determined to be necessary; continue staff and student active shooter trainings.
4. Continue maintenance and updating of emergency information binders as needed.
5. Continue maintenance and updating of emergency kits as needed.

## **Starmont Community School District**

### ***Overview***

In the fall of 1964, the three communities of Strawberry Point, Arlington, and Lamont merged their school districts and opened their doors as one educational system. By taking a segment of each community's name, the name STARMONT was adopted. The school campus, with grades pre-K through 12 at one location, is situated in a rural area approximately five miles south of the community of Arlington, five miles west of the community of Strawberry Point and six miles north of Lamont. The address is 3202 40th St. in Arlington, IA. The high school structure was built in 1964 and the early childhood through eighth grade students have occupied the newer parts of the building since the 1991-92 school year.

The Starmont school is not located in FEMA identified Special Flood Hazard Areas (SFHAs).

### ***Changes in Development/Future Land Use***

The Starmont Community School District has no plans for future development at this time.

### ***District Infrastructure and Resource Inventory***

Public service providers for Starmont Community School District are as follows:

- Water/Sewer: Own wells (2), shared sewer lagoons with AMPI (business across the street)
- Electric: Eastern Iowa REC
- LP Gas: Viafield
- Natural Gas: Black Hills Energy
- Internet: Iowa Telecom, Iowa Communications Network (ICN)
- Land-Line Telephone: Iowa Telecom
- Ambulance: Strawberry Point
- Hospital, Clinic: Mercy Hospital
- Other School Infrastructure Includes: High school athletic field and track, several ball diamonds, fitness trail and playground equipment

Starmont Community School District has one large storm safe room. The school district has several small generators but needs larger generators. The school(s) have weather radios in their main offices monitored by staff and receive "Alert Iowa" messages. Starmont also has a system of 2-way radios to communicate with staff and transportation directors.

### ***Fiscal and Technical Resources***

Fiscal tools or resources that Starmont Community School District could potentially use to help fund mitigation activities include the following:

- Property taxes and income surtaxes
- Debt through bonding
- Grants
- Fundraising
- Local Option Sales Tax (LOST) for infrastructure

### *Existing Plans and Policies*

In addition to the planning and emergency response plans and policies available in each supporting community and the county, the school district maintains the following existing plans and policies pertaining to hazard mitigation and emergency response:

- Handbooks for each school section that include prevention and response information for potential emergencies such as tornado, fire, or weapons.
- A written crisis policy.
- Requirement that all visitors to the school campuses check in at the main offices to obtain permission to be in the buildings.
- An updated Emergency Operations Plan (EOP) and regular drills to practice the plan.

### *Key Issues*

Of the hazards shown, school security and cyber security are key issues for all schools in Fayette County and Upper Iowa University. Also, storm related hazards (tornadoes, winds, flooding, etc.) could be of greater concern to schools due to the concentration of students in buildings.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. Mitigation actions are covered with the school's Crisis Plan; examples of actions include fire extinguishers, fire/tornado drills, emergency kits in all classrooms.

#### Status and Progress on Previous Mitigation Actions

1. Attain large back-up generators and necessary hook-up/operation equipment.
  - a. Status: Not completed, still interested.
2. Work to implement one additional storm safe room at the school.
  - a. Status: Not completed, still interested.
3. Pursue additional school safety/security measures at the school(s) as determined to be necessary; implement staff and/or student active shooter trainings.
  - a. Status: Ongoing
4. Expand siren capabilities (sirens cannot be heard on all points of the campus).
  - a. Status: Completed. Additional speakers were added so all points on campus can hear sirens, alarms, and announcements.
5. Updated emergency information binders and flipcharts.
  - a. Status: Ongoing
6. Improved and/or replaced emergency kits (crisis buckets).
  - a. Status: Ongoing

#### Mitigation Actions to Pursue Through MJHMP Implementation

1. Work to implement one additional storm safe room at the school.
2. Attain large back-up generators and necessary hook up/operation equipment.
3. Expand fire suppression system.
4. Continue to update and maintain emergency binders and/or flipcharts.
5. Continue to update and maintain emergency kits (crisis buckets).
6. Pursue additional school safety/security measures at the school(s) as determined to be necessary; implement staff and/or student active shooter trainings.



## West Central Community School District

### *Overview*

West Central Community School District is located in the City of Maynard and serves families from Randalia, Westgate, Maynard, and the surrounding rural area. The school campus, serving grades kindergarten through 12, is located at 305 Pember St. in Maynard.

The West Central Community School District building is not located in FEMA identified Special Flood Hazard Areas (SFHAs). FEMA DFIRM floodplains and the West Central school is shown on Figure 12: City of Maynard Planning Area.

### *Changes in Development/Future Land Use*

The West Central Community School District has no plans for future development at this time.

### *District Infrastructure and Resource Inventory*

The West Central Community School District's facility houses kindergarten through grade 12 under one roof. The district benefits from the services and emergency response infrastructure in existence in Maynard. Public service providers for West Central Community School District are as follows:

- Water/Sewer: City of Maynard
- Electric: Alliant Energy
- Natural Gas: Alliant Energy
- LP Gas: AgVantage FS; Viafield Co-Op
- Internet: Windstream, Mediacom, Hawkeye
- Land-Line Telephone: Windstream; Mediacom
- Ambulance: Wheaton Ambulance Service (Oelwein); Fayette Ambulance Service (Fayette)
- Hospital, Clinic: Veterans Memorial Hospital
- Other School Infrastructure Includes: Athletic field and track, ball diamond and playground equipment.

The West Central school was re-built four years ago and has a large storm safe room. The school is used as a community shelter as well. The school district has small generators but needs larger generators. Schools have outdoor weather/emergency sirens placed near them, and also have weather radios in their main offices monitored by staff. They also receive "Alert Iowa" messages.

### *Fiscal and Technical Resources*

Fiscal tools or resources that West Central Community School District could potentially use to help fund mitigation activities include the following:

- Property taxes and income surtaxes
- Debt through bonding
- Grants
- Fundraising
- Local Option Sales Tax (LOST) for infrastructure

### *Existing Plans and Policies*

In addition to the planning and emergency response plans and policies available in each supporting community and the county, the school district maintains the following existing plans and policies pertaining to hazard mitigation and emergency response:

- Handbooks for each school section that include prevention and response information for potential emergencies such as tornado, fire, or weapons.
- A written crisis policy.
- Requirement that all visitors to the school campuses check in at the main offices to obtain permission to be in the buildings.

### *Key Issues*

Of the hazards shown, school security and cyber security are key issues for all schools in Fayette County and Upper Iowa University. Also, storm related hazards (tornadoes, winds, flooding, etc.) could be of greater concern to schools due to the concentration of students in buildings.

### *Mitigation Activities*

#### *Mitigation Activities Already in Place*

1. Lockdown drill
2. Periodic staff ALICE training
3. Bus evacuation drill
4. Tornado/fire drill
5. Fire extinguishers in building
6. Teachers/office staff have access to emergency information
7. Weather radios
8. Emergency warning systems
9. Emergency information binders in each classroom
10. Emergency response buckets in each classroom

#### *Status and Progress on Previous Mitigation Actions*

1. Attain large back-up generators and necessary hook-up/operation equipment.
  - a. Status: Not completed, still interested.
2. Pursue additional school safety/security measures at the school(s) as determined to be necessary; implement staff and/or student active shooter trainings.
  - a. Status: Ongoing
3. An Emergency Operations Plan (EOP) is in place and regular drills are conducted to practice the plan.
  - a. Status: Completed EOP but ongoing drills and updates.

#### *Mitigation Actions to Pursue Through MJHMP Implementation*

1. Attain large back-up generators and necessary hook up/operation equipment.
2. Continue regular drills and maintain/update EOP.
3. Pursue additional school safety/security measures at the school(s) as determined to be necessary; implement staff and/or student active shooter trainings.

## Upper Iowa University

### Overview

Founded in 1857, Upper Iowa University is a private, nonprofit university providing undergraduate and graduate degree programs to roughly 5,000 students – nationally and internationally- at its Fayette, Iowa Campus, and education centers through the U.S. Upper Iowa University is a recognized innovator in offering accredited, affordable, and quality programs through flexible, multiple delivery systems, including online and self-paced degree programs. With a focus on developing leaders and lifelong learners, Upper Iowa University provides dual enrollment programs for high school students as well as continuing education and professional development opportunities for learners of any age. The following map illustrates the Fayette campus layout:

Figure 60: Upper Iowa University Map



### Fayette Campus Map Key

|  |  |  |
|--|--|--|
| 1. Hofmaster Apartments                      | 18. Winston House                            | <b>PARKING</b>                               |
| 2. Edgar Fine Arts                           | 19. Lee Tower                                | C=Commuter E=Employee R=Resident V=Visitor   |
| 3. Parker-Fox Hall                           | 20. South Village I                          | A. Student Center (E V)                      |
| 4. Colgrove-Walker                           | 21. South Village II                         | B. Recreation Center (E C R)                 |
| 5. Peacock Plaza                             | 22. South Village III                        | C. Dorman Memorial Gymnasium (E C R)         |
| 6. Alexander-Dickman Hall                    | 23. Facilities Management & Services         | D. Peacock Arts and Athletics Center (E C V) |
| 7. President's House                         | 24. Eischeid Softball Complex                | E. Garbee Hall (R)                           |
| 8. Henderson-Wilder Library                  | 25. Harms-Eischeid Football Stadium          | F. Commuter (C)                              |
| 9. Liberal Arts                              | 26. Soccer Game Field                        | G. South Villages and Lee Tower (R)          |
| 10. Dorman Memorial Gymnasium                | 27. Soccer Practice Field                    | H. Hofmaster (R)                             |
| 11. Baker-Hebron Science                     | 28. Football Practice Field                  | I. Student Center Staff (E)                  |
| 12. Grace Meyer Square                       | 29. Tennis Complex                           | J. Andres Center Faculty (E)                 |
| 13. Andres Center for Business and Education | 30. 9-Hole Disc Golf Course                  | K. Andres Center (E)                         |
| 14. Garbee Hall                              | 31. Low Ropes Course                         | L. Henderson-Wilder (V)                      |
| 15. Student Center/Cafeteria                 | 32. Robertson Woods Field (622 Mechanic St.) | M. Facilities Management & Services (E)      |
| 16. Recreation Center                        | 33. Peacock Arts and Athletic Center         | N. Center for International Education (E)    |
| 17. Center for International Education       | 34. Pavo Blue (128 S. Main St.)              | O. South Campus (R V)                        |
|  |  | P. Harms-Eischeid Football Stadium (R V)     |

(Upper Iowa University, 2018)

Areas of the athletic complex at Upper Iowa University are located in FEMA identified Special Flood Hazard Areas (SFHAs), including soccer and football fields. FEMA DFIRM floodplains, and the Upper Iowa University location and recreation areas are shown on Figure 10: City of Fayette Planning Area.

### *Changes in Development/Future Land Use*

Upper Iowa University has no plans for future development at this time.

### *District Infrastructure and Resource Inventory*

Public service providers for Upper Iowa University are as follows:

- Water/Sewer: City of Fayette
- Electric: Alliant Energy
- LP Gas: AgVantage FS
- Natural Gas: Black Hills Energy; British Petroleum “BP” Pipeline
- Internet: Windstream; Mediacom
- Land-Line Telephone: Windstream; Mediacom
- Ambulance: Fayette Ambulance Service
- Hospital, Clinic: Gundersen Lutheran Clinic – Fayette; Palmer Lutheran Hospital (West Union)
- Other School Infrastructure Includes: Football stadium, athletic field, tennis courts, soccer fields, Frisbee golf course and low ropes course.

### *Fiscal and Technical Resources*

Fiscal tools or resources that Upper Iowa University could potentially use to help fund mitigation activities include the following:

- Debt through bonding
- Grants
- Fundraising

### *Existing Plans and Policies*

In addition to the planning and emergency response plans and policies available in the City of Fayette, the University campus maintains a Critical Incident Plan. The comprehensive plan outlines specific actions to take in the time of an emergency. Emergency response plans are activated by the University Management Team who will call upon appropriate resources and take specific action to respond and communicate with the community. The University’s campus security is staffed with two full-time and one part-time officers.

The University also has an updated Emergency Operations Plan (EOP). .

### *Key Issues*

Upper Iowa University stated support for identified hazards. In addition, they specified the following concerns specific to the University:

- Flooding, especially around the athletic complex and near student housing in the south of the campus.

- School security - Active shooter response would be a national focus that has the University communicating more and making sure plans are in place. Fayette police officers now serve as security at UIU so response time for emergencies is now faster than previously.

### *Mitigation Activities*

#### Mitigation Activities Already in Place

1. Website providing protocols for various emergencies (active shooter, bomb threat, evacuation, explosion, fire, lockdown, medical emergency, power outage, reunification procedure) and providing additional emergency/crisis information (e.g. emergency phone numbers, personal safety recommendations, etc.)
2. Key University personnel engage in an annual emergency response exercise
3. UIU Alert system
4. Fire alarm system, extinguishers in each building
5. Fire suppression systems in some buildings
6. First Aid kits in each building
7. Backup generators
8. Established crisis team
9. Crisis kits for key personnel
10. 24-hour emergency hotline
11. RAVE emergency notification system to text/email in event of emergency.
12. Improvements to the sidewalk and gutter system to drain water from near the recreation building have been completed.
13. Ongoing work to waterproof/floodproof student housing (both interior & exterior of buildings)
14. Trainings conducted by EOC Director and the Chief of Police, City of Fayette for EOC staff and university stakeholders.

#### Status and Progress on Previous Mitigation Actions

1. Work to implement one or more storm safe rooms at the University.
  - a. Status: Completed/Change. Most buildings have basements and/or interior rooms that serve as a shelter in place in the event of severe weather.
2. Pursue additional safety/security measures at the University as determined to be necessary; implement staff and/or student active shooter trainings and other security trainings.
  - a. Status: Ongoing, most recent campus wide Active Shooter Training was held in November 2023.
3. Implement additional flood mitigation/stormwater management measures to address flooding in south portion of campus.
  - a. Status: Completed. Installed a sewer lift station to prevent storm and waste sewer backup into the basement of building located on the south side of campus. 6" tile installed with inlets to remove excess water in the ditch on the north side of Wadena Road.
4. Consider opportunities for implementing community project ideas listed in Figure 6.G.1 of the Turkey River Watershed Management Authority Flood Reduction Plan.
  - a. Status: Completed/Change. Upper Iowa University is located along the Volga River. The city of Fayette renovated a portion of North Main Street in 2023 to extend drainage

culverts, improve ditch drainage, install twin box culverts, and shape shoulders to have positive drainage away from the roadway.

Mitigation Actions to Pursue Through MJHMP Implementation

1. Pursue additional safety/security measures at the University as determined to be necessary; implement staff and/or student active shooter trainings and other security trainings.
2. Continue ongoing training with Emergency Operations Center staff and Upper Iowa University stakeholders, including Active Shooter training.
3. Increase public awareness of natural hazards.

## Chapter 3- Risk Assessment

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The risk assessment process identifies and profiles relevant hazards and assesses the exposure of lives, property, and infrastructure to these hazards. The goal of the risk assessment is to estimate the potential loss in the County, including the loss of life, personal injury, property damage, and economic loss from a natural hazard event. The risk assessment process allows the community to better understand their potential risk from natural hazards and provides a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events.

The risk assessment for the County followed the methodology described in FEMA publication 386-2, Understanding Your Risks: Identifying Hazards and Estimating Losses (2001), which includes a four-step process:

1. Identify Hazards
2. Profile Hazards
3. Inventory Assets
4. Estimate Losses

This section is divided into four parts:

- **Hazard Identification** – Identifies the types of natural hazards that threaten the planning area and describes why some hazards have been omitted from further consideration.
- **Hazard Profiles** – Describes the location and extent of each natural hazard that can affect the planning area and describes previous occurrences of hazard events and the probability of future occurrences.
- **Vulnerability Assessment** – Assesses the County’s vulnerability to hazards, considering the impact of each identified hazard on the communities’ critical facilities and other identified assets.
- **Repetitive Loss** – Addresses the NFIP insured structures within each jurisdiction that have been repetitively damaged by floods.

### Multi-Jurisdictional Risk Assessment

For this county-wide, multi-jurisdictional plan, the risk assessment assesses the entire geographic area of the planning area’s risks. Should the risks deviate for a participating jurisdiction, the location-specific information will be included in each identified hazard’s profile. The participating jurisdictions are all located within Fayette County; Fayette County is not a large county geographically 730 square miles (U.S. Census Bureau, 2010) and is fairly uniform in terms of climate. Accordingly, overall hazards and vulnerability do not vary greatly across the planning area for most hazards. Weather-related hazards, such as drought, extreme heat, hailstorm, lightning, severe winter storm, tornado, and windstorm affect the entire planning area. Hazards that do vary across the planning area include flooding, dam or levee failure and landslides.



## Hazard Identification

*Requirement §201.6(c)(2)(i):*

*[The risk assessment shall include a] description of the type...of all natural hazards that can affect the jurisdictions...*

### Selection Process

The county-wide Hazard Mitigation Planning Committee (HMPC) and other meeting attendees reviewed data and discussed the impacts of the hazards listed alphabetically below as suggested by Iowa Homeland Security and Emergency Management Division (HSEMD), hazards included in the statewide plan, and FEMA.

- Animal/Plant/Crop Disease
- Avalanche
- Coastal Erosion
- Coastal Storm
- Dam Failures
- Debris Flow
- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Fires
- Flash Floods
- Grass or Wild Land Fire
- Hailstorms
- Hazardous Material Events
- Human Disease
- Hurricane/Tropical Cyclones
- Infrastructure Failure
- Land Subsidence
- Landslides
- Levee Failure
- Nuclear/Radiological Accidents
- River Flooding
- Severe Winter Storms
- Sink Holes
- Terrorism
- Thunderstorms and Lightning
- Tornadoes
- Transportation Incident
- Tsunami
- Volcano
- Windstorms

Data on the past occurrences, impacts and future probability of these hazards in the planning area was collected from several sources including the following:

- Iowa Hazard Mitigation Plan, September 2013
- Information on past extreme weather and climate events from the National Oceanic and Atmospheric Administration’s (NOAA) National Climatic Data Center (NCDC)
- Federal Disaster Declarations from the Federal Emergency Management Agency (FEMA)
- USDA Farm Service Agency (FSA) Disaster Declarations
- Various websites, articles, and publications (sources are referenced where data is cited)

The HMPC eliminated certain hazards from further profiling due to no known history of occurrence in the planning area and/or their impacts were not considered significant in relation to other hazards.

Table 18 lists alphabetically the hazards not profiled in the plan and provides the explanation for their omission.

**Table 18: Hazards Considered, But Not Profiled in the Plan**

| Hazard                         | Explanation for Omission   |
|--------------------------------|--|
| Avalanche                      | There are no mountains in the planning area  |
| Coastal Erosion                | Planning area is not near coastal areas  |
| Coastal Storm/Tsunami          | Planning area is not near coastal areas  |
| Debris Flow                    | Will be covered through river flooding   |
| Expansive Soils                | There are no known expansive soils in the planning area and no known historical occurrences of this hazard   |
| Fires                          | Will be covered through infrastructure failure   |
| Hurricane/Tropical Cyclones    | Planning area is not near coastal areas  |
| Land Subsidence                | There are no known subsurface void spaces in the planning area and no known historical occurrences of this hazard  |
| Volcano                        | There are no volcanic mountains in the planning area   |
| Nuclear/Radiological Accidents | Duane Arnold Energy Center (DAEC) located near Palo in Linn County is the nearest nuclear power plant, approximately 40 - 50 miles away. The State of Iowa Hazard Mitigation Plan (2013) rates the probability of a radiological incident as only 1. |

After review of the existing data on the remaining hazards, the HMPC considered and agreed upon the hazards to be included in the county list of identified hazards. Several hazards discussed in previous meetings were consolidated into general categories for the purpose of the risk assessment. The hazards of human disease incident and pandemic human disease were combined into human disease. Fixed hazardous materials incidents, pipeline incidents, and transportation hazardous materials incidents were combined into hazardous material events. Communication failures, massive power of energy failures, structural failures, and structural fires were combined into infrastructure failure. Roadway transportation incidents and railway transportation incidents were combined into transportation incident. Biological terrorism, agricultural terrorism, domestic terrorism, and active shooting incidents were combined into terrorism. The following 21 hazards were identified by the HMPC as significant to the planning area.

- Animal/Plant/Crop Disease
- Dam Failures
- Drought
- Earthquakes
- Extreme Heat
- Flash Floods
- Grass or Wild Land Fire
- Hailstorms
- Hazardous Material Events
- Human Disease
- Infrastructure Failure
- Landslides
- Levee Failure
- River Flooding
- Severe Winter Storms
- Sink Holes
- Terrorism
- Thunderstorms and Lightning
- Tornadoes
- Transportation Incident
- Windstorms

The State of Iowa Hazard Mitigation Plan covers all natural and human caused/combination hazards identified for the State of Iowa. Accordingly, the State of Iowa hazard information, details, and risk assessment prevails for hazards not discussed for the County.

**Disaster Declaration History**

One method used by the county to identify hazards was to examine events that triggered federal and/or state disaster declarations. Federal and/or state declarations may be granted when the severity and magnitude of an event surpasses the ability of the local government to respond and recover. Disaster assistance is supplemental and sequential. When the local government’s capacity has been surpassed, a state disaster declaration may be issued, allowing for the provision of state assistance. Should the

disaster be so severe that both the local and state governments’ capacities are exceeded, a federal emergency or disaster declaration may be issued, allowing for the provision of federal assistance for affected areas.

The federal government may issue a disaster declaration through FEMA, the U.S. Department of Agriculture (USDA), and/or the Small Business Administration (SBA). FEMA also issues emergency declarations, which are more limited in scope and do not include the long-term federal recovery programs of major disaster declarations. Determinations for declaration type are based on the scale and type of damages, and institutions or industrial sectors affected.

A USDA disaster declaration certifies that the affected county has suffered at least a 30 percent loss in one or more crop or livestock areas and provides affected producers with access to low-interest loans and other programs to help mitigate disaster impacts. In accordance with the Consolidated Farm and Rural Development Act, counties neighboring those receiving disaster declarations are named as contiguous disaster counties and are eligible for the same assistance.

Table 19 reflects FEMA presidentially declared disasters received by multiple counties in Iowa including Fayette County, and the Participating Jurisdictions from 2013 to present.

**Table 19: Presidential Disaster Declarations Including Fayette County, 2013 to Present**

| Declaration Number | Declaration Date | Disaster Description                                    | Counties Included   |
|--------------------|------------------|---|---|
| DR-4483            | 3/23/2020        | COVID19 Pandemic Response                               | All Counties in Iowa  |
| DR-4421            | 3/23/2019        | Severe Storms and Flooding                              | Adair, Allamakee, Audubon, Boone, Bremer, Buena Vista, Butler, Calhoun, Carroll, Cass, Cherokee, Clay, Crawford, Dallas, Decatur, Dickinson, Emmet, <b>Fayette</b> , Franklin, Fremont, Greene, Guthrie, Hamilton, Hancock, Hardin, Harrison, Howard, Humboldt, Ida, Iowa, Jasper, Kossuth, Lyon, Madison, Mahaska, Marshall, Mills, Monona, Montgomery, O’Brien, Osceola, Page, Plymouth, Pocahontas, Polk, Pottawattamie, Sac, Shelby, Sioux, Tama, Union, Webster, Winnebago, Winneshiek, Woodbury, and Wright |
| DR-4334            | 8/27/17          | Severe Storms, Tornadoes, Straight Line Winds, Flooding | Allamakee, Bremer, Buchanan, Chickasaw, Clayton, Dubuque, <b>Fayette</b> , Mitchell, Winneshiek   |
| DR-4289            | 11/1/2016        | Severe Storms, Flooding                                 | Allamakee, Benton, Black Hawk, Bremer, Buchanan, Butler, Cerro Gordo, Chickasaw, Clayton, Delaware, Des Moines, <b>Fayette</b> , Floyd, Franklin, Howard, Linn, Mitchell, Winneshiek, Wright  |
| DR-4281            | 9/30/2016        | Severe Storms, Straight Line Winds, Flooding            | Allamakee, Chickasaw, Clayton, <b>Fayette</b> , Floyd, Howard, Mitchell, Winneshiek   |
| DR-4184            | 7/24/2014        | Severe Storms, Tornadoes,                               | Allamakee, Buchanan, Buena Vista, Butler, Cherokee, Chickasaw, Clayton, Dickinson, Emmet, <b>Fayette</b> , Franklin, Hancock,   |

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|         |          |                                    |   |
|---------|----------|------------------------------------|---|
|         |          | Straight Line Winds, Flooding      | Humboldt, Ida, Kossuth, Lyon, Osceola, Palo Alto, Plymouth, Pocahontas, Sac, Sioux, Winnebago, Winneshiek, Woodbury, Wright   |
| DR-4126 | 7/2/2013 | Severe Storms, Tornadoes, Flooding | Appanoose, Benton, Buchanan, Buena Vista, Butler, Cherokee, Chickasaw, Clay, Clayton, Crawford, Davis, Delaware, Des Moines, <b>Fayette</b> , Floyd, Frank, Greene, Grundy, Hardin, Henry, Ida, Iowa, Jasper, Johnson, Jones, Keokuk, Lee, Linn, Louisa, Lyon, Mahaska, Marshall, Mitchell, Monona, Monroe, O'Brien, Palo Alto, Plymouth, Poweshiek, Sac, Sioux, Story, Tama, Wapello, Webster, Winnebago, Wright |

Source: (FEMA Declared Disasters and Iowa Homeland Security and Emergency Management, 2022)

The State of Iowa can also declare disaster for counties, which is reflected in Table 20 from 2013 to present.

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Table 20: State of Iowa Governor Disaster Declarations Including Fayette County, 2013 to Present

| Declaration Number | Declaration Date | Disaster Description  | Counties Included  |
|--------------------|------------------|---|--|
| 2021-28            | 12/16/21         | Severe Weather  | Allamakee, Appanoose, Audubon, Bremer, Buena Vista, Butler, Calhoun, Cass, Cerro Gordo, Cherokee, Chickasaw, Davis, <b>Fayette</b> , Floyd, Greene, Guthrie, Hamilton, Hancock, Hardin, Harrison, Howard, Ida, Kossuth, Lucas, Madison, Marshall, Mills, Mitchell, Monroe, Montgomery, O'Brien, Page, Pottawattamie, Ringgold, Sac, Shelby, Union, Washington, Webster, Winnebago, Winneshiek, Wright, and Worth |
| 2021-16            | 8/26/21          | Severe Weather  | Bremer and <b>Fayette</b>  |
| 2021-11            | 7/16/21          | Severe Weather  | Appanoose, Bremer, Calhoun, Davis, <b>Fayette</b> , Lucas, Monroe, Sac, Wapello, and Winneshiek  |
| 2020-22            | 6/29/20          | Severe Storm  | <b>Fayette</b> and Van Buren   |
| 2020-01            | 3/9/20           | COVID19 Virus   | All Counties in Iowa   |
| 2019-02            | 3/15/19          | Flooding & Flash Flooding   | Adair, Bremer, Buena Vista, Cherokee, Clay, Dallas, Dickinson, Emmet, <b>Fayette</b> , Franklin, Fremont, Guthrie, Hardin, Plymouth, and Shelby  |
| 2018-26            | 10/11/2018       | Severe Storm System   | Black Hawk, Buena Vista, Butler, Cedar, Cerro Gordo, Clarke, Des Moines, Dubuque, Emmet, <b>Fayette</b> , Franklin, Iowa, Johnson, Kossuth, Lee, Marshall, Ringgold, Scott, and Union  |
| 2017-06            | 7/20/17          | Severe Storms, Flash Flooding, Tornadoes                                | Allamakee, Clayton, <b>Fayette</b> , Winneshiek (State Resources and Individual Assistance)  |
| 2016-10/12         | 9/29/16          | Severe Storms, Flooding, Tornadoes                                      | Allamakee, Benton, Black Hawk, Bremer, Buchanan, Butler, Cedar, Cerro Gordo, Chickasaw, Clayton, Delaware, <b>Fayette</b> , Floyd, Franklin, Hancock, Howard, Jones, Linn, Louisa, Mitchell, Muscatine, Story, Winneshiek, Worth, Wright (State Resources and Individual Assistance)   |
| 2016-04            | 8/25/16          | Severe Storms, Flash Flooding   | Allamakee, Clayton, <b>Fayette</b> , Howard, Winneshiek (State Resources and Individual Assistance)  |
| 2014-07            | 6/25/14          | Severe Storms, Straight Line Winds, Flash Flooding, Flooding, Tornadoes | Allamakee, Buchanan, Butler, Chickasaw, Emmet, <b>Fayette</b> , Humboldt, Winnebago, Winneshiek (State Resources); Buena Vista, Cherokee, Franklin, Lyon, Palo Alto, Plymouth, Sioux (Individual Assistance)   |
| 2013-12            | 6/7/2013         | Severe Storms, Flash Flooding, Flooding                                 | Appanoose, Lee, Muscatine, Wayne, Webster (State Resources); <b>Fayette</b> , Muscatine (Individual Assistance)  |
| 2013-10            | 6/1/2013         | Severe Storms, Straight Line Winds, Flash Flooding, Flooding            | Cedar, Chickasaw, Clinton, Crawford, Davis, Decatur, <b>Fayette</b> , Franklin, Hardin, Jones, Keokuk, Monona, Monroe, O'Brien, Palo Alto, Sac, Winnebago (State Resources); Cedar, Chickasaw, Davis, Decatur, Monroe (Individual Assistance)  |

Source: (FEMA Declared Disasters and Iowa Homeland Security and Emergency Management, 2022)

Table 21 reflects U.S. Department of Agriculture disaster declarations and their related causes for Fayette County, which includes the Participating Jurisdictions, from 2012 to the present.

**Table 21: USDA Declared Disasters, 2012 to Present**

| USDA Disaster Number | Start Date | Causes |                    |            |         |                |
|----------------------|------------|--------|--------------------|------------|---------|----------------|
|                      |            | Floods | Excessive Moisture | Cool Temps | Drought | Frosts Freezes |
| S5043                | 8/10/21    |        |                    |            | X       |                |
| S5084                | 8/3/21     |        |                    |            | X       |                |
| S5037                | 6/15/2021  |        |                    |            | X       |                |
| S3618                | 7/15/2013  |        |                    |            | X       |                |
| S3605                | 4/1/2013   | X      | X                  | X          |         |                |
| S3310                | 7/24/2012  |        |                    |            | X       |                |
| S3390                | 7/17/2012  |        |                    |            | X       |                |
| S3264                | 4/6/2012   |        |                    |            |         | X              |

(United States Department of Agriculture, 2022)

***Climate Change Trends***

In Iowa, as in many locations, observation suggests an increase in temperature, humidity, and precipitation. However, climate change is more than just an increase in these events. Many aspects of life can also be impacted by climate change, including economic factors. The average temperatures in Iowa have increased which can affect the frequency and intensity of future natural hazards such as severe weather events and tornadoes. These same average temperature increases may also reduce the frequency of some future natural hazards such as extreme cold and winter storms.

Per the Iowa Hazard Mitigation Plan 2023, climate change trend and expected conditions will be added to each hazard description below as appropriate.

## Hazard Profiles

*Requirement §201.6(c)(2)(i):*

*[The risk assessment shall include a] description of the...location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*

Each hazard that can affect the jurisdiction is profiled individually in this section. The level of information presented in the profiles varies by hazard based on the information available. This plan update has incorporated new information to provide for better evaluation and prioritization of the hazards that affect the county. Detailed profiles for each of the identified hazards include information on any previous occurrences of the hazard as well as likelihood and extent of future occurrences. Each hazard profile also includes ways to reduce the risk.

### Hazard Description

This section consists of a general description of the hazard and the types of impacts it may have on a community.

### Geographic Location

This section describes the geographic extent or location of the hazard in the Planning Area. When applicable, a specific jurisdiction's risks are noted if it varies from the risks facing the entire Planning Area. Where available, maps are utilized to indicate the areas of the Planning Area that are vulnerable to the subject hazard.

### Previous Occurrences

This section includes information on historic incidents and their impacts on the affected area.

### Likelihood of Future Occurrence

The frequency of past events is used to gauge the likelihood of future occurrences. Where possible, the probability or chance of occurrence was calculated based on historical data. Probability was determined by dividing the number of events observed by the number of years and multiplying by 100. This gives the percentage chance of the event happening in any given year. An example would be three droughts occurring over a 30-year period, which suggests a 10 percent chance of a drought occurring in any given year.

### Extent

The extent of the impact of a hazard event (past and perceived) is related directly to the vulnerability of the people, property, and the environment it affects. This is a function of when the event occurs, the location in which it occurs, the resiliency of the community and the effectiveness of the emergency response and disaster recovery efforts.

### Warning Time

The warning time of the impact of a hazard event (past and perceived) is related directly to the amount of notice a community has before an event will occur.

### Possible Actions to Mitigate (Hazard) Impacts

List of possible mitigation actions for each hazard.



## Hazard Profile Information

### Tornado

#### Description

The National Weather Service defines a tornado as a “violently rotating column of air extending from a thunderstorm to the ground.” Tornadoes are the most violent of all atmospheric storms and are capable of tremendous destruction. Wind speeds can exceed 250 mph, and damage paths can be more than one mile wide and 50 miles long. Based on a 20-year average, more than 1,253 tornadoes are reported in the United States annually, more than any other country in the world (National Oceanic and Atmospheric Administration, 2017). Although tornadoes have been documented on every continent, they most frequently occur in the United States east of the Rocky Mountains.

According to the National Oceanic and Atmospheric Administration (National Oceanic and Atmospheric Administration, 2017), Tornado Alley is a nickname for an area in the southern plains of the central United States that consistently experiences a high frequency of tornadoes each year. The region from central Texas, northward to northern Iowa, and from central Kansas and Nebraska east to western Ohio is often collectively known as Tornado Alley. Meteorologically, the region known as Tornado Alley is ideally situated for the formation of supercell thunderstorms, often the producers of violent (EF-2 or greater) tornadoes. Northeast Iowa sits on the edge of Tornado Alley.

In Iowa, most tornadoes occur during the months of April, May, and June. However, tornadoes can strike in any of the 12 months. Similarly, while most tornadoes occur between 4:00 and 9:00 p.m., a tornado can strike at any time.

Prior to February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now referred to as the Enhanced Fujita Scale (EF). Both scales are sets of wind estimates (not measurements) based on damage. The new scale uses more damage indicators and associated degrees of damage, allowing for more detailed and accurate analysis. The tornado intensity scale update was the result of advanced research by meteorologists and wind engineers. For additional information on the EF-scale, see <http://www.spc.noaa.gov/efscale/>. Table 22 compares the tornado intensity F-scale to the EF-scale.

Table 22: F- and EF-Scale for Tornado Damage

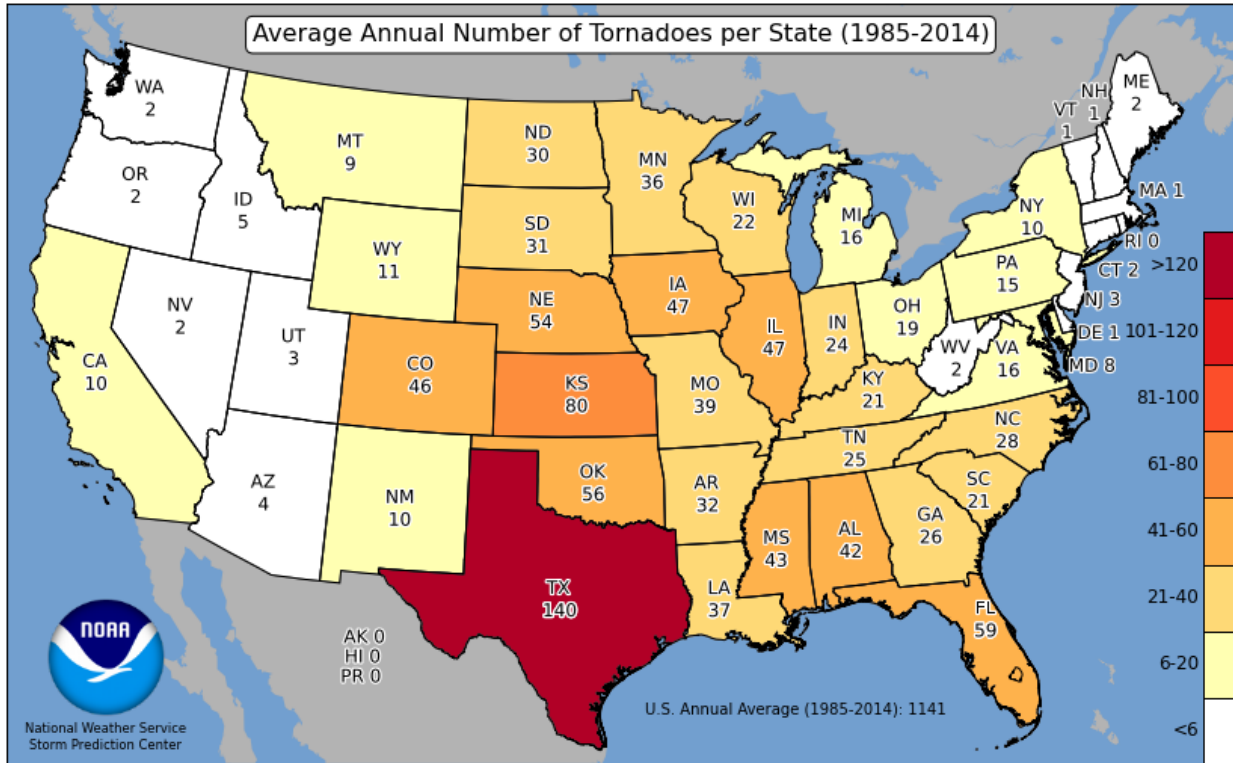
| Fujita (F) Scale (Previous) |                     | Enhanced Fujita (EF) Scale (Current) |                     |
|-----------------------------|---------------------|--------------------------------------|---------------------|
| F Number                    | 3 Second Gust (mph) | EF Number                            | 3 Second Gust (mph) |
| 0                           | 45-78               | 0                                    | 65-85               |
| 1                           | 79-117              | 1                                    | 86-109              |
| 2                           | 118-161             | 2                                    | 110-137             |
| 3                           | 162-209             | 3                                    | 138-167             |
| 4                           | 210-261             | 4                                    | 168-199             |
| 5                           | 262-317             | 5                                    | 200-234             |

Source: (National Weather Service, 2017)

**Geographic Location**

Based on a 20-year average, Iowa experiences 51 tornadoes annually, resulting in an average of 2 deaths per year (National Oceanic and Atmospheric Administration, 2014). While tornadoes can occur in all areas of the State of Iowa, historically, some areas of the state have been more susceptible to this type of damaging storm. Figure 61 illustrates the average annual number of tornadoes from 1991-2014.

Figure 61: Average Annual Number of Tornadoes, 1985-2014



Source: (National Oceanic and Atmospheric Administration, n.d.)

**Previous Occurrences**

According to the NOAA Storm Events Database, there have been 38 tornadoes in Fayette County from 1881-2021. There were 176 injuries and six deaths reported (National Weather Service La Crosse, 2022).

Table 23 reflects details of recorded Fayette County tornadoes from 1964 to 2021.

Table 23: Recorded Tornadoes in Fayette County, 1964-2021

| Date          | Time     | Magnitude | Injuries or Deaths           | Estimated Property Damages (\$) |
|---------------|----------|-----------|------------------------------|---------------------------------|
| 5/7/1964      | 5:28 PM  | F2        | 0                            | \$2.5M                          |
| 5/7/1965      | 12:55 PM |           | 0                            | 0                               |
| 6/27/1966     | 7:10 PM  |           | 0                            | \$2,500                         |
| 6/27/1966     | 7:15 PM  |           | 0                            | \$2,500                         |
| 10/14/1966    | 6:25 PM  |           | 0                            | \$30                            |
| 5/15/1968     | 3:57 PM  | F5        | 156 Injuries/5 Deaths        | \$25M                           |
| 5/15/1968     | 3:58 PM  | F1        | 0                            | \$2,500                         |
| 6/24/1971     | 6:00 PM  | F3        | 1 Death                      | \$250,000                       |
| 7/12/1971     | 5:58 PM  | F4        | 4 Injuries                   | \$2.5M                          |
| 7/12/1971     | 6:30 PM  | F2        | 0                            | \$250,000                       |
| 7/3/1983      | 5:25 PM  | F1        | 0                            | \$25,000                        |
| 3/24/1988     | 5:15 PM  | F2        | 0                            | \$2.5M                          |
| 6/12/1990     | 5:15 PM  | F1        | 0                            | \$250,000                       |
| 6/12/1990     | 9:09 PM  | F0        | 0                            | \$25,000                        |
| 6/23/1992     | 2:50 PM  | F0        | 0                            | \$250                           |
| 7/6/1994      | 3:43 PM  | F0        | 0                            | \$500                           |
| 7/7/1994      | 6:00 PM  | F0        | 0                            | \$5,000                         |
| 6/16/1996     | 5:21 PM  | F0        | 0                            | 0                               |
| 4/11/2001     | 4:50 PM  | F1        | 1 Injury                     | \$40,000                        |
| 9/6/2001      | 5:21 PM  | F1        | 0                            | \$25,000                        |
| 7/5/2004      | 5:35 PM  | F0        | 0                            | 0                               |
| 3/31/2007     | 3:58 PM  | EF0       | 0                            | \$10,000                        |
| 8/19/2009     | 2:50 PM  | EF0       | 0                            | \$22,000                        |
| 5/22/2011     | 2:37 PM  | EF1       | 0                            | \$175,000                       |
| 5/22/2011     | 3:01 PM  | EF0       | 0                            | \$10,000                        |
| 5/24/2012     | 3:56 PM  | EF1       | 0                            | \$30,000                        |
| 6/22/2015     | 7:21 AM  | EF1       | 2 Injuries                   | \$100,000                       |
| 3/28/2020     | 5:30 PM  | EF1       | 0                            | \$165,000                       |
| 3/28/2020     | 5:40 PM  | EF0       |                              | \$75,000                        |
| 7/14/2021     | 5:44 PM  | EF0       |                              | \$275,000                       |
| <b>Total:</b> |          |           | <b>6 Deaths/163 Injuries</b> | <b>\$34,240,000</b>             |

Source: (National Oceanic and Atmospheric Administration, 2022)

NOAA provided the following details on the selected tornadoes that occurred from 2000 to 2021:

- April 11, 2001.** Law enforcement officials and storm spotters reported a tornado touched down just south of Highway 18, and about 2.5 miles west of West Union. A farm was hit hard. A 69 year old woman was trapped in one of the barns that collapsed and suffered injuries that put her in critical care.

- **September 6, 2001.** A tornado touched down near the Fayette-Buchanan county line southwest of Arlington, then skipped along before lifting near the community of Taylorsville. The storm damaged a school near the intersection of Highway 187 and 3 southwest of Arlington. There were no injuries reported.
- **May 22, 2011.** This tornado tracked east-northeast across the western part of the county. The tornado snapped off or uprooted numerous trees and damaged several homes, barns, and grain bins.
- **June 22, 2015.** The tornado started about 4 miles southeast of Maynard and ended approximately 5 miles southeast of Maynard. The tornado destroyed a farmhouse by moving it off its foundation and it then fell into the basement. Two people inside the house sustained non-life threatening injuries.
- **March 28, 2020.** An EF1 tornado moved through the west and northwest side of Oelwein during the late afternoon of March 28, 2020. The tornado produced extensive tree damage at Red Gate Park, blew in the wall of an apartment building and damaged the siding and roof of a second apartment building. The building that sustained the wall damage was condemned. One person was injured at the apartment complex when they stepped on broken glass. At least two vehicles parked outside the apartment complex were heavily damaged.
- **July 14, 2021.** An EF0 tornado developed southwest of Oelwein and moved northeast into the city before dissipating. The tornado damaged the ticket booth, fencing, and ripped metal siding off stands at the high school football field. The tornado also blew out sides of the greenhouse, tipped over the FFA's chicken coop and lifted but did not remove the roof on the main portion of the high school. At a restaurant, an air handler unit was ripped off and windows were broken. Some crop and tree damage was noted southwest of the city as well.

### *Likelihood of Future Occurrence*

Previous occurrences would indicate a high probability of a tornado occurring several times a decade, with some previous tornado event cycles happening in contiguous years. Significant tornadoes show a common peak in probability in late spring while violent tornadoes have an overall less probability, they do not have a distinct time of probability for them to occur from early spring through mid-autumn.

**Highly likely:** Event is probable within the calendar year; event has up to 1 in 1 year chance of occurring (1/1=100%); history of events is greater than 33% likely per year

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in tornado activity due to climate change are uncertain. There does not appear to be changes in frequency and intensity however, as temperatures rise, the length of tornado season may increase.

### *Extent*

Impacts can range from broken tree branches, shingle damage to roofs, and some broken windows, to complete destruction and disintegration of well-constructed structures, infrastructure, and trees. Generally, the destructive path of a tornado is only a couple hundred feet in width, but stronger tornadoes can leave a path of devastation up to a mile wide. Injury or death related to tornadoes most

often occur when buildings collapse, people are hit by flying objects, or are caught trying to escape the tornado in a vehicle.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Tornado Impacts*

- Safe room construction and access.
- Installation and/or upgrade of warning sirens.
- Electrical utility hardening and/or move to underground.
- Educational materials to improve public awareness of tornado risks and ways to reduce impact.
- Installation of backup generators at critical facilities.
- Adoption or encouragement of building standards to reduce tornado impact.
- Promote purchase and use of NOAA all hazards weather radios.

## **Severe Winter Storm**

### *Description*

Winter storms in Iowa typically involve snow, extreme cold, and/or freezing rain (ice storms). These conditions pose a serious threat to public safety, disrupt commerce and transportation, and can damage utilities and communications infrastructure. Winter storms can also disrupt emergency and medical services, hamper the flow of supplies, and isolate homes and farms.

Heavy snow can collapse roofs and down trees onto power lines. Extreme cold conditions can stress or kill unprotected livestock and freeze water sources. Direct and indirect economic impacts of winter storms include cost of snow removal, damage repair, increased heating bills, business and crop losses, power failures and frozen or burst water lines.

For humans, extreme cold can cause hypothermia (an extreme lowering of the body's temperature) and permanent loss of limbs due to frostbite. Infants and the elderly are particularly at risk, but anyone can be affected. From 1992–2021, on average, 454 U.S. residents died each year from weather-related causes of death, with 15% being attributed to exposure to winter and cold weather (National Weather Service, 2022), with elderly being most at risk. Also at risk are those without shelter or live in a home that is poorly insulated or without heat. Of the 974 deaths in 2021 directly and indirectly related to weather events, 22% were winter weather related. Other potential health and safety threats in winter include toxic fumes from emergency heaters, household fires caused by fireplaces or emergency heaters, and driving in treacherous conditions.

The National Weather Service (National Weather Service, 2001) describes different types of winter storm conditions as follows:

- **Blizzard** – Winds of 35 mph or more with snow and blowing snow reducing visibility to less than 1/4 mile for at least three hours.

- **Blowing Snow** – Wind-driven snow that reduces visibility. Blowing snow may be falling snow and/or snow on the ground picked up by the wind.
- **Snow Squalls** – Brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant.
- **Snow Showers** – Snow falling at varying intensities for brief periods of time. Some accumulation is possible.
- **Freezing Rain** – Measurable rain that falls onto a surface whose temperature is below freezing. This causes the rain to freeze on surfaces, such as trees, cars, and roads, forming a coating or glaze of ice. Most freezing rain events are short lived and occur near sunrise between the months of December and March.
- **Sleet** – Rain drops that freeze into ice pellets before reaching the ground. Sleet usually bounces when hitting a surface and does not stick to objects.

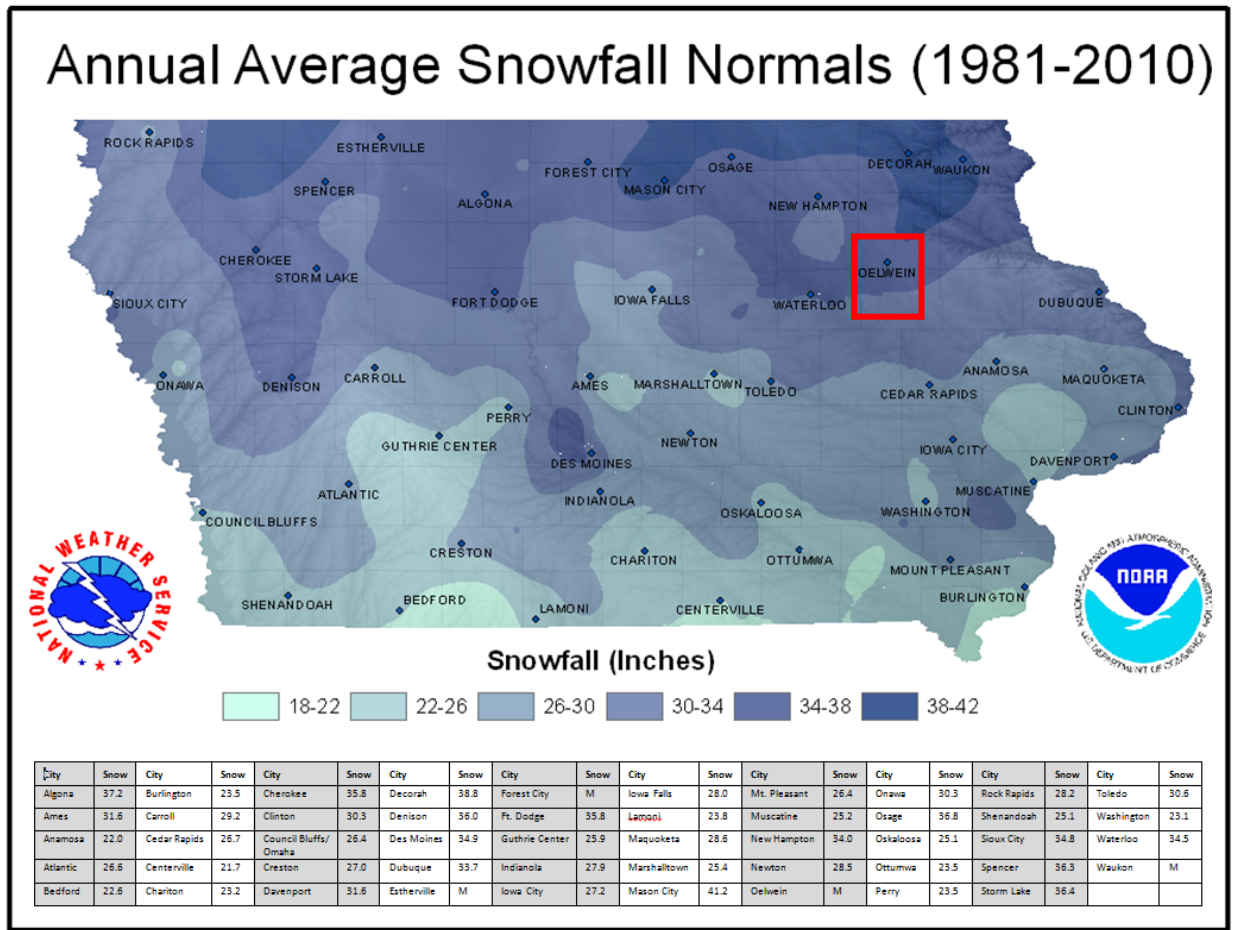
Wind can greatly amplify the impact of cold ambient air temperatures and accordingly, the severity of winter storms.

Duration of the most severe impacts of winter storms is generally less than one week, though dangerous cold, snow, and ice conditions can remain present for longer periods in certain cases. Weather forecasts commonly predict the most severe winter storms at least 24 hours in advance, leaving adequate time to warn the public.

### *Geographic Location*

The entire State of Iowa is vulnerable to heavy snow and freezing rain. The far northern portion of Iowa, near the Minnesota border, receives the greatest average annual snowfall in Iowa. The majority of Fayette County receives an average annual snowfall of 38 inches per year (Sperlings Best Places, 2022).

Figure 62: Annual Average Snowfall Normals (1981-2010)



**Previous Occurrences**

The NCDC Storm Events Database states that 40 events were reported between January 2000 and December of 2020, two of which resulted in damage totaling \$114,000. None resulted in injury or death. Summaries of selected winter storm events available from the NCDC are listed below:

- February 23, 2007.** A powerful winter storm moved from Kansas to the lower Great Lakes, producing a combination of freezing rain, sleet, and heavy snow, which virtually paralyzed northeast Iowa. Widespread power outages and tree damage were caused by ice accumulations of 1 to 2 inches. Especially hard hit were locations around Oelwein (Fayette County). Several roads had downed power lines across them and in fact, thousands of power poles were downed due to ice. Heavy snow also accompanied the storm. Accumulations ranged from 6 to 18 inches, with highest totals near the Minnesota-Iowa border. Thousands of people were without power for several days.
- February 17, 2008.** A powerful winter storm moved from Missouri to lower Michigan, bringing freezing rain initially to parts of northeast Iowa during the early morning hours. Ice accumulations ranged from a quarter to a half of an inch. A heavy glazing of ice on power lines caused power outages. By mid-morning, precipitation changed to all snow and was



accompanied by strong northwest winds gusting up to 30 to 35 mph. Snowfall accumulations between 4 and 8 inches occurred in areas.

- **December 23, 2010.** Heavy snow fell across the county, producing accumulations of 7 to 9 inches. The highest reported snowfall total was 9.5 inches in Oelwein. The weight of all the accumulated snow that fell during the month of December caused the roof of a commercial building to collapse in Oelwein.
- **December 28, 2015.** Observers reported 5 to 7 inches of snow across Fayette County. The snow mixed with or completely changed to sleet for a while during the afternoon and early evening of the 28th. The highest reported total was 7.3 inches near Oelwein. Winds gusting into the 35 to 50 mph range created considerable blowing and drifting snow.
- **February 11, 2019.** COOP and volunteer snow observers reported that around 8 inches of snow fell across Fayette County. The highest reported total was 8.5 inches in Fayette. As the snow was ending, the winds increased and created blowing and drifting snow that resulted in hazardous travel conditions.

### *Likelihood of Future Occurrence*

Previous occurrences would indicate a high probability of a winter storm occurring in any given year. During the 20-year period from 2000-2020, there were 40 recorded winter storm or blizzard events affecting Fayette County. Only one storm, which happened in 2007, was severe enough to warrant a Presidential Disaster Declaration. Heavy snow and winter weather occurs annually and the ramifications of such weather are considered a normal part of life in Fayette County. The probability of a severe winter storm is highly likely.

**Highly Likely:** Event is probable within the calendar year, event has up to 1 in 1 year chance of occurring (1/1=100%), history of events is greater than 33% likely per year

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes on winter storm activity due to climate change include decreasing activity. It is expected that winter weather will cause less damage in future decades. Winters are also becoming shorter thus decreasing the time period for winter storms.

### *Extent*

Injury or even death is possible when proper shelter is not available to protect against severely cold temperatures. Severe winter storms increase the probability of automobile accidents which can also result in serious injury or death. Response personnel are exposed to cold temperatures and traffic accidents when responding to the victims' needs. Operations can be limited or halted when critical services are not available. Workers may not be able to make it to their place of work, limiting the continuity of operations.

Fire during winter storms presents a great danger as water supplies can freeze and firefighting equipment may not function effectively, or personnel and equipment may be unable to get to the fire. If power is out, interiors of homes become very cold and lead to pipes freezing and possibly bursting. Rivers and lakes freeze and subsequent ice jams can create flooding problems as temperatures begin to

rise. Ice coating at least one-fourth inch in thickness is heavy enough to damage trees, overhead wires, and similar objects and to produce widespread power outages.

### ***Warning Time***

6-12 hours

### ***Possible Actions to Mitigate Severe Winter Storm Impacts***

- Promote purchase and use of NOAA all hazards weather radios.
- Electrical utility hardening and/or move to underground.
- Educational materials to improve public awareness of severe winter storm risks and ways to reduce impact.
- Installation of backup generators at critical facilities.
- Adoption or encouragement of building standards to reduce tornado impact.

## **River Flood**

### ***Description***

River flooding is defined as when a watercourse exceeds its “bank-full” capacity and is the most common type of flood event. River flooding generally occurs as a result of prolonged rainfall, or rainfall that is combined with solids already saturated from previous rain events. The area adjacent to a river channel is its floodplain. In its common usage, “floodplain” most often refers to that area that is inundated by the 100-year flood, the flood that has a 1 percent chance in any given year of being equaled or exceeded. The 1 percent annual flood is the national standard by which communities regulate their floodplains through the National Flood Insurance Program (NFIP).

Floods are the most common and widespread of all-natural disasters except fire. Floodwaters can be extremely dangerous. The force of six inches of swiftly moving water can knock people off their feet and two feet of water can float a car. Floods can be slow-, or fast-rising. River flooding is a natural and expected phenomenon that occurs annually, usually restricted to specific streams, rivers, or watershed areas.

### ***Geographic Location***

The Turkey River, Volga River and Volga Lake are the largest surface waters in Fayette County with other rivers such as Maquoketa and Wapsipinicon rivers just passing through Fayette County along with many small creeks and streams. The low-lying areas along these water sources are most vulnerable to damage from river flooding. Many structures, homes, main roadways, and agricultural areas are threatened by river flooding.

### ***Previous Occurrences***

In Fayette County, there have been nine federal disaster declarations involved with flooding since 2000 and one USDA declared disasters involved with flooding since 2012. Major historical floods and flash floods for the county occurred in: 1922, 1947, 1962, 1965, 1969, 1991, 1993, 1999, 2001, 2008, 2016, 2017, and 2019. (National Oceanic and Atmospheric Administration, 2022).

The NCDC reports 27 river flooding events in Fayette County between 2000 and 2022. Selected details available from the NCDC of river flood events that affected Fayette County are:

- **May 22, 2004.** Major flooding occurred on the Turkey River as a result of rainfall totals of 8 to 10 inches. Numerous homes were so badly damaged, residents had to either rebuild or move to a different location. Damage to roads, structures and agricultural land caused by flood waters was estimated at nearly \$3.5 million.
- **June 8, 2008.** The Turkey River through northern and northeast Fayette County experienced a record flood. At Eldorado, the river crested at a record level of 22.11 feet. Flood stage is 12.0 feet. Further southeast, several bridges and roads were damaged or destroyed as debris would pile up along bridge supports and running water flowed over highways. In Clermont, the Turkey River heavily damaged the campground, damaging at least 50 campsites. Luckily, no one was killed or injured.
- **August 26, 2016.** Runoff from heavy rain pushed the Turkey River out of its banks in Clermont. The river crested over six feet about the flood stage at 22.32 feet. The flood waters damaged the wastewater treatment facility.
- **July 22, 2017.** After the initial flash flooding, the flood waters lingered across much of Fayette County into Sunday, July 23<sup>rd</sup>. On Saturday morning, numerous roads were reported impassable in Fairbank because of flood waters. Sandbagging was occurring at several businesses. State Highway 3 was closed between Oelwein and Oran. In the town of Fayette, around 80 % of the homes had water in their basements and a park in town was closed because of flooding.
- **September 20, 2018.** After thunderstorms with locally heavy rain moved across Fayette County, water covered some roads across the county and street flooding occurred in Arlington. Approximately \$10,000 in property damage and \$675,000 in crop damage.
- **August 28, 2021.** Flood waters from the Little Turkey River prompted officials to evacuate half of Waucoma. The flood waters caused minor damage to some buildings for a total of \$20,000 in property damage.

### *Likelihood of Future Occurrences*

Damaging river floods of varying extent do occur on an annual basis, and often multiple flood events may be recorded in the same year. This places the probability of an occurrence as highly likely.

**Highly Likely:** Event is probable within the calendar year, event has up to 1 in 1 year chance of occurring (1/1=100%), history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, there is an increase in river flooding activity due to climate change. There is an expectation that precipitation will increase in intensity but may not increase in frequency. It is more likely that heavy precipitation events will become more common rather than annual average precipitation. The western half of the state is seeing less increase in precipitation than the eastern half of the state which may increase flooding in eastern Iowa.

### *Extent*

River flooding impacts include property damage and destruction, damage and disruption of communications, transportation, energy service, community services, water treatment and wastewaters

treatment facilities, crop and livestock damage. Facilities and infrastructure can be scoured around and degrading its structural integrity. Past flood events in Fayette County have caused fairly significant damage to property and agriculture, endangered lives, and damaged critical facilities. Additional information on the potential impact of flooding on properties can be found in the Vulnerability Assessment Section. Some communities participate in the National Flood Insurance Program, also noted in the Vulnerability Assessment Section.

### *Warning Time*

12 to 24 hours

### *Possible Actions to Mitigate River Flooding Impacts-*

- Educate the public about flood preparation and avoidance.
- Establish or improve warning and alert systems.
- Elevate or otherwise protect wastewater lift stations.
- Continue participation in watershed management authorities and coalitions to study and recommend mitigation solutions for flood issues (Turkey River Watershed Management Authority, Upper Wapsi Watershed Management Authority, etc.).
- Encourage participation in NFIP.
- Replace/upgrade water/sewer system infrastructure.
- Identify and acquire flood prone properties.
- Acquire back up power supply for critical facilities and shelters.
- Improve stormwater management.
- Pursue equipment for filling sandbags.

## **Windstorm**

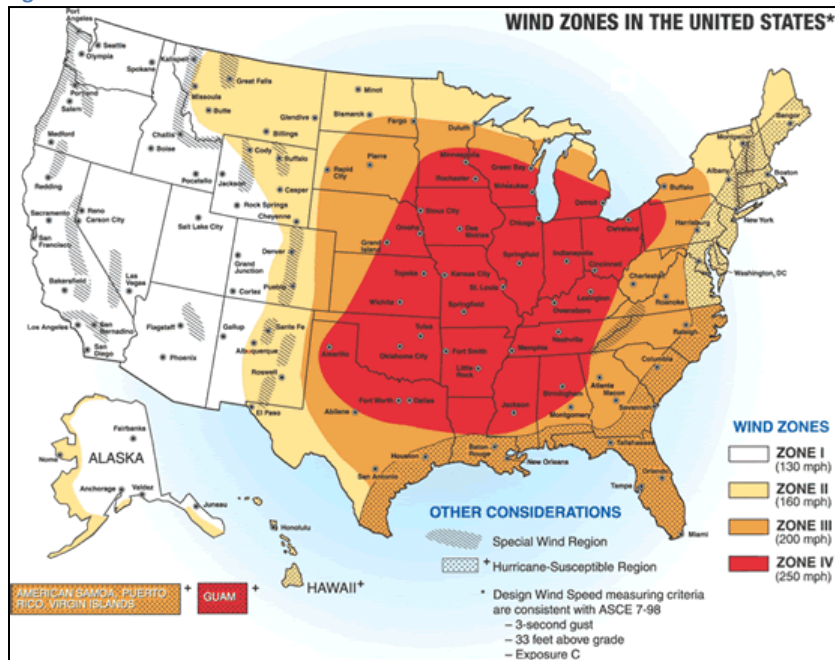
### *Description*

Windstorms are extreme straight-line winds associated with severe winter storms, severe thunderstorms, downbursts, and very strong pressure gradients. Straight-line winds are generally any thunderstorm wind that is not associated with rotation (i.e., not a tornado). These winds, which can exceed 100 mph, represent the most common type of severe weather and are the most common cause of thunderstorm damage. Since windstorms do not have a narrow track like a tornado, associated damage can be extensive and affect broad regions including multiple counties. Objects like trees, barns, outbuildings, high-profile vehicles, and power lines/poles can be toppled or destroyed, and roofs, windows, and homes can be damaged as wind speeds increase. One type of straight-line wind is the downburst, which can cause damage equivalent to a strong tornado and can be extremely dangerous to aviation. Windstorms in Iowa typically happen between late April and early September, but given the right conditions, can develop as early as March. They are usually produced by super cell thunderstorms or a line of thunderstorms that typically develop on hot and humid days.

### Geographic Location

The county is susceptible to high wind events. Fayette County is located in Wind Zone IV, which is susceptible to winds up to 250 mph. The State of Iowa is located in Wind Zone IV, the highest inland category. Figure 63 below reflects the United States Wind Zones based on maximum wind speeds.

Figure 63: Wind Zones in the United States



Source: (Federal Emergency Management Agency, 2007)

### Previous Occurrences

According to the NCDIC database, there have been 92 thunderstorm wind events in Fayette County from 2000-2022. During this time period, there were seven reported injuries as a result of windstorm events, and 68 resulted in property damage totaling \$5.139 million.

Summaries of selected known windstorm events are listed below:

- **July 10, 2000.** 60 to 65 mph wind gusts caused widespread damage, knocking down numerous trees and power lines. In addition, hundreds of acres of corn and soybeans were damaged.
- **July 17, 2007.** Numerous trees and power lines were blown down in Oelwein. The hardest hit area was on the northern side of town. Corn was also flattened in fields just northwest of town. This storm resulted in \$100,000 in property damage.
- **July 10, 2009.** A two mile long path of destruction occurred from approximately 150<sup>th</sup> Street and S and U Avenues. Numerous barns, bins and outbuildings were demolished. One farm north of Sumner was hit particularly hard. The residence sustained damage and its attached garage was ripped away, with two vehicles in the garage a total loss. Also, a mobile home was severely damaged. Approximately 600 acres of corn and soybeans were shredded by the hail and wind, with crop damage totaling nearly half a million dollars.
- **June 16, 2014.** Barns were blown down near Westgate with tin strewn across the road. Another barn was blown down with cattle trapped inside the debris, two of which died. Part of

a roof was blown off a building used for milking, exposing an office, with rain soaking office supplies and computers. Numerous trees and power lines were blown down in town and a church roof sustained damage from high winds. Some of the trees were 2 to 4 feet in diameter and were either uprooted or snapped off about 20 feet above ground. Two grain bins were blown over and landed on a building and a truck.

- **June 22, 2015.** A path of wind damage occurred across Southern Fayette County. Numerous trees and powerlines were downed, several roofs were blown off farm buildings, metal corn bins were caved in and pieces of siding and roofing were strewn throughout the farm fields. One home was destroyed, 17 farms received major damage, and 10 cows were killed.

### *Likelihood of Future Occurrences*

Based on NOAA Storm Events Database recorded Thunderstorm Wind events between 2000 - 2016, windstorm events occur annually, and often multiple events were recorded in the same year. This places the probability of an occurrence as highly likely.

Based on the frequency of previous occurrences, the HMPC determined the probability of future damaging windstorm occurrences to be “highly likely.”

**Highly Likely:** Event is probable within the calendar year, event has up to 1 in 1 year chance of occurring (1/1=100%), history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, similar to tornado activity (they are grouped together in the state plan), windstorm activity changes are uncertain. Although frequency and intensity do not appear to be changing, temperatures do appear to be rising which could lengthen windstorm season.

### *Extent*

Injury or death related to windstorms is possible; and most often occur from building failure or people struck by airborne debris. Windstorms can affect electrical power with system components above ground.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Windstorm Impacts*

- Safe room construction and access.
- Installation and/or upgrade of warning sirens.
- Electrical utility hardening and/or move to underground.
- Educational materials to improve public awareness of windstorm risks and ways to reduce impact.
- Installation of backup generators at critical facilities.
- Adoption or encouragement of building standards to reduce tornado impact.

- Promotion purchase and use of NOAA all hazards weather radios.

## Flash Flood

### *Description*

A flash flood is an event that occurs with little or no warning where water levels rise at an extremely fast rate. Flash flooding results from intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area. Flash flooding is an extremely dangerous form of flooding which can reach full peak in only a few minutes and allows little or no time for protective measures to be taken by those in its path. Flash flood waters move at very fast speeds and can move boulders, tear out trees, scour channels, destroy buildings, and obliterate bridges. Flash flooding often results in higher loss of life, both human and animal, than slower developing river and stream flooding.

Except fire, floods are the most common and widespread of all-natural disasters. In Iowa, as much as 21 inches of rain has fallen in a 24 hour period. The latest significant event to affect Iowa occurred in August of 2016. This event resulted in a Presidential Disaster Declaration due to widespread personal and physical property losses. Between 2000 and 2016 there have been one death and four injuries related to flash flooding in the State of Iowa. Major historical floods and flash floods for the county occurred in 1922, 1947, 1962, 1965, 1969, 1991, 1993, 1999, 2001, 2008 and 2016 (National Oceanic and Atmospheric Administration, 2022).

The onset of flooding varies depending on the cause and type. Flash flooding typically occurs with little or no warning. The duration of flash flood conditions is generally less than one day, but in exceptional cases can extend for much longer periods.

### *Geographic Location*

The Participating Jurisdictions of Arlington, Hawkeye, Randalia, St Lucas, West Union, and Westgate, are not near a major river or creek and are relatively flat communities so the threat of flash flooding is minimal yet can occur. However, the Participating Jurisdictions of Clermont, Elgin, Fayette, Maynard, Oelwein, Wadena and Waucoma as well as the Unincorporated Areas have many low-lying areas. The Turkey River, Volga River, and small creeks and streams weave throughout the planning area. Lower elevations and property near the rivers, creeks and streams are most at risk of flooding.

All flood hazard boundary maps effective in Fayette County are found in the Planning Area Profile and Capabilities section.

### *Previous Occurrences*

The NCDC reports 20 flash flooding events in Fayette County between 2000 and 2021. The flash floods caused a reported \$3.192 million in property damages and \$12.907 million in crop damages.

Details available from NCDC of the flash flood events that affected the County include:



- **May 21-23, 2004.** Rainfall amounts of 3 to 6 inches caused widespread flash flooding. Numerous road washouts were reported across Northeast Iowa. The second night of flash flooding affected the area when 2 to 4 inches fell in 3 hours. Law officials reported water 3 feet deep covering roads in Arlington. Due to extensive damage caused by flooding, all counties were declared disaster areas.
- **April 24, 2008.** Thunderstorms with heavy rain were triggered by an upper level disturbance moving across Iowa. Excessive rainfall amounts of 3 to 6 inches occurred during the late night of April 24 and early morning of April 25, which caused flash flooding. Eleven roads were closed due to the effects of high water, including erosion and washouts. The flood caused an estimated \$120,000 in damage.
- **July 7, 2010.** Law enforcement reported numerous streets and county roads closed due to flooding in and around the city of Oelwein. Many homes with basements flooded and some structural damage occurred. 3.2 to 5.8 inches of rain fell within 5 hours. The flood caused an estimated \$400,000 worth of damage to the City of Oelwein.
- **September 22, 2016.** Thunderstorms with high winds and extremely heavy rain moved across northeast Iowa during the evening of September 21<sup>st</sup> into the early morning of the 22<sup>nd</sup>. Flood waters from Crane Creek covered US Hwy 18 northeast of Hawkeye and the streets were flooded in Hawkeye. Numerous roads between West Union and Sumner had water over them. The Governor of Iowa signed a disaster proclamation because of all the flooding in September. A federal disaster declaration was made as well.
- **July 22, 2017.** After heavy rains dropped 4 to 8 inches of rain, flash flooding occurred across the southern sections of Fayette County. East of Wadena, the bridge over the Volga River on Acorn Road failed. Otter Creek went out of its banks in Oelwein.

### *Likelihood of Future Occurrences*

Previous occurrences would indicate a probability of a high chance of a flash flood occurring in any given year. Flash flooding occurs on close to an annual basis over the span of Fayette County in its low-lying areas and locations close to rivers, creeks, and streams. Based on this level of frequency, probability of future flash flooding with significant impacts in the Participating Jurisdictions is considered highly likely. As land is converted from fields or woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization increases runoff 2 to 6 times over what would occur on natural terrain. As more development occurs in watersheds, the amount of runoff produced also increases.

**Highly Likely:** Event is probable within the calendar year; event has up to 1 in 1 year chance of occurring (1/1=100%); history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes on flash flooding due to climate change are increasing activity. Similar to riverine flooding, (river flooding and flash flooding are grouped together in the state plan), precipitation is expected to increase in intensity however it may not be increasing in frequency. It appears that heavy precipitation events may become more common rather than seeing a large increase in annual precipitation. There is also a greater increase in precipitation in Eastern Iowa over Western Iowa.

### ***Extent***

Factors that directly affect the amount of flood runoff include precipitation, intensity and distribution, and the amount of soil surface areas due to urbanization. The term “flash flood” describes localized floods of great volume and short duration.

There have been 7 deaths and 12 injuries in the State of Iowa related to flash flooding between 2000 and 2022; no deaths or injuries have occurred related to flash flooding in Fayette County since 1993.

Flash floods can quickly inundate areas thought to be out of flood-prone areas. Loss of life; property damage and destruction; damage and disruption of communications, transportation, electric service, and community services; crop and livestock damage and loss and interruption of business are common impacts from flash flooding.

### ***Warning Time***

Less than 6 hours

### ***Possible Actions to Mitigate Flash Flood Impacts***

- Increase public awareness of natural hazards.
- Support stormwater management, including infiltration, retention basins, bioswale, rain garden and siltation removal projects.
- Construct, retrofit, or maintain drainage systems.
- Replace or retrofit bridges and culverts to meet capacity requirements.
- Pursue better equipment for filling sandbags.
- Identify and acquire flood prone properties.

## **Hazardous Materials**

### ***Description***

The 2018 State of Iowa Hazard Mitigation Plan incorporates the following hazards: Fixed Hazardous Materials Incident, Pipeline Transportation Incident and Hazardous Materials Transportation Incident into one category – Hazardous Materials. This includes the accidental release of flammable or combustible, explosive, toxic, noxious, corrosive, oxidizable, irritant, or radioactive substances or mixtures that can pose a risk to life, health or property possibly requiring evacuation.

A Fixed Hazardous Materials (HAZMAT) Incident is the accidental release of chemical substances or mixtures, which presents a danger to the public health or safety, during production or handling at a fixed facility. A hazardous substance is one that may cause damage to persons, property, or the environment when released to soil, water, or air. Chemicals are manufactured and used in ever-increasing types and quantities, each year, over 1,000 new synthetic chemicals are introduced, and as many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals.” Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive. Hazardous material incidents generally affect a localized area and the use of planning and zoning can minimize the area of impact.

A HAZMAT Transportation Incident is the accidental release of chemical substances or mixtures, which presents a danger to the public health or safety, during transport via air, roadway, railway, or waterway.

### *Geographic Location*

A HAZMAT accident can occur almost anywhere, so any area is considered vulnerable to an accident. People, pets, livestock, and vegetation in close proximity to facilities producing, storing, or transporting hazardous substances are at higher risk. There are 115.06 miles of transmission pipelines for gas (vapor) and 55.45 miles of transmission pipelines for hazardous liquids in Fayette County (Fayette County GIS Coordinator, 2017).

In the event of a HAZMAT incident, most are localized and are quickly contained or stabilized by the highly trained fire departments and HAZMAT teams. Depending on the characteristic of the HAZMAT or the volume of product involved, the affected area can be as small as a room in a building or as large as 5 square miles or more. Many times, additional regions outside the immediately affected area are evacuated for precautionary reasons. More widespread effects occur when the product contaminates the municipal water supply or water system such as a river, lake, or aquifer.

### *Previous Occurrences*

Since 2000, the Iowa Department Natural Resources (DNR) reports 121 hazardous spills in Fayette County (Iowa Department of Natural Resources, 2022). During the period 2000-2010, fixed facilities in Iowa experienced 4,972 incidents according to the Iowa Department Natural Resources. Fixed facility releases accounted for 57.6% of total releases.

There are 4,488 sites in Iowa that because of the volume or toxicity of the materials on site are designated as Tier Two facilities under the Superfund Amendments and Reauthorization Act. 55 of those sites are within Fayette County (Iowa Department of Natural Resources, 2022). Private and public facilities are required by federal law to provide an inventory of potentially dangerous chemicals stored on their properties. Tier II reports are filed with the Iowa Department of Natural Resources, county emergency managers and local fire departments. Knowing where large stores of chemicals are located can help first responders be more prepared for fires, spills, and other situations.

According to the U.S. DOT Pipeline and Hazardous Materials Safety Administration, there have been 3,392 hazardous materials transportation incident reports in Iowa since 2000. This includes one reported hazmat transportation incident in Fayette County (U.S. Department of Transportation- Pipeline and Hazardous Materials Safety Administration, 2022):

- **October 3, 2013.** Delivery driver was knocked to the ground when the welded legs on a farmer-owned stand tank failed. 10 gallons out of 300 gallons of gasoline were released to concrete. Clean-up by West Union Fire Dept. using sorbent materials. Total cost was less than \$500.

### *Likelihood of Future Occurrences*

Despite increasing safeguards, increasingly potentially hazardous materials are being used in commercial, agricultural, and domestic uses and are being transported on Iowa roads and railways. Given the history of previous occurrences in Fayette County and the increase in hazardous material moving through the county, the HMPC set the probability of future occurrences as “likely.”

**Likely:** Event is probable within the next three years; event has up to 1 in 3 year chance of occurring (1/3=33%); history of events is greater than 20% but less than or equal to 33% likely per year

### *Extent*

Depending on the characteristics of the HAZMAT or the volume of the product involved, the affected area can be as small as a room in a building or as large as 5 square miles or more. The occurrence of a HAZMAT incident many times shuts down transportation corridors for hours at a time.

Immediate dangers from hazardous materials include fires and explosions. The release of some toxic gases may cause immediate death, disablement, or sickness if absorbed through the skin, injected, or inhaled. Some chemicals cause painful and damaging burns if they come in direct contact with skin. Contamination of air, ground, or water may result in harm to fish, wildlife, livestock, and crops. The release of hazardous materials into the environment may cause debilitation, disease, or birth defects over a long period of time.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Hazardous Materials Release Impacts*

- Build awareness of the potential hazardous materials in the community.
- Promote the use of notification systems.
- Promote shelter-in-place training for public, businesses, and schools.
- Maintain/improve emergency responder training.
- Maintain/improve emergency responder equipment.
- Maintain hazardous materials response team contracts.

## **Hailstorm**

### *Description*

Hailstorms in Iowa cause damage to property, crops, and the environment, and harm livestock. Because of the large agricultural industry in Iowa, crop damage and livestock losses due to hail are of great concern to the state. Even relatively small hail can cause serious damage to crops and trees. Vehicles, roofs of buildings and homes, and landscaping are the other things most commonly damaged by hail. Hail has been known to cause injury and the occasional fatality to humans, often associated with traffic accidents.

Hail is associated with thunderstorms that can also bring powerful winds and tornadoes. A hailstorm forms when updrafts carry raindrops into extremely cold areas of the atmosphere where they condense and freeze. Hail falls when it becomes heavy enough to overcome the strength of the updraft and is pulled by gravity towards the earth. The onset of hailstorms is generally rapid. Duration is less than 6 hours and warning time is generally less than 6 hours. Table 24 describes typical damage impacts due to various sizes of hail.

**Table 24: Tornado and Storm Research Organization Hailstorm Intensity Scale**

| Intensity Category   | Diameter (mm) | Diameter (inches) | Size Description           | Typical Damage Impacts   |
|----------------------|---------------|-------------------|----------------------------|--|
| Hard Hail            | 5-9           | 0.2-0.4           | Pea                        | No damage  |
| Potentially Damaging | 10-15         | 0.4-.06           | Mothball                   | Slight general damage to plants, crops   |
| Significant          | 16-20         | 0.6-0.8           | Marble, grape              | Significant damage to fruit, crops, vegetation   |
| Severe               | 21-30         | 0.8-1.2           | Walnut                     | Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored  |
| Severe               | 31-40         | 1.2-1.6           | Pigeon's egg > squash ball | Widespread glass damage, vehicle bodywork damage   |
| Destructive          | 41-50         | 1.6-2.0           | Golf ball > Pullet's egg   | Wholesale destruction of glass, damage tiled roofs, significant risk of injuries                 |
| Destructive          | 51-60         | 2.0-2.4           | Hen's egg                  | Bodywork of grounded aircraft dented; brick walls pitted   |
| Destructive          | 61-75         | 2.4-3.0           | Tennis ball > cricket ball | Severe roof damage, risk of serious injuries   |
| Destructive          | 76-90         | 3.0-3.5           | Large orange > Softball    | Severe damage to aircraft bodywork   |
| Super Hailstorms     | 91-100        | 3.6-3.9           | Grapefruit                 | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |
| Super Hailstorms     | >100          | 4.0+              | Melon                      | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |

Source: (The Tornado and Storm Research Organization, 2017)

Note: In addition to hail diameter, factors including number and density of hailstones, hail fall speed and surface wind speeds affect severity.

**Geographic Location**

The entire planning area is at risk of hailstorms.

**Previous Occurrences**

The NCDC reports 54 hail events in Fayette County from 2000-2022. Table 25 shows, by the size of hail, the number of hail reports in Fayette County from 2000 to 2022.

**Table 25: Reports of Fayette County Hail, 2000-2022**

| Hail Size (inches) | Number of Reports, 2000-2022 |
|--------------------|------------------------------|
| 0.75               | 18                           |
| 0.88               | 19                           |
| 1.00               | 32                           |
| 1.25               | 2                            |
| 1.50               | 7                            |
| 1.75               | 18                           |
| 2.00               | 6                            |
| 2.25               | 0                            |
| 2.50               | 1                            |

Source: (National Oceanic and Atmospheric Administration, 2022)

Note: There can be multiple reports of hail within the same storm

Notable hailstorm event details affecting Fayette County provided by the NCDC are summarized below:

- **May 11, 2000.** Hail ranging in size from dimes to golf balls was reported by spotters and law enforcement officials near Waucoma, Fayette and Oelwein.

- **September 19, 2005.** An early morning hailstorm produced hail the size of quarters and golf balls, as reported by the public. In fact, a car dealership in Elgin reported that 50 vehicles sustained damage due to the large hail.
- **July 24, 2009.** Clusters of severe thunderstorms generated by an approaching cold front affected part of northeast Iowa during the afternoon and early evening of July 24. Reports of hail up to 2 inches in diameter were common from storm spotters, law enforcement and the public. In addition, wind gusts between 55 and 65 mph occurred. Crop damage due to the large hail was estimated in the millions of dollars.
- **April 6, 2010.** Thunderstorms developed during the late afternoon of April 6<sup>th</sup> north of a slow moving warm front. These storms produced large hail across parts of Fayette and Clayton counties. The hail size ranged from ¾ of an inch to golf ball.
- **March 23, 2017.** Thunderstorms developed across northeast Iowa during the afternoon of March 23<sup>rd</sup> as a warm front approached the region from the south. These storms produced large hail as they moved across the region. The hail mainly fell across Fayette and Clayton Counties and was as large as eggs near Westgate (Fayette County).
- **August 28, 2018.** A complex of thunderstorms moved across portions of northeast Iowa during the morning of August 28<sup>th</sup>. These storms dropped hail from Floyd County east into Clayton County. The largest hail size reported was two inches in diameter in St. Lucas (Fayette County). The storms also produced some wind damage with trees blown down in Charles City (Floyd County) and power lines downed in Nashua (Chickasaw County).
- **May 15, 2021.** Scattered thunderstorms moved across portions of northeast Iowa during the late afternoon of May 15<sup>th</sup>. One of these storms produced a brief tornado in rural Howard County and another dropped golf ball sized hail west of Fayette.

### *Likelihood of Future Occurrences*

Based on NCDC data, there were 54 hail reports in Fayette County between 2000 and 2022, an average of 2.5 each year. However, it is important to note that there can be multiple reports of hail within the same storm. Hail reports indicating hail 1.75 inches and larger occurred 25 times over the same 22 year period. There were seven reports during this period of hail two inches or larger.

Fayette County is located where the probability of a hailstorm with hail two inches or more is between .75 and 1 days per year. Data is unclear as to the number of storms that produced “reports” of hail. Given the information at hand, the probability of a hailstorm is highly likely.

**Highly Likely:** Event is probable within the calendar year, event has up to 1 in 1 year chance of occurring (1/1=100%), history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in hailstorms due to climate change are increasing activity. Both the increase in precipitation and the increase in temperature will likely increase thunderstorm events.

### *Extent*

In addition to concerns for public safety, assets that are vulnerable to hail damage include crops and built structures. Of these, crop damage from hailstorms is the most common and the costliest. Large hail can devastate crops that are at vulnerable stages in the plant/harvest cycle, and it is possible for a great percentage of crop yields to be lost as a result of even a single hail event. Structure damage due

to hail is usually covered under private insurance. Information on specific structural damage costs in the planning area as a result of hail damage was not available.

### ***Warning Time***

Less than 6 hours

### ***Possible Actions to Mitigate Hailstorm Impacts***

- Increase public awareness of natural hazards, including how to prepare and respond to hailstorms especially if outside.
- Build shelters or saferooms in parks and other outdoor areas.
- Promote use of NOAA weather radios.

## **Grass or Wildfire**

### ***Description***

Since protecting people and structures takes priority, a wildfire's cost to natural resources, crops, and pastured livestock can be ecologically and economically devastating. In addition to the health and safety impacts to those directly affected by fires, the state is also concerned about the health effects of smoke emissions to surrounding areas.

Grass and wild land fires in Iowa are frequently associated with lightning and drought conditions, as dry conditions make vegetation more flammable. As new development encroaches into the wild land-urban interface (areas where development occurs within or immediately adjacent to wild lands, near fire-prone trees, brush, and/or other vegetation), more structures and people are at risk. On occasion, farmers intentionally ignite vegetation to restore soil nutrients or alter the existing vegetation growth. These fires have the potential to erupt into wild land fires.

### ***Geographic Location***

The Participating Jurisdictions consist of and/or are surrounded by rural area which is vulnerable to grass and wild land fire given the supporting conditions.

### ***Previous Occurrence***

The State of Iowa's Hazard Mitigation Plan reports Iowa experienced 3,297 wildfires spanning 90,023 acres from 2013 until 2022 with 859 wildfires (20,440 acres) in the recent five years from 2018 to 2022. No previous occurrences specific to Fayette County were identified. According to the National Interagency Fire Center, no historically significant wildfires have occurred in the State of Iowa (Homeland Security and Emergency Management Division, 2023).

### ***Likelihood of Future Occurrence***

Previous occurrences would indicate a good probability of a grass and wild land fire occurring in any given year. The county's ability to respond and the control provided for prescribed fires led the HMPC to rate the probability of grass or wildfire hazards to be highly likely.



**Highly Likely:** Event is probable within the calendar year; event has up to 1 in 1 year chance of occurring (1/1=100%); history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes on wildfire or grass fire activity due to climate change are the increasing of events. This is directly related to the expected increase in drought events and their intensity. It is also related to the increase in temperatures.

### *Extent*

High winds can turn a small flame into a multi-acre grassfire within a matter of minutes. The extent is dependent upon conditions such as land use/land cover, moisture, and wind. Property damage is usually limited to grass, small trees, agricultural fields, etc. Wildfires occur on an annual basis in every county in Iowa; however, most do not result in significant threat to life or property.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Grass or Wildfire Impact*

- Increase public awareness of natural hazards, including preparing citizens in fire prone areas for the threat of grass or wildfire.
- Maintain/improve emergency responder equipment.
- Maintain and promote public notification system.

## **Thunderstorms and Lightning**

### *Description*

Atmospheric imbalance and turbulence may result in thunder, heavy rains (which may cause flooding), strong winds, microbursts, high straight-line winds (often mistaken for tornadoes), tornadoes, surface hail or lightning. Most thunderstorms produce only thunder, lightning, and rain; thunderstorms can occur alone, in clusters or in lines. The National Weather Service considers a thunderstorm severe if it produces hail at least one inch in diameter, wind 58 mph or higher, or tornadoes.

Lightning is an electrical discharge between positive and negative regions of a thunderstorm. It is sudden, extremely destructive, and potentially deadly. The National Weather Service reports that lightning caused 19 fatalities nationwide in 2022, as of September. The 10-year average is 23 fatalities per year (National Weather Service, 2022).

The National Fire Protection Association most recent report states that between 2007 and 2011, local fire departments across the nation responded to an estimated average of 22,600 fires per year that were started by lightning. These fires caused an average of nine deaths, 53 injuries, and \$451 million in direct property damage per year (Ahrens, 2012).

Due to its nature as a powerful electrical phenomenon, lightning causes extensive damage to electronic systems that it contacts. A particular concern in Iowa is the protection of facilities and communications

systems that are critical for maintaining emergency response systems, protecting public health, and maintaining the state’s economy.

Average duration of each lightning stroke is 30 microseconds and duration of thunderstorm events is usually less than six hours. Thunderstorm forecasting and warning time for lightning occurrence is generally less than six hours.

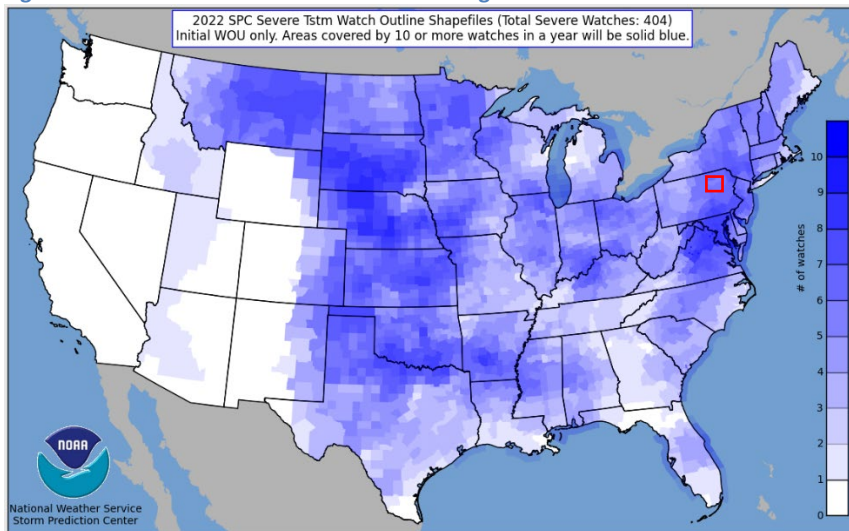
**Geographic Location**

Lightning affects broad regions. The county is similar to the surrounding area and the entire state of Iowa with the frequency of thunderstorms and lightning flashes. The region that includes Fayette County averages:

- 30-50 days with thunderstorms per year per 10,000 square miles and
- 9 - 12 lightning strikes per square mile per year

Figure 64 reflects severe thunderstorm watches throughout the United States in 2022.

**Figure 64: Severe Thunderstorm Watches during 2022**



Source: (National Oceanic and Atmospheric Administration, 2022)

**Previous Occurrences**

Thunderstorms are common in Iowa, with 45 to 65 experienced annually in the state. Of these, about 85% occur between April and September with the peak month being June. Because thunderstorms may occur singularly, in clusters, or in lines, it is possible that several thunderstorms may affect the area in the course of a few hours. One system may spawn multiple events. There have been eleven presidential declarations in Fayette County since 2000 related to severe storms. The NCEC Storm Events Database reports that there were 52 days with thunderstorm wind events, with over half resulting in property and/or crop damage, and two reports of damaging lightning over the span from 2000 to 2021.

**Likelihood of Future Occurrences**

Previous occurrences would indicate a high probability that a severe thunderstorm might occur in any given year. With Iowa’s location in the interior of the U.S., the ingredients of a severe storm are often

present (moisture, warm and unstable air, and a lifting mechanism). As climate patterns change, there is a very high likelihood that a few of these summer storms will become severe and cause damage. According to National Weather Service data, the County receives 12 to 15 lightning strikes per square mile per year. The HMPC rated the probability of future occurrence of damage due to thunderstorms and lightning as “highly likely” in any given year.

**Highly Likely:** Event is probable within the calendar year; event has up to 1 in 1 year chance of occurring (1/1=100%); history of events is greater than 33% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in thunderstorms and lightning due to climate change include increasing events. In the state plan lightning is paired with hailstorms and both are expected to increase due to warming summers and increases in precipitation.

### *Extent*

Like tornadoes, thunderstorms and lightning can cause death, serious injury, and substantial property damage. The power of lightning's electrical charge and intense heat can electrocute people and livestock on contact, split trees, ignite fires, and cause electrical failures. Thunderstorms can also bring large hail that can damage homes and businesses, break glass, destroy vehicles, and cause bodily injury to people, pets, and livestock. Although the frequency of lightning events is high, the magnitude is negligible. Generally, damages are limited to single buildings and in most cases, personal hazard insurance covers any losses.

### *Warning Time*

12-24 hours

### *Possible Actions to Mitigate Thunderstorm and Lightning Impacts*

- Improve public awareness of natural hazards.
- Build shelters or safe rooms in parks or other outdoor areas.
- Promote use of NOAA weather radios.
- Installation and/or upgrade of warning sirens.
- Electrical utility hardening and/or move to underground.

## **Infrastructure Failure**

### ***Description***

This hazard incorporates the following hazards: Communication Failure, Energy Failure, Structural Failure, and Structural Fire. This includes an extended interruption, widespread breakdown, or collapse (part or all) of any public or private infrastructure that threatens life and property.

Communication failure is the widespread breakdown or disruption of normal communication capabilities. Mechanical failure, traffic accidents, power failure, line severance, and weather can affect communication systems and disrupt service. Disruptions and failures can range from localized and temporary to widespread and long-term. If switching stations are affected, the outage could be more widespread.

Energy failure is an extended interruption of service of either electric, petroleum or natural gas, which is caused by an actual or impending acute shortage of usable energy. Disruptions and failures could create a potential health problem for the population and possibly mass panic. International events could potentially affect supplies of energy producing products while local conditions could affect distribution of electricity, petroleum, or natural gas.

The collapse (part or all) of any public or private structure including roads, bridges, towers, and buildings is considered a structural failure. A road, bridge, or building may collapse due to the failure of the structural components or because the structure was overloaded. Natural events such as heavy snow may cause the roof of a building to collapse (under the weight of snow). Heavy rains and flooding can undercut and washout a road or bridge. The age of the structure is sometimes independent of the cause of the failure.

An uncontrolled structural fire in populated areas that threatens life and property may be beyond normal day-to-day response capability. Structural fires present a far greater threat to life and property and the potential for much larger economic losses.

### ***Geographic Location***

The entire planning area is susceptible to infrastructure failure.

### ***Previous Occurrence***

No widespread communication failures have occurred in Iowa. Local incidents, due to weather conditions, equipment failure, excavation incidents, or traffic accidents, were usually resolved in a timely manner. Local communication failures are likely to affect small areas of a county.

There have been several sporadic structural failures in Fayette County, especially roads and bridges, many due to flooding. Structural fires are a regular occurrence in the county as well, as with all counties. Nearly all are quickly extinguished by on-site personnel or local fire departments.

### ***Likelihood of Future Occurrence***

Previous occurrences would indicate no probability of a major communications failure occurring in any given year, but a high probability of road or bridge failure. Localized incidents of communication failure

due to weather, etc. are likely to occur on a yearly basis, but it is unlikely that these incidents would last long-term. Widespread communication losses are unlikely due to backup systems and redundant system designs.

The State of Iowa and the federal government have strategies to limit the likelihood of an energy shortage or failure and keep energy supply and demand in check. Natural events, human destruction, price escalation, and national security energy emergencies can cause unavoidable energy shortages. Because the distribution systems are very developed, local shortages can quickly be covered.

The cause of failure is often found in deficiencies of design, material, or inspection. With the aging structures in Fayette County along with problems with new materials discussed above, structural failures will continue to occur. Efforts to inspect and maintain these structures will lessen the probability of failure.

Much of the fire prevention efforts have gone into nonresidential fires and the results have been highly effective. Even with an increase in the prevention efforts in residential fires, both residential and nonresidential fires will continue to occur. Structural fires with the potential to exceed local fire department response resources and their mutual aid partners are unlikely in any given year.

**Likely:** Event is probable within the next three years; event has up to 1 in 3 year chance of occurring (1/3=33%); history of events is greater than 20% but less than or equal to 33% likely per year

#### *Extent*

Communication failure could include major telephone outages, loss of local government radio facilities, long-term interruption of electronic broadcast services, emergency 911, law enforcement, fire, emergency medical services, public works, and emergency warning systems are just a few of the vital services which rely on communication systems to effectively protect citizens.

Because Iowa is almost entirely dependent on out-of-state resources for energy, world and regional fuel disruptions are felt in Iowa. It is likely that increasing prices will occur as market mechanisms are used to manage supply disruptions. This will disproportionately affect the low-income population.

Agricultural, industrial, and transportation sectors are also vulnerable to supply, consumption, and price fluctuations. Individual consumers such as commuters are also vulnerable.

The impacts of the failed structure would be contained to the immediate area and adjacent properties. This could be as small as a house with a fallen chimney, or the area could be relatively extensive if the structure that failed was a multi-story building or bridge. Dam and levee failures would affect a much larger area and are discussed as separate hazards.

**Limited:** Injuries and/or illnesses do not result in permanent disability; Complete shutdown of critical facilities for more than one week; 10-25% of property is severely damaged

#### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Infrastructure Failure Impacts*

- Maintain and update community infrastructure.
- Promote use of public notification system.
- Increase public awareness of hazards in the community.
- Provide for redundancy, when available, for critical systems.

## **Animal/Plant/Crop Disease**

### *Description*

Any outbreak of disease that can be transmitted from animal to animal or plant to plant is an animal/crop/plant disease. An animal or plant disease outbreak could have serious economic implications or public health impact. Plant disease, insects and mycotoxins are three of the top 20 causes of crop loss. Avian influenza, BSE and Bovine TB are threats to the county's livestock. The HMPC included invasive species, pests, and noxious weeds within this hazard element.

A new, significant threat to the urban and rural forests of Iowa is the Emerald Ash Borer (EAB). Since first being identified in Michigan in 2002, this exotic beetle has destroyed millions of ash trees in North America. This destruction indicates man-assisted movement of this pest and has led to federal quarantines for several entire states (IL, IN, OH, PA, VA and WV) as well as for portions of other states (CT, IA, KS, KY, MD, MI, MN, MO, NY, TN, and WI). Aggressive containment efforts are necessary for new outbreaks outside the core infestations, with chemical and biological control options under review. According to the Iowa Department of Natural Resources, approximately 15-20% of public trees in Iowa cities are green ash, with some communities having as much as 60% of their public tree inventory classified as ash (Iowa State University Extension and Outreach, 2013).

Another significant threat emerging in recent years is the highly pathogenic avian influenza (HPAI) outbreak. HPAI appears to have a relatively high species-specific transmission barrier, it is potentially zoonotic and can be fatal for humans. United States experiences its most serious animal health disease incident in history with the HPAI outbreak occurring between December 2014 and June 2015, and the focal points of the outbreak were in Iowa and Minnesota. The outbreak impacted over 200 commercial facilities in the Midwest, with turkeys and layer-type chickens being affected the most (United States Department of Agriculture, 2017). The most recent outbreak occurred in Spring of 2022, affecting 15 commercial poultry sites and 4 backyard sites. The last commercial Iowa poultry farm was released from quarantine restrictions on July 21, 2022.

### *Geographic Location*

Animal, plant, or crop disease can occur anywhere within the planning area.

### *Previous Occurrences*

There have been isolated occurrences of animal, plant, or crop disease within the county. The emerald ash borer can now be linked to 53 counties in Iowa, which includes Fayette County. The insect was very recently discovered in a city-owned ash tree in Oelwein in 2017 (Iowa State University Extension and Outreach, 2017). During the 2014-2015 avian influenza outbreak, no cases were confirmed in Fayette

County (Iowa Department of Agriculture and Land Stewardship, 2015). However, due to the highly pathogenic nature of the disease, biosecurity measures were put in place across the county and neighboring regions to prevent a catastrophic spread of the disease (Deback, 2016).

### *Likelihood of Future Occurrences*

Previous occurrences would indicate a probability of a low chance of an animal/plant/crop disease occurring in any given year, putting the probability of future occurrence as “unlikely.” The HMPC noted concern over the increasing encroachment of invasive insects and plants into Iowa and the growing resistance of some animal, plant, or crop diseases to the current chemical control efforts.

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10 year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year

### *Extent*

Given the ability of the state and local jurisdictions to respond, control and contain this type of hazard, the HMPC rated the magnitude as catastrophic.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Animal/Plant/Crop Disease Impacts*

- Increase education of the public and employees working in food processing or animal raising industries.
- Encourage safe feeding practices.
- Encourage reporting of potential disease outbreaks.
- Cleaning and Disinfecting

## **Terrorism**

### *Description*

This hazard includes the following: agro-terrorism, domestic terrorism, and public disorder. Additional terrorism hazards can affect Iowa on a larger scale and are included in the State Hazard Mitigation Plan.

Demonstrations, or direct conflict by large groups of citizens, as in marches, protest rallies, riots, and non-peaceful strikes are examples of public disorder. These are not considered as a hazard unless they escalate into a threat to the community. Vandalism is usually initiated by a small number of individuals and limited to a small target group or institution. An active shooting incident can occur. Most events are within the capacity of local law enforcement.

Agro-terrorism is causing intentional harm to an agricultural product or vandalism of an agricultural/animal related facility. This category covers a large variety of incidents from potential to intentional introduction of disease; vandalism of facilities; theft of agricultural products, machinery, or chemicals; release of animals; and contamination of agricultural products. Depending upon the type of action taken, the implications will vary greatly.



Incidents such as this have occurred in the state of Iowa. Iowa has experienced incidents in which animal rights activists have vandalized or released animals from agricultural facilities and there has been vandalism to agricultural facilities or incidents of disgruntled employees causing damage to animals and animal products. There are frequent cases of theft of agricultural machinery, products, and chemicals.

The use of weapons and explosives against persons or property in violation of criminal laws is a form of domestic terrorism. Iowa has not been immune to this.

### *Geographic Location*

An act of terrorism can occur anywhere within the planning area.

### *Previous Occurrences*

The following incidents were reported by the Fayette County Sheriff's Office:

- **November 23, 2010**, Bomb threat at Starmont School. Note found in a bathroom. School was evacuated and perpetrator identified; it was found to be a hoax.
- **February 1, 2012**, Major anhydrous leak north of Hawkeye caused by an attempted theft. Elementary School, business and residence contacted and asked to stay inside until leak could be neutralized.
- **October 30, 2012**, Maynard Armed Bank Robbery.
- **August 23, 2014**, Officer Shot by prisoner that was able to get at Officer's service weapon and suspect then turns gun on himself at Palmer Hospital West Union.
- **February 10, 2016**, Searched a residence in Oran and found bomb making items, assault weapon and ammo along with bullet proof vest and flame thrower.
- **October 12, 2017**, Mental subject threatening suicide with a firearm at a residence in Elgin. Residents diverted from the area, including school-age children.

### *Likelihood of Future Occurrences*

Previous occurrences would indicate a low probability that some form of an act of terrorism occurs in any given year. The HMPC determined the probability of future occurrences of terrorism-related incidents to be "unlikely."

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10 year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year

### *Extent*

Innocent people are often victims of this type of activity, even when the target may be certain people, organizations, or activities. Based on the method of delivery, the general public is vulnerable to terrorism. Because of the characteristics of the weapons or methods terrorists use, the area can be limited to a room, building or the entire community. In Fayette County, the HMPC believes the magnitude of any plausible event to be "catastrophic."

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Terrorism Impacts*

- Promote national campaign by U.S. Department of Homeland Security, “If You See Something, Say Something®”

## **Levee Failure**

### *Description*

A levee is any artificial barrier together with appurtenant works that will divert or restrain the flow of a stream or other body of water for the purpose of protecting an area from inundation by flood waters.

The failure of a levee can be attributed to the loss of structural integrity of a wall, dike, berms, or elevated soil by erosion, piping, saturation, or under seepage causing water to inundate normally dry areas.

### *Geographic Location*

There are four communities with levees in the county, and six levees total, as follows (additional details for which can be found in each community’s jurisdictional section):

- Clermont has one levee within city limits: sewer plant causeway
- Elgin has one earthen levee within city limits, running the length of the City
- Fayette has three levees within city limits (parallel to Volga River, west of Main Street Bridge; parallel to Volga River, east of Main Street Bridge; and parallel to Volga River, west of Main Street Bridge)
- Maynard has one earthen levee within city limits, built parallel to the west bank of the river during the 1970’s, stretching ¼ mile in length

In addition, there are agricultural levees throughout the county along waterways. While the Iowa DNR manages the permitting process for levees and dikes, to date they do not have a comprehensive database that identifies the locations of these permitted installations.

### *Previous Occurrences*

The City of Clermont causeway was destroyed and rebuilt with 2008 flooding. Also, the levee in Fayette parallel to the Volga River west of Main St. Bridge was breached in May of 1999, after which it was elevated eight feet. Planners were not able to attain additional data on destroyed levees/causeways.

### *Likelihood of Future Occurrences*

Previous occurrences would indicate minimal probable chance of a levee failure occurring in any given year. The rate of failure of a levee or floodwall is difficult to predict, and sudden failure is a possibility. Proper design and construction can limit the probability of a levee failure. The HMPC determined the probability of future occurrence to be “occasional.”

**Occasional:** Event is probable within the next five years; event has up to 1 in 5 year chance of occurring (1/5=20%); history of events is greater than 10% but less than or equal to 20% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in levee failure due to climate change include increasing events. In the state plan, dam and levee failure are paired together. There is an expectation that levee failure may increase due to increasing flooding expectations that strain levee. Additionally, the expected increase in drought conditions could negatively affect the levee material.

### *Extent*

Residents behind levees often have a false sense of security. If the actual risk is not communicated to the residents, the impacts of a failure could be devastating. In an urban setting the severity and duration may be important for life safety and health reasons, but in an agricultural area for economic reasons.

Water bursting through a narrow levee breach is moving much faster than the floodwaters in the main channel. The breaking out of this front water and its fast flow can cause more destruction to structures behind the levee than floodwaters in the main channel would have caused. A failed levee continues to cause damage long after it breaks. The breach allows large volumes of water to enter formerly dry areas, forming temporary lakes. Such lakes do not go away immediately, because the lake is blocked from returning to the main channel by levee segments that were not destroyed. Consequently, the water level drops along the main river days before it drops behind breached levees. Often, pumps behind the levees are needed to remove floodwaters that breach the levees. This alleviates some of the impacts associated with levee failures.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Levee Failure Impacts*

- Increase public awareness of natural hazards.
- Identify and acquire flood prone properties.
- Maintain/improve flood mitigation equipment.
- Elevate level or strengthen integrity of levee to reduce overtopping.
- Encourage participation in NFIP.

## **Transportation Incident**

### ***Description***

This hazard includes incidents in air, roadway and rail transportation, any transportation accident involving any mode that directly threatens life and which results in property damage, death, injury and/or adversely impacts a community's capabilities to provide emergency services.

An air transportation incident may involve a military, commercial, or private aircraft. Air transportation is playing a more prominent role in transportation as a whole; airplanes, helicopters, and other modes of air transportation are used to transport passengers for business, health, and recreation as well as freight. Mechanical failure, pilot error, weather conditions are among a variety of circumstances that can result in an air transportation incident.

A roadway transportation incident can be single or multi-vehicle requiring responses exceeding normal day-to-day capabilities. There are approximately 1,340 total miles of roadway in the county; local residents, travelers, business, and industry rely on this network on a daily basis. Weather conditions play a major factor in the ability of traffic to flow safely in and through the state as does the time of day and day of week. Numerous traffic accidents occur in the county and can result in property damage and injury; major accidents involving multiple vehicles and serious injury are not uncommon.

A rail transportation incident is a train accident that directly threatens life and/or property, or adversely impacts a community's capabilities ability to provide emergency services. Railway incidents may include derailments, collisions, and highway/rail crossing accidents. Train incidents can result from a variety of causes; human error, mechanical failure, faulty signals, and/or problems with the track. Results of an incident can range from minor "track hops" to catastrophic hazardous material incidents and even human/animal casualties.

### ***Geographic Location***

Fayette County has two publicly owned general aviation airports, the Oelwein Municipal Airport and the West Union George L. Scott Municipal Airport, but airspace usage is not limited to traffic from those facilities. A transportation incident can occur anywhere within the planning area. D and W Railroad, operator of the Iowa Northern Railway Co., operates one line through Fayette County. The railroad operates track running through Oelwein. The main products handled by the rail include farm products hazardous commodities, chemical and allied products, food and kindred products and machinery except electrical (Iowa Department of Transportation, 2017). Oelwein is the beginning of a line and has only occasional train cars pass through (City of Oelwein Utility Superintendent, 2017).

### ***Previous Occurrences***

The National Transportation Safety Board reports 149 air transportation incidents in Iowa since 2000, with one occurring in Fayette County (National Transportation Safety Board, 2022). The incident occurred on March 27, 2005, with three fatalities and one passenger receiving serious injuries. According to the Iowa DOT, there have been 3,233 crashes in the county from 2007-2016, resulting in 26 fatalities and 421 injuries (Iowa Department of Transportation, 2022). From 2007 through 2016 there

were two railway accidents or incidents reported. Neither involved highway-rail incidents (Federal Railroad Administration, 2022).

### *Likelihood of Future Occurrences*

The HMPC determined the probability of a transportation incident of some type occurring within the county to be occasional.

**Occasional:** Event is probable within the next five years; event has up to 1 in 5 year chance of occurring (1/5=20%); history of events is greater than 10% but less than or equal to 20% likely per year

### *Extent*

The magnitude of a transportation incident is dependent upon the transportation mode. The HMPC determined that the magnitude would generally be limited in scope.

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Transportation Incident Impacts:*

- Encourage awareness and education programs to decrease risky behavior and decrease crashes.
- Consider infrastructure improvements that reduce transportation incidents.
- Continue/enhance emergency responder training.
- Maintain/update/enhance fire protection equipment.
- Acquire portable light plant.
- Expand emergency response capabilities.
- Additional police resources.

## **Droughts**

### *Description*

Drought is generally defined as a period of prolonged lack of precipitation for weeks at a time producing severe dry conditions. There are three types of drought conditions that are relevant to Iowa: Meteorological drought, which refers to precipitation deficiency; hydrological drought, which refers to declining surface water and ground water supplies; and agricultural drought, which refers to soil moisture deficiencies. A prolonged drought can have serious economic impact on a community. Increased demand for water and electricity may result in shortage of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock. From 1980-2022 (data through 7/11/22), there have been 30 drought events with losses exceeding \$250 billion (National Weather Service, 2022).

Periods of drought are normal occurrences in all parts of Iowa. Drought in Iowa is caused by severely inadequate amounts of precipitation that adversely affect farming, surface and ground water supplies, and uses of surface waters for navigation and recreation. Drought can cause significant economic and

environmental impacts and also create favorable conditions for wildfires and wind erosion. While droughts are generally associated with extreme heat, droughts can and do occur during cooler months. Drought can lead to shortages in municipal water supplies due to deficiency of the raw water supply and greatly increased customer water demand. In other cases, the raw water supply may remain adequate, but problems can be encountered due to limited treatment or distribution capacity.

### *Geographic Location*

Drought can occur in any part of the planning area.

### *Previous Occurrences*

According to the National Climatic Data Center (NCDC), Iowa has had 2 periods of drought from 2000-2021. These events occurred in the summers of 2012 and 2021. While some may have been more severe than others, agricultural areas were impacted much more than urbanized areas were impacted.

The NCDC indicates that five of these events directly impacted Fayette County, all in 2012, and provides the following details:

- **July 17, 2012-August 31, 2012.** Severe drought conditions developed across Fayette County because of a persistent lack of precipitation. Effects of the drought include damaged crops, pastures that have stopped growing, river flows that were less than 20 percent of normal, falling ground water levels and the implementation of burning bans. In early August, the U.S. Department of Agriculture declared Fayette County a natural disaster area.
- **September 1, 2012-November 13, 2012.** Severe drought conditions continued across the northern three-quarters of Fayette County because of a persistent lack of precipitation while the southern quarter continued to experience an extreme drought. Effects of the drought include damaged crops, pastures that have stopped growing, river flows that were less than 20% of normal, falling ground water levels and the implementation of burn bans. Rain in October provided some improvement in the drought and removed Fayette County from extreme drought status with the southern third of the county continuing to be in severe drought classification. Precipitation amounts across the county during November was enough to improve the soil moisture conditions and end the severe drought classification.
- **June 15, 2021-July 31, 2021.** Persistent below normal precipitation since February 2021 allowed severe drought conditions to develop across Fayette County. These conditions continued until July 2021. The southern half of the county received enough rain in the middle of July to be removed from the severe drought classification.
- **August 1, 2021-September 30, 2021.** The severe drought in Fayette County came to an end for most of the county in late August following a period of heavy rain. The severe drought continued into September for the far southwest corner of the county.
- **October 1, 2021-October 12, 2021.** The severe drought that had continued to exist across the southwest corner of Fayette County ended by the middle of October after 1 to 1.5 inches of rain fell.
- **June 1, 2023-June 30, 2023.** Drier than normal conditions resulted in severe drought conditions for 574 square miles or 78% of Fayette County through the end of June.

- July 1, 2023-July 31, 2023.** Drier than normal conditions resulted in severe drought conditions for 574 square miles or 78% of Fayette County persisting into the middle of July. Increased rainfall of 2 to 4 inches according volunteer observers resulted in some drought improvement across Fayette County with the July 18<sup>th</sup> Drought Monitor issuance, with severe drought conditions reverting to moderate.
- August 1, 2023-August 31, 2023.** Drier than normal conditions resulted in extreme drought for most of Fayette County through August. During the first half of August, half to 1.5 inches of rain fell, initially preventing any spread of severe drought conditions. Only a half inch of rainfall during the second half of August. 10 to 25 percent of normal for the time period, resulting in extreme drought conditions being met by the end of August.
- September 1, 2023-September 30, 2023.** Ongoing extreme drought expanded across all of Fayette County by the end of September. Monthly rainfall totals near 3 inches were about 1 inch below normal.

Figure 65 shows the Palmer Drought Severity Index.

Figure 65: Palmer Drought Severity Index

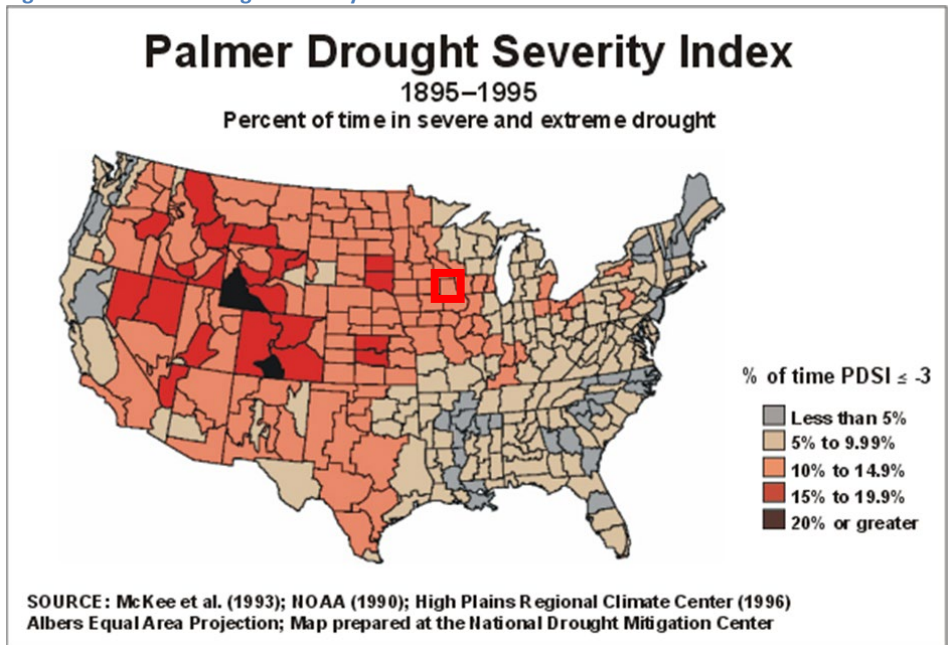
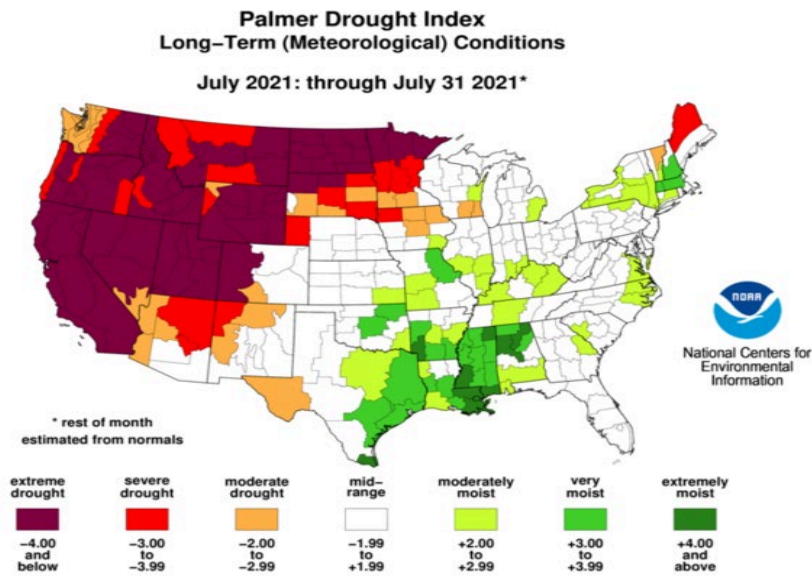


Figure 66 Shows the Palmer Drought Index for July 2021 indicating Fayette County classification.



Figure 66: Palmer Drought Severity Index July 2021



(National Centers for Environmental Information, NOAA, 2022)

### Likelihood of Future Occurrences

According to the Palmer Drought Severity Index 1895-1995, Fayette County experienced severe and extreme drought 10-14.9 percent of the time during that 100-year period. Using this source, the probability of future occurrence falls within the definition of “occasional.”

**Occasional:** Event is probable within the next five years; event has up to 1 in 5 year chance of occurring (1/5=20%); history of events is greater than 10% but less than or equal to 20% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in droughts due to climate change vary regionally. It is expected to be more common in northwestern and southern counties in the state. Northeastern counties may experience drought conditions more often than now. Higher temperatures may also increase drought events.

### Extent

Drought impacts are wide-reaching and may be economic, environmental, and/or societal. The most significant impacts associated with drought in Iowa are those related to agriculture. The agricultural industry provides an economic base for Fayette County, which includes the Participating Jurisdictions. A prolonged drought could have severe economic impacts.

Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. An ongoing drought may also leave an area more prone to wildfires. Water supply can also be of concern during periods of prolonged drought. Drought impacts increase with the length of a drought.

**Limited:** Injuries and/or illnesses do not result in permanent disability; complete shutdown of critical facilities for more than one week; 10-25% of property is severely damaged

### ***Warning Time***

Over 24 hours

### ***Possible Actions to Mitigate Drought Impacts***

- Promote and update Fayette County Multi-Jurisdictional Hazard Mitigation Plan
- Assess need for backup power generators
- Create/update other applicable plans.
- Create/update Fayette Comprehensive Plan to address long-term land use, development, and natural resource protection issues for the community.
- Consider groundwater protection plan and groundwater protection measures for community.
- Increase public awareness of natural hazards.

### **Sinkholes**

#### ***Description***

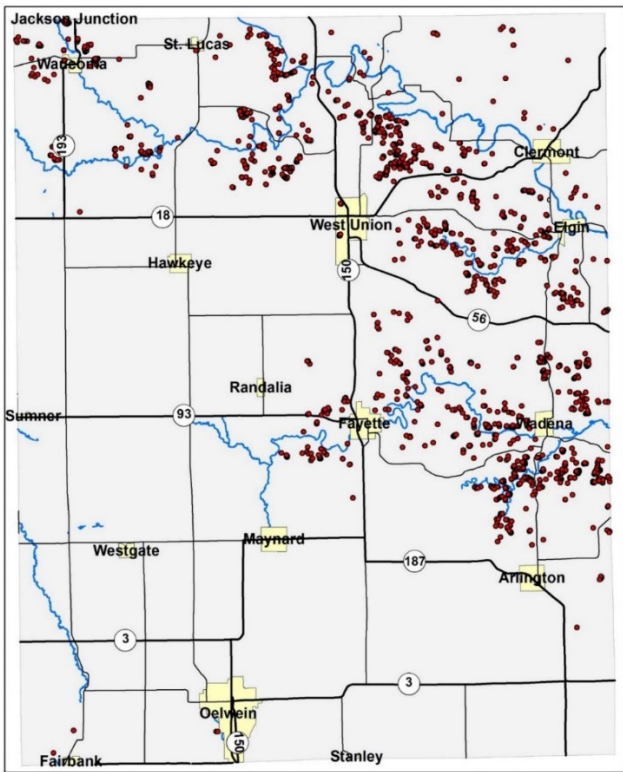
Sinkholes are common where the rock below the land surface is limestone, carbonate, salt beds, or rocks that can naturally be dissolved by ground water circulating through them. As the rock dissolves, spaces and caverns develop underground. Sinkholes are dramatic because the land usually stays intact for a while until the underground spaces get too big. If there is not enough support for the land above the spaces then a sudden collapse of the land surface can occur. Sinkholes range from broad, regional lowering of the land surface to localized collapse. The primary causes of most sinkholes are human activities: Underground mining of coal, groundwater or petroleum withdraw, and drainage of organic soils. In addition, this is due to the erosion of limestone on the subsurface. Sinkholes can aggravate flooding potential, collapses such as the sudden formation of sinkholes or the collapse of an abandoned mine may destroy buildings, roads, and utilities.

Karst is a landscape formed from the dissolution of soluble rocks including limestone, dolomite, and gypsum. Sinkholes are a common indication of karst; caves and underground drainage systems are other indicators. With limestone commonly found in northeast Iowa, sinkholes have the potential to occur.

#### ***Geographic Location***

The Iowa Department of Natural Resources estimates 1,795 sinkholes are located within Fayette County (Iowa Department of Natural Resources, n.d.). Figure 67 below highlights these areas.

Figure 67: Sinkholes in Fayette County



Source: (Iowa Department of Natural Resources, n.d.)

**Previous Occurrences**

The HMPC noted there have been occurrences of sinkholes in the County.

**Likelihood of Future Occurrence**

Previous occurrences would indicate a low probability of a major sinkhole occurring in any given year. The HMPC determined the probability of future occurrence as “occasional.”

**Occasional:** Event is probable within the next five years; event has up to 1 in 5 year chance of occurring (1/5=20%); history of events is greater than 10% but less than or equal to 20% likely per year

**Extent**

Damage consists primarily of direct structural damage and property loss and depreciation of land values, and also includes business and personal losses that accrue during periods of repair. Damage to property, facilities, and infrastructure would only occur if the event undermined foundations.

**Negligible:** Injuries and/or illnesses are treatable with first aid; minor quality of life lost; shutdown of critical facilities and services for 24 hours or less; less than 10% of property is severely damaged

**Warning Time**

Less than 6 hours

**Possible Actions to Mitigate Impact of Sinkholes**

- Increase public awareness of natural hazards.

- Identify and map existing sinkhole locations. Evaluate potential for new locations.

## Extreme Heat

### Description

Extreme temperature events can have severe impacts on human health and mortality, natural ecosystems, agriculture, and other economic sectors. Conditions for extreme heat are defined by summertime weather that is substantially hotter and/or more humid than average for a location at that time of year. This includes temperatures (including heat index) in excess of 100 degrees Fahrenheit (°F) or at least three (3) successive days of 90+ °F. Table 26 reflects the National Weather Service Heat Index chart, producing a guide for the apparent temperature or relative intensity of heat conditions.

Heat is one of the leading weather-related causes of death in the United States, resulting in more deaths each year than hurricanes, lightning, tornadoes, floods, and earthquakes combined. From 1999 to 2010, a total of 7,415 people died of heat-related deaths, an average of about 618 fatalities each year. Those at greatest risk for heat-related illness include infants and children up to four years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications (Centers for Disease Control and Prevention, 2012). However, even young and healthy individuals are susceptible if they participate in strenuous physical activities during hot weather. In agricultural areas, the exposure of farm workers, as well as livestock, to extreme temperatures is a major concern. Table 26 lists typical symptoms and health impacts of exposure to extreme heat.

**Table 26: Typical Health Impacts of Extreme Heat**

| Heat Index (HI)      | Disorder   |
|----------------------|--|
| 80-90°F (HI)         | Fatigue possible with prolonged exposure and/or physical activity  |
| 90-105°F (HI)        | Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity                       |
| 105-130°F (HI)       | Sunstroke, heat cramps or heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity |
| 130°F (HI) or higher | Heatstroke/sunstroke highly likely with continued exposure   |

Source: (National Weather Service, 2005)

The National Weather Service has a system in place to initiate alert procedures (advisories or warnings) when the Heat Index is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. A common guideline for issuing excessive heat alerts is when the maximum daytime Heat Index is expected to equal or exceed 105°F for two or more consecutive days.

### Geographic Location

The entire planning area is subject to extreme heat.

### *Previous Occurrences*

During the period from 2000-2021, the NCDC database lists three incidents of extreme heat that include Fayette County. Details were provided for the events:

- **July 17, 2011-July 20, 2011.** For an extended period between the 17th and 20th, afternoon heat indices routinely topped out between 110 and 115 with overnight low temperatures remaining above 75 degrees.
- **June 29, 2018-June 30, 2018.** Heat indices of 105 to 110 were common across Fayette County on June 29<sup>th</sup> and 30<sup>th</sup>. The highest calculated heat index was 108 by the automated weather observing equipment at the Oelwein airport.
- **July 18, 2019-July 19, 2019.** Heat indices of 105 to 120 were common across Fayette County on July 19<sup>th</sup> and 19<sup>th</sup>. The highest calculated heat index was 117 from the automated weather observing equipment at the Oelwein airport.
- **August 22, 2023-August 24, 2023.** The combination of anomalously high temperatures and humidity on Tuesday, August 22<sup>nd</sup> and Wednesday, August 23<sup>rd</sup> resulted in maximum heat indices of 106 to 118 degrees in parts of Fayette County. The maximum heat index reached 108 degrees on Tuesday and 118 degrees on Wednesday at the automated weather observation station in Oelwein.

### *Likelihood of Future Occurrences*

Although periods of high heat generally occur on an annual basis, events that cause significant health impacts occur less frequently. Based on past occurrences, the probability of future extreme heat is occasional.

**Occasional:** Event is probable within the next five years; event has up to 1 in 5 year chance of occurring (1/5=20%); history of events is greater than 10% but less than or equal to 20% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in extreme heat due to climate change include increasing days with high temperatures. In the state plan this is described as “excessive heat” and days over 90 degrees, above 100 degrees, and over 105 degrees are expected to increase by 2050.

### *Extent*

Due to the potential for fatalities and the possibility for the loss of electric power, periods of extreme heat can severely affect the planning area. In addition, accompanying drought may compound the problem exacerbating agricultural and economic losses.

**Negligible:** Injuries and/or illnesses are treatable with first aid; minor quality of life lost; shutdown of critical facilities and services for 24 hours or less; less than 10% of property is severely damaged

### *Warning Time*

More than 24 hours

### *Possible Actions to Mitigate Extreme Heat Impacts*

- Increase public awareness of natural hazards.
- Assess need for backup power generators.

## Human Disease

### Description

This hazard covers human disease incidents and pandemic human disease. This includes a medical, health, or sanitation threat to the general public (such as contamination, epidemics, plagues, insect infestations, and pandemics).

An incident related to human disease is defined as a medical, health or sanitation threat to the general public (such as contamination, epidemics, plagues, and insect infestation). There are over 60 infectious diseases that are designated as notifiable at the national level. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease (Centers for Disease Control and Prevention, 2022). Table 27 lists the more numerous cases of infectious diseases found in Iowa.

**Table 27: Top Infectious Diseases Reported in Iowa, 2022**

| Infectious Disease: | Reported Cases: | Infectious Disease: | Reported Cases: |
|---------------------|-----------------|---------------------|-----------------|
| Chlamydia           | 13,895          | Pertussis           | 161             |
| Gonorrhea           | 3,758           | E-Coli              | 276             |
| Salmonellosis       | 738             | HIV                 | 125             |
| Cryptosporidiosis   | 538             | Lyme Disease        | 255             |
| Giardiasis          | 273             |                     |                 |

Source: (Centers for Disease Control and Prevention, 2022)

A pandemic human disease is defined as a disease that has spread around the world to many people, causing illness in a person on nearly every continent. Examples include HIV/AIDS/Influenza.

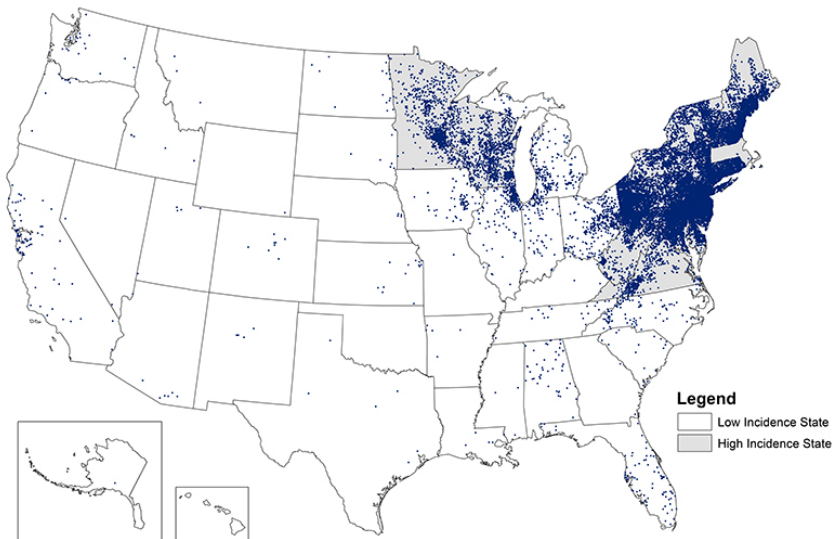
### Geographic Location

Human disease can occur anywhere within the planning area.

### Previous Occurrences

Figure 68 notes the counties where Lyme Disease has been reported in 2011. Fayette County is one of the counties in which the incident range is between 10 and 100. This tick-borne disease is more prevalent in Northeast Iowa than elsewhere in the state.

Figure 68: Reported Cases of Lyme Disease- United States, 2019†



Source: (Centers for Disease Control and Prevention, 2022)

\* Each dot represents one confirmed case according to the patient’s county of residence.

From 1900-2000, there were three (3) influenza pandemics, all about 30 years apart. This seems to follow the same trend with the next occurrence to affect Iowa beginning in 2009 with the H1N1 influenza virus causing 659 hospitalizations with lab confirmed H1N1 since 9/1/09 and resulting in 41 fatalities. Typically, people who become ill are the elderly, the very young and people with chronic medical conditions and high risk behaviors. Approximately 22% of Iowa’s population is considered high risk.

At the time of this plan update, Fayette County, along with the rest of the world, is still experiencing a global pandemic of the Coronavirus 19. As of midday October 3, 2022, globally there are 618,488,087 total confirmed cases and 6,547,942 deaths worldwide with 228 countries and territories that have had cases. In Iowa, as of the same date, there have been 982,235 positive tests, 855,931 positive cases and 10,077\* associated deaths. \*Deaths are considered COVID-19 associated when COVID-19 is listed as an underlying cause or contributing factor on the death certificate. Specifically, in Fayette County, as of November 1, 2022, there have been 5,302 positive tests, 4,727 positive cases, and 84 deaths. A more detailed timeline for this pandemic event is included in APPENDIX E. A summary of the events leading up to the current status in Fayette County, Iowa and the world is below.

On December 31, 2019, the China government confirmed they were treating cases of an unknown illness in Wuhan. Days later the new virus was identified. On January 3, 2020, China officially notified the World Health Organization of an infectious disease outbreak. On January 11, 2020, China reports the first known death from this virus. On January 20, 2020, the first confirmed case is identified outside of China and the following day the first case is confirmed in the United States. On January 30, 2020, the World Health Organization (WHO) declares a “Public Health Emergency of International Concern.” On February 11, 2020, WHO proposes the official name, “COVID-19” for the virus. The first US death is reported on February 29, 2020, however months later in April it is determined that deaths on February 6<sup>th</sup> and February 17<sup>th</sup> were COVID- 19 related. On March 7, 2020, in Iowa, Governor Kim Reynolds



orders “partial activation” of the State Emergency Operations Center (SEOC). The first confirmed cases in Iowa were reported on March 8, 2020, in Johnson County. The state universities in Iowa announce they are moving to online coursework for the rest of the semester on March 11<sup>th</sup> and the Governor of Iowa recommends all schools close for four weeks on March 15<sup>th</sup>, 2020. President Donald Trump officially declares a national emergency on March 13, 2020, and the Governor of Iowa issues a State of Public Health Disaster Emergency Proclamation on March 17, 2020. Additional orders for business closures and restrictions are issued in Iowa in March. On March 24<sup>th</sup> the first COVID19 death is reported in Iowa. On March 26<sup>th</sup> Clayton County reports its first confirmed case and the United States leads the world in confirmed cases at 81,321 cases and more than 1,000 deaths. By April 2<sup>nd</sup> there were more than 1 million cases in 171 countries across 6 continents resulting in more than 51,000 deaths worldwide. By the end of April (April 26<sup>th</sup>, 2020) the global death toll has passed 200,000 and there are more than 2.8 million cases. In Iowa, outbreaks continue including long term care facilities and meat processing facilities. The Iowa Department of Public Health issues a Personal Protective Equipment (PPE) shortage order to address huge supply shortages. Governor Kim Reynolds announces Iowa K12 schools are closed for the rest of the year and launches Test Iowa to increase illness testing capacity in the state. In May, the Governor begins re-opening the state with proclamations allowing businesses and activities to re-open with restrictions and guidance. On May 5, 2020, Iowa cases surpass 10,000 and there have been 207 reported deaths in the state. Re-opening continues through the summer, including Iowa schools in the fall of 2020, as case COVID19 statistics decline. Numbers begin an upward climb in late August continuing into September and October.

### *Likelihood of Future Occurrences*

The Iowa Department of Public Health tracks epidemiological statistics in Iowa. Public health agencies work to protect Iowans from infectious diseases and preserve the health and safety of Iowans through disease surveillance, investigation of suspect outbreaks, education and consultation to county, local and health agencies. Historically pandemics occur every 30 years, however it is anticipated that the current COVID-19 pandemic will continue beyond 2022. The HMPC determined the probability of human disease to be “unlikely.”

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10 year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year

### *Extent*

Public health agencies also work to reduce the impact of communicable diseases in Iowa and to eliminate the morbidity associated with these diseases. Programs guide community-based prevention planning, monitor current infectious disease trends, prevent transmission of infectious diseases, and provide early detection and treatment for infected persons. While vaccines are available for many diseases, Iowans remain vulnerable to other diseases known and unknown.

Currently the death toll in Iowa from COVID-19 is 10,077. Multiple deaths and the complete shutdown of facilities for 30 days or more meets the Catastrophic rating for Magnitude.

### *Warning Time*

24+ hours

### *Possible Actions to Mitigate Pandemic/Infectious Disease Impacts*

- Educate public about preparedness for hazards and disaster events.
- Promote and update Fayette County Multi-Jurisdictional Hazard Mitigation Plan.
- Continue to update or pursue other applicable plans.

## **Dam Failure**

### *Description*

Dam failure is the uncontrolled release of impounded water that can result in flooding. Dams are built for a variety of reasons such as flood control, erosion control, water supply storage, power generation, and recreation. There are seven low hazard dams, one significant hazard dam and no high hazard dams within Fayette County. Planning District 2, which encompasses Fayette County, has the lowest number of high and significant hazard dams in state. The primary purposes of the dams within the county are flood control, recreational or for small fish ponds. (U.S. Army Corps of Engineers, 2022).

Dam failures can be caused by several events including flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation and poor construction, vandalism, or terrorism. Failure of earthen dams occurs through three scenarios: overtopping, seepage, and/or structural issues. Overtopping failures result from the erosive action of water on the embankment. Erosion is due to uncontrolled flow of water over, around, and adjacent to the dam. Earth embankments are not designed to be overtopped and therefore are particularly susceptible to erosion. Once erosion has begun during overtopping, it is almost impossible to stop. A well vegetated earth embankment may withstand limited overtopping if its crest is level and water flows over the crest and down the face as an evenly distributed sheet without becoming concentrated.

All earth dams have seepage resulting from water permeating slowly through the dam and its foundation. Seepage must be controlled in both velocity and quantity. If uncontrolled, it can progressively erode soil from the embankment or its foundation, resulting in rapid failure of the dam. Erosion of the soil begins at the downstream side of the embankment, either in the dam proper or the foundation, progressively works toward the reservoir, and eventually develops a direct connection to the reservoir. This phenomenon is known as "piping." Piping action can be recognized by an increased seepage flow rate, the discharge of muddy or discolored water, sinkholes on or near the embankment or a whirlpool in the reservoir. Once a whirlpool (eddy) is observed on the reservoir surface, complete failure of the dam will probably follow in a matter of minutes. As with overtopping, fully developed piping is virtually impossible to control and will likely cause failure. Seepage can cause slope failure by creating high pressures in the soil pores or by saturating the slope. The pressure of seepage within an embankment is difficult to determine without proper instrumentation. A slope which becomes saturated and develops slides may be showing signs of excessive seepage pressure.

Structural failures can occur in either the embankment or the appurtenances. Structural failure of a spillway, lake drain or other appurtenance may lead to failure of the embankment. Cracking, settlement, and slides are the more common signs of structural failure of embankments. Large cracks in

either of an appurtenance or the embankment, major settlement and major slides will require emergency measures to ensure safety, especially if these problems occur suddenly.

The three types of failure previously described are often interrelated in a complex manner. For example, uncontrolled seepage may weaken the soil and lead to a structural failure. A structural failure may shorten the seepage path and lead to a piping failure. Surface erosion may result in structural failure.

**Geographic Location**

There are dam locations throughout the planning area.

Figure 69: Dam Locations in Fayette County



**Previous Occurrences**

There has never been a dam failure within the county and all of the dams but one have a low hazard potential.

**Likelihood of Future Occurrences**

Previous occurrences would indicate a probability of a very low chance of a dam failure occurring in any given year. The HMPC determined the probability of future occurrence is “unlikely”

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10-year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year.

**Climate Change Expected Conditions:**

Per the Iowa Hazard Mitigation Plan 2023, the expected changes in dam

failure due to climate change include increasing events. In the state plan, dam and levee failure are paired together. There is an expectation that increased flooding expectations may overtop dams and potentially strain dam structure.

**Extent**

Primarily low hazard dams - localized.

**Negligible:** Injuries and/or illnesses are treatable with first aid; Minor quality of life lost; shutdown of critical facilities and services for 24 hours or less; less than 10% of property is severely damaged

***Warning Time***

Less than 6 hours

***Possible Actions to Mitigate Dam Failure Impacts***

- Work with Fayette County Emergency Management Agency and Public Health to complete special needs inventory of vulnerable seniors.
- Increase public awareness of natural hazards.
- Improve emergency communications.
- Continue to use and build public knowledge of warning systems/alert notification providers.
- Identify and assess backup generator needs.
- Continue to update or pursue other applicable plans.

## Earthquakes

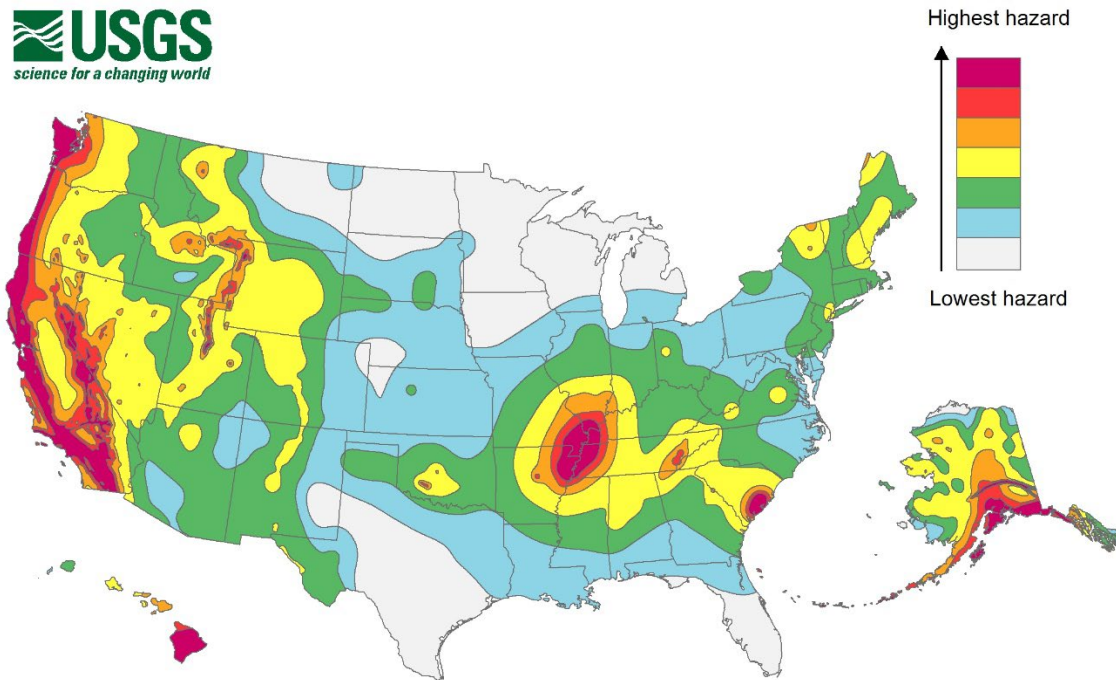
### Description

An earthquake is sudden motion of trembling of the ground caused by shifting tectonic plates. Earthquakes are potentially catastrophic, capable of causing multiple fatalities and major structural and infrastructure damage including disruption of utilities, communications, and transportation systems. Secondary affects can include landslides, seiches, liquefaction, fires, and dam failure. Earthquakes occur very abruptly with little or no warning. However, seismic monitoring in certain cases can detect increases in the geologic and seismic activity that precedes an earthquake event. Duration typically ranges from a few seconds to a minute or two, but aftershocks can occur during the hours and weeks after the quake, usually with diminishing frequency and intensity.

### Geographic Location

Overall, the County is in an area of relatively low seismic activity. The following U.S. Geological Survey (USGS) National Seismic Hazard Map, Figure 70: USGS Long Term National Seismic Hazard Map 2018, displays earthquake ground motions for various probability levels across the United States and is used to develop building codes, insurance rate structures, risk assessments, and other public policy. Fayette County lies in an area with the lowest hazard. The closest fault zone is the New Madrid Seismic Zone which follows the Mississippi River valley from southeastern Missouri to northwestern Mississippi, noted in red on the map, roughly 550 miles south of the County.

Figure 70: USGS Long Term National Seismic Hazard Map 2018



Source: (United States Geological Survey, 2018)

### *Previous Occurrences*

Iowa has experienced 13 earthquakes with epicenters located in the state over its history. Geologically, the epicenter of an earthquake is the point of the earth's surface directly above the focus of an earthquake. The first known earthquake occurred in Southwest Iowa in 1876, near Sidney. The latest earthquake to shake the state also happened in Southwest Iowa in 2004, near Shenandoah. The largest earthquake, of a Mercalli magnitude VI, occurred in Southeast Iowa in 1934, near Davenport. Only the most recent of these events was instrumentally recorded.

### *Likelihood of Future Occurrences*

Previous occurrences would indicate a probability of a very low chance of an earthquake occurring in any given year. USGS estimates Fayette County's probability of a magnitude 5.0+ earthquake within the next 50-year time period at .13 percent (Homefacts.com, 2022). Similar probabilities equate this to roughly a 10,000 year recurrence interval. Based on these estimates the probability of a significant earthquake in any given year is unlikely.

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10 year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, there are no expected changes in earthquake activity due to climate change.

### *Extent*

Fayette County is located in Seismic Zone 0, the lowest risk zone in the United States. Most structures are not built to earthquake standards, but because of the relatively low magnitude of the possible quake, property damage would likely be minor foundational damage. The amount of energy released during an earthquake is most commonly expressed on the moment magnitude scale and is measured directly from energy released from the fault or epicenter as recorded on seismographs. Another measure of earthquake magnitude is intensity. Intensity is an expression of the amount of shaking at any given location on the surface as felt by humans and defined by the Modified Mercalli Intensity Scale. It is typically the greatest cause of losses to structures during earthquakes and is determined by many factors including distance from epicenter and soil types. Table 28 features abbreviated descriptions of the 12 levels of earthquake intensity.

**Table 28: Modified Mercalli Intensity (MMI) Scale**

| MMI  | Felt Intensity  |
|------|---|
| I    | Not felt except by very few people under special condition. Detected mostly by instruments.   |
| II   | Felt by a few people, especially those on upper floors of building. Suspended objects may swing.  |
| III  | Felt noticeably indoors, by a few outdoors. Standing automobiles may rock slightly.   |
| IV   | Felt by many people indoors, by a few outdoors. At night, some people are awakened. Dishes, windows, and doors rattle.  |
| V    | Felt by nearly everyone. Many people are awakened. Some dishes and windows are broken. Unstable objects are overturned.   |
| VI   | Felt by everyone. Many people become frightened and run outdoors. Some heavy furniture is moved. Some plaster falls.  |
| VII  | Most people are alarmed and run outside. Damage is negligible in buildings of good construction, considerable damage in buildings of poor construction              |
| VIII | Damage is slight in specially designed structures, considerable in ordinary buildings, great in poorly built structures. Heavy furniture is overturned.             |
| IX   | Damage is considerable in specially designed buildings. Buildings shift from their foundations and partly collapse. Underground pipes are broken.                   |
| X    | Some well-built wooden structures are destroyed. Most masonry structures are destroyed. The ground is badly cracked. Considerable landslides occur on steep slopes. |
| XI   | Few, if any masonry structures remain standing. Rails are bent. Broad fissures appear in the ground.  |
| XII  | Virtually total destruction. Waves are seen on the ground surface. Objects are thrown in the air.   |

Source: (United States Geological Survey, 2018)

Typically, significant earthquake damage occurs when accelerations are greater than 30 percent gravity.

Based on recurrence intervals for small earthquakes, scientists estimate a 90% chance of a Richter magnitude 6.0 earthquake in the New Madrid Fault Zone by 2040. A magnitude 6.5 in New Madrid would create magnitude 4 effects in Iowa resulting in little or no damage. (Iowa Department of Natural Resources, n.d.)

**Negligible:** Injuries and/or illnesses are treatable with first aid; minor quality of life lost; Shutdown of critical facilities and services for 24 hours or less; less than 10% of property is severely damaged

**Warning Time**

Less than 6 hours

**Possible Actions to Mitigate Earthquake Impacts**

- Work with Fayette County Emergency Management Agency and Public Health to complete special needs inventory of vulnerable seniors.
- Increase public awareness of natural hazards.
- Improve emergency communications.
- Continue to use and build public knowledge of warning systems/alert notification providers.
- Identify and assess backup generator needs.
- Continue to update or pursue other applicable plans.



## Landslides

### Description

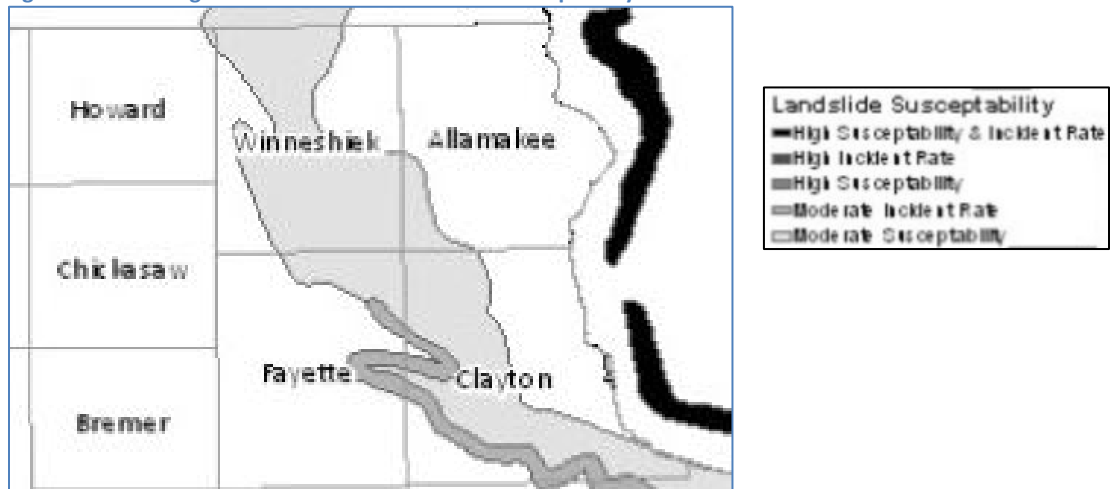
Landslides occur when susceptible rock, earth, or debris moves down a slope under the force of gravity and water. Landslides may be small to large, and slow to very high speeds. A natural phenomenon, small scale landslides have been occurring in slide-prone areas of Iowa historically. New landslides occur because of rainstorms, fires, earthquakes, and various human activities that modify slope and drainage.

There have been numerous small-scale landslide events in Iowa, none resulting in injury or death. The geographic extent of the historic events has been limited to less than a city block in size and has “run out” over the stretch of less than 100 yards. A portion of the state is moderately susceptible to landslides; in northeastern Iowa, along the Silurian Escarpment you can find blocks of dolomite slumped onto the underlying Maquoketa Shale which creates situations vulnerable to landslides.

### Geographic Location

Northeast Iowa is one of two places in the state identified by the Iowa Hazard Mitigation Plan as vulnerable due to areas with layering of dolomite over shale (which are prone to slides). Susceptible areas are mainly found along the adjacent steep terrain associated with the major river valleys (see **Error! Reference source not found.**).

Figure 71: Planning Area Landslide Incidence and Susceptibility



Source: (Iowa Dept. Homeland Security and Emergency Mgt. , 2018)

### Previous Occurrences

No known agency documents historical data on landslides. It was noted that landslides have occurred in the past, but not on a regular basis.

### Likelihood of Future Occurrences

Given the insignificance of past landslides and landslide incidence from the U.S.G.S., it was determined that there is a low chance of a landslide occurring in any given year. The HMPC determined that probability of such an occurrence was “unlikely.”

**Unlikely:** Event is probable within the next 10 years; event has up to 1 in 10 year chance of occurring (1/10=10%); history of events is less than or equal to 10% likely per year.

**Climate Change Expected Conditions:** Per the Iowa Hazard Mitigation Plan 2023, the expected changes in landslide activity due to climate change are uncertain. Landslides have not been an impactful hazard in Iowa in past history. There is a chance that increased precipitation may increase landslides, however damage from those landslides is uncertain.

### *Extent*

There have been no reported landslide events in Iowa resulting in injury or death (through 2013). There have been small scale landslide events where the geographic area is limited to less than a city block in size. Overall, the city's vulnerability to hazards has not changed as a result of changes in development. Property damage would be limited to a very small percentage of structures. Infrastructure damages would be more significant. Utilities such as pipelines, cables, power poles, etc. are often vulnerable to downward movements of the soil. Transportation routes can be disrupted.

**Negligible:** Injuries and/or illnesses are treatable with first aid; minor quality of life lost; shutdown of critical facilities and services for 24 hours or less; less than 10% of property is severely damaged

### *Warning Time*

Less than 6 hours

### *Possible Actions to Mitigate Landslide Impacts*

- Work with Fayette County Emergency Management Agency and Public Health to complete special needs inventory of vulnerable seniors.
- Increase public awareness of natural hazards.
- Improve emergency communications.
- Continue to use and build public knowledge of warning systems/alert notification providers.
- Identify and assess backup generator needs.
- Continue to update or pursue other applicable plans.

## Chapter 4- Vulnerability Assessment

### Methodology

*Requirement §201.6(c)(2)(ii):*

*[The risk assessment shall include a] description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction; and address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods.*

The vulnerability assessment further defines the County’s risk to high and moderate significance<sup>1</sup> hazards as addressed in the Hazard Profiles.

The vulnerability assessment was conducted based on the best available data and the significance of the hazard. Data to support the vulnerability assessment was collected from the following sources:

- County Auditor
- County Assessor
- County GIS data (base layers and assessor’s data)
- Written descriptions of assets and risks provided by the Participating Jurisdictions
- Existing plans and reports
- Personal interviews with HMPC members and other stakeholders

The Vulnerability Assessment is presented in three parts:

- Community Assets – Describes the assets at risk in the Participating Jurisdictions
- Vulnerability by Hazard – Describes the vulnerability to each hazard identified and profiled previously in this plan. The vulnerability analysis includes a vulnerability overview for each hazard of high and moderate significance, and where available, the vulnerability analysis includes evaluation of vulnerable buildings, infrastructure, and critical facilities in hazard areas.
- Summary of Key Issues – Summarizes the key issues and conclusions identified in the risk assessment process.

### Community Assets

This section describes overall hazard vulnerability and buildings, infrastructure, and critical facilities located in identified hazard areas. A critical facility is defined as one that provides essential public safety or mitigation functions during response or recovery operations. Table 29 provides the building count and value of structures in the Participating Jurisdictions.

**Table 29: Jurisdictional Total Structure Counts and Valuations, FY2023/2024**

| Structure Type                            | Structure Count | Building Valuations | Structure Type                           | Structure Count | Building Valuations |
|---|-----------------|---------------------|--|-----------------|---------------------|
| <b>City of Arlington – Population 419</b> |                 |                     | <b>City of Clermont – Population 586</b> |                 |                     |
| Residential                               | 198             | \$13,558,570        | Residential                              | 292             | \$29,606,860        |
| Multi-Residential                         | 6               | \$332,130           | Multi-Residential                        | 8               | \$638,876           |

<sup>1</sup> High planning significance indicates a CPRI score of 3.00 – 4.00. Moderate planning significance indicates a CPRI score of 2.00 – 2.99. CPRI scores were used to help determine priority levels for hazards that have a higher occurrence probability and have a higher potential for adverse impact.

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|   |       |               |   |     |              |
|---|-------|---------------|---|-----|--------------|
| Commercial                                |       | \$2,272,066   | Commercial                                | 66  | \$3,247,731  |
| Industrial                                | 0     | 0             | Industrial                                | 2   | \$375,100    |
| Agricultural                              |       | \$33,430      | Agricultural                              | 1   | \$1,110      |
| <b>City of Elgin – Population 685</b>     |       |               | <b>City of Fayette – Population 1,256</b> |     |              |
| Residential                               | 322   | \$26,463,590  | Residential                               | 411 | \$36,115,401 |
| Multi-Residential                         | 11    | \$217,702     | Multi-Residential                         | 10  | \$3,250,888  |
| Commercial                                | 57    | \$2,304,981   | Commercial                                | 104 | \$5,882,693  |
| Industrial                                | 0     | 0             | Industrial                                | 1   | \$425,190    |
| Agricultural                              | 0     | 0             | Agricultural                              | 1   | \$3,130      |
| <b>City of Hawkeye – Population 438</b>   |       |               | <b>City of Maynard – Population 476</b>   |     |              |
| Residential                               | 223   | \$13,798,450  | Residential                               | 217 | \$18,512,670 |
| Multi-Residential                         | 3     | \$316,348     | Multi-Residential                         | 5   | \$534,243    |
| Commercial                                | 45    | \$2,599,259   | Commercial                                | 37  | \$2,964,538  |
| Industrial                                | 0     | 0             | Industrial                                | 1   | \$77,790     |
| Agricultural                              | 3     | \$6,570       | Agricultural                              | 2   | \$14,640     |
| <b>City of Oelwein – Population 5,920</b> |       |               | <b>City of Randalia – Population 50</b>   |     |              |
| Residential                               | 2,642 | \$195,916,440 | Residential                               | 39  | \$1,085,290  |
| Multi-Residential                         | 42    | \$10,673,219  | Multi-Residential                         | 0   | 0            |
| Commercial                                | 277   | \$35,973,605  | Commercial                                | 5   | \$10,120     |
| Industrial                                | 19    | \$31,952,310  | Industrial                                | 1   | \$65,030     |
| Agricultural                              | 1     | \$2,640       | Agricultural                              | 0   | 0            |
| <b>City of St. Lucas – Population 167</b> |       |               | <b>City of Wadena – Population 209</b>    |     |              |
| Residential                               | 88    | \$8,445,930   | Residential                               | 118 | \$7,326,220  |
| Multi-Residential                         | 1     | \$15,639      | Multi-Residential                         | 0   | \$64,171     |
| Commercial                                | 21    | \$541,068     | Commercial                                | 27  | \$399,725    |
| Industrial                                | 0     | 0             | Industrial                                | 0   | 0            |
| Agricultural                              | 2     | \$16,400      | Agricultural                              | 2   | \$2,170      |

|  |       |               |  |       |               |
|--|-------|---------------|--|-------|---------------|
| <b>City of Waucoma – Population 229</b>  |       |               | <b>City of West Union – Population 2,490</b>   |       |               |
| Residential                              | 136   | \$8,992,500   | Residential                                    | 1,018 | \$102,569,920 |
| Multi-Residential                        | 2     | \$129,095     | Multi-Residential                              | 33    | \$4,287,899   |
| Commercial                               | 31    | \$2,389,405   | Commercial                                     | 185   | \$25,858,861  |
| Industrial                               | 1     | \$443,700     | Industrial                                     | 5     | \$3,215,390   |
| Agricultural                             | 0     | 0             | Agricultural                                   | 7     | \$28,640      |
| <b>City of Westgate – Population 192</b> |       |               | <b>Unincorporated Areas – Population 6,020</b> |       |               |
| Residential                              | 94    | \$5,739,850   | Residential                                    | 1,864 | \$40,321,860  |
| Multi-Residential                        | 3     | \$88,542      | Multi-Residential                              | 3     | \$73,440      |
| Commercial                               | 23    | \$383,590     | Commercial                                     | 43    | \$5,559,350   |
| Industrial                               | 0     | 0             | Industrial                                     | 0     | \$0           |
| Agricultural                             | 4     | \$94,910      | Agricultural                                   | 1,999 | \$160,137,160 |
| <b>Totals – Population 19,137</b>        |       |               |  |       |               |
| Residential                              | 7,662 | \$393,470,530 |  |       |               |
| Multi-Residential                        | 127   | \$15,147,492  |  |       |               |
| Commercial                               | 961   | \$215,504,330 |  |       |               |
| Industrial                               | 30    | \$19,495,560  |  |       |               |
| Agricultural                             | 2,027 | \$160,311,980 |  |       |               |

Source: (Iowa Department of Management, 2022); (U.S. Census Bureau, 2020); (Fayette County Assessor, 2017)

Table 30 provides the participating jurisdictions’ railroad and utility infrastructure valuations.

**Table 30: Railroad and Utility Valuations, FY 2022/2023**

| Jurisdiction:                           | Railroad Valuations | Utilities without Gas & Electric | Gas & Electric Utility Valuation |
|---|---------------------|----------------------------------|----------------------------------|
| <u>City of Arlington</u>                | <u>0</u>            | <u>21,668</u>                    | <u>1,070,902</u>                 |
| <u>City of Clermont</u>                 | <u>0</u>            | <u>17,593</u>                    | <u>1,982,165</u>                 |
| <u>City of Elgin</u>                    | <u>0</u>            | <u>28,405</u>                    | <u>1,636,200</u>                 |
| <u>City of Fayette</u>                  | <u>0</u>            | <u>27,582</u>                    | <u>4,851,064</u>                 |
| <u>City of Hawkeye</u>                  | <u>0</u>            | <u>11,953</u>                    | <u>1,052,827</u>                 |
| <u>City of Maynard</u>                  | <u>0</u>            | <u>24,032</u>                    | <u>1,204,317</u>                 |
| <u>City of Oelwein</u>                  | <u>367,379</u>      | <u>259,224</u>                   | <u>30,375,524</u>                |
| <u>City of Randalia</u>                 | <u>0</u>            | <u>3,667</u>                     | <u>181,240</u>                   |
| <u>City of St. Lucas</u>                | <u>0</u>            | <u>9,526</u>                     | <u>405,173</u>                   |
| <u>City of Wadena</u>                   | <u>0</u>            | <u>4,254</u>                     | <u>633,019</u>                   |
| <u>City of Waucoma</u>                  | <u>0</u>            | <u>15,614</u>                    | <u>787,673</u>                   |
| <u>City of West Union</u>               | <u>0</u>            | <u>148,333</u>                   | <u>9,785,778</u>                 |
| <u>City of Westgate</u>                 | <u>0</u>            | <u>6,255</u>                     | <u>607,983</u>                   |
| <u>Unincorporated Areas<sup>2</sup></u> | <u>2,118,643</u>    | <u>38,657,566</u>                | <u>69,258,912</u>                |

Source: (Iowa Department of Management, 2021)

As previously noted, a critical facility is defined, for the purposes of this plan, as a facility that provides essential public safety or mitigation functions during response or recovery operations. Table 31 offers examples of critical facilities separated by categories of essential, high loss potential and infrastructure.

**Table 31: Critical Facility Examples by Type**

| Essential Facilities                   | High Potential Loss Facilities                  | Transportation and Lifelines                               |
|--|---|--|
| Police Stations                        | Dams and levees                                 | Highways, bridges and tunnels                              |
| Fire Stations                          | Military installations                          | Railroads and facilities                                   |
| Emergency Operations Centers           | Hazardous material sites                        | Airports   |
| Hospitals and other medical facilities | Elder Care Facilities/Long Term Care Facilities | Natural gas pipelines and distribution stations            |
|  | Schools   | Water and wastewater treatment facilities                  |
|  | Storm Shelters                                  | Petroleum pipelines and distribution stations              |
|  | Childcare centers                               | Communications facilities                                  |
|  | Main government buildings                       | Power plants, transmission lines and distribution stations |

Critical facilities by participating geographic jurisdiction are inventoried in Table 32. Table 33 provides information on school district buildings throughout the county and highlights the location of each building and other information pertinent to assessing vulnerability.

<sup>2</sup> Values for unincorporated areas were determined by subtracting the total values of the cities combined

Fayette County, Iowa Multijurisdictional Hazard Mitigation Plan 2024

**Table 32: Critical Facilities by Jurisdiction**

| Facility   | Arlington | Clermont  | Elgin  | Fayette | Hawkeye    | Maynard  | Oelwein   |
|--|-----------|-----------|--------|---------|------------|----------|-----------|
| Police Stations  | 0         | 0         | 0      | 1       | 0          | 0        | 1         |
| Fire Stations  | 1         | 1         | 1      | 1       | 1          | 1        | 1         |
| Emergency Operations Centers                                 | 0         | 0         | 0      | 0       | 0          | 0        | 0         |
| Hospitals and other medical facilities                       | 1         | 0         | 1      | 1       | 0          | 0        | 1         |
| Dams and levees  | 0         | 1/1       | 0/1    | 3       | 0          | 1/1      | 1         |
| Military installations                                       | 0         | 0         | 0      | 0       | 0          | 0        | 1         |
| Tier II Chemical Storage - Hazardous material sites          | 4         | 0         | 1      | 2       | 2          | 2        | 7         |
| Elder Care Facilities/Long Term Care Facilities              | 1         | 0         | 0      | 4       | 0          | 0        | 8         |
| Schools  | 0         | 0         | 0      | 2       | 0          | 1        | 8         |
| Storm Shelters   | 1         | 2         | 0      | 2       | 1          | 3        | 11        |
| Childcare centers  | 1         | 0         | 0      | 1       | 0          | 0        | 2         |
| Main government buildings                                    | 1         | 1         | 1      | 1       | 1          | 1        | 1         |
| Railroad/loading facilities                                  | 0         | 0         | 0      | 0       | 0          | 0        | 1         |
| Airports/Heliports   | 0/0       | 0/0       | 0/0    | 0/0     | 0/0        | 0/0      | 0/1       |
| Natural gas pipelines and distribution stations <sup>3</sup> | 0         | 0         | 0      | 1       | 1          | 0        | 1         |
| Water systems/wastewater treatment facilities                | 1/1       | 1/1       | 1/1    | 1/1     | 1/1        | 1/1      | 2/1       |
| Petroleum pipelines and distribution stations                | 1         | 0         | 0      | 0       | 0          | 0        | 0         |
| Communications facilities <sup>5</sup>                       | 1         | 0         | 0      | 3       | 0          | 0        | 2 to 5    |
| Power plants and distribution stations                       | 0         | 0         | 0      | 1       | 0          | 0        | 1         |
| Facility   | Randalia  | St. Lucas | Wadena | Waucoma | West Union | Westgate | Unincorp. |
| Police Stations  | 0         | 0         | 0      | 0       | 1          | 0        | 0         |
| Fire Stations  | 0         | 1         | 1      | 1       | 1          | 1        | 1         |
| Emergency Operations Centers                                 | 0         | 0         | 0      | 0       | 1          | 0        | 0         |
| Hospitals and other medical facilities                       | 0         | 0         | 0      | 0       | 1          | 0        | 0         |
| Dams and levees  | 0         | 0         | 0      | 1       | 0          | 0        | 1         |
| Military installations                                       | 0         | 0         | 0      | 0       | 0          | 0        | 0         |
| Tier II Chemical Storage - Hazardous material sites          | 0         | 0         | 0      | 1       | 5          | 1        | 10        |
| Elder Care Facilities/Long Term Care Facilities              | 0         | 0         | 0      | 0       | 7          | 0        | 2         |
| Schools  | 0         | 0         | 0      | 0       | 2          | 0        | 2         |
| Storm Shelters   | 2         | 1         | 1      | 3       | 3          | 1        | 0         |
| Childcare centers  | 0         | 0         | 0      | 1       | 3          | 0        | 1         |
| Main government buildings                                    | 1         | 1         | 1      | 1       | 1          | 1        | 0         |
| Railroad/loading facilities                                  | 0         | 0         | 0      | 0       | 0          | 0        | 1         |
| Airports/Heliports   | 0/0       | 0/0       | 0/0    | 0/0     | 1          | 0/0      | 3         |
| Natural gas pipelines and distribution stations              | 0         | 0         | 0      | 0       | 0          | 0        | 12        |
| Water systems/wastewater treatment facilities                | 0/1       | 0/1       | 1/1    | 1/1     | 1/1        | 1/1      | 3/8       |
| Petroleum pipelines and distribution stations <sup>4</sup>   | 0         | 0         | 0      | 0       | 0          | 0        | 1         |
| Communications facilities <sup>5</sup>                       | 0         | 0         | 0      | 0       | 3          | 0        | 17        |
| Power plants and distribution stations                       | 0         | 0         | 0      | 0       | 1          | 0        | 13        |

<sup>3</sup> Only gas pipelines terminating within city limits were counted.

<sup>4</sup> Only petroleum pipelines terminating within city limits were counted.

<sup>5</sup> Communication facilities include telecommunication buildings and towers.

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(Iowa Department of Natural Resources, 2017); (U.S. Energy Information Administration, 2017); (Radio-Locator, 2017); (Iowa Department of Transportation, 2017); (Iowa Department of Transportation, 2017)

**Table 33: School Enrollment by Building and Community, 2022-2023**

| Location    | School District/<br>Building                           | Enroll-<br>ment | Staff on<br>Site  | In Flood<br>Plain? | Mitigation Measures in Place   |
|-------------|--|-----------------|---|--------------------|--|
| Fayette     | North Fayette Valley CSD/<br>Fayette Elementary Center | 105             | 22  | N                  | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms, offices, and bus barn |
| West Union  | North Fayette Valley CSD/ High School                  | 333             | 66  | N                  | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms, offices, and bus barn |
| West Union  | North Fayette Valley CSD/ West Union Elementary        | 223             | 45  | N                  | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms, offices, and bus barn |
| Rural Elgin | North Fayette Valley CSD/<br>Middle School             | 237             | 16<br>between<br>Middle<br>School and<br>Valley<br>Elementary<br>School | N                  | Emergency warning systems for fire/tornado, fire extinguishers throughout the building, regular lock-down, evacuation and tornado drills, staff has completed ALICE training, emergency information binders in all rooms, offices and the bus barn, emergency kits in all classrooms |
| Rural Elgin | North Fayette Valley CSD/ Valley Elementary School     | 182             | See above   | N                  | Emergency warning systems for fire/tornado, fire extinguishers throughout the building, regular lock-down, evacuation and tornado drills, staff has completed ALICE training, emergency information binders in all rooms, offices and the bus barn, emergency kits in all classrooms |
| Maynard     | West Central CSD/<br>PreK-12                           | 321             | 50  | N                  | Lockdown drill, periodic staff ALICE training, bus evacuation drill, tornado/fire drill, fire extinguishers in building, teachers/office staff have access to emergency info, weather radios   |
| Oelwein     | Oelwein CSD/<br>Little Husky Learning Center           | 185             | 25  | N                  | All buildings have emergency warning systems for fire/tornado, fire extinguishers throughout all buildings. Regular lock-down, evacuation and tornado drills, staff has completed ALICE  |



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|                 |   |              |                  |   |   |
|-----------------|---|--------------|------------------|---|---|
|                 |   |              |                  |   | training as well as students, emergency information binders in rooms, offices and bus barn and emergency kits in all classrooms.  |
| Oelwein         | Oelwein CSD/ High School                      | 314          | 51               | N | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms |
| Oelwein         | Oelwein CSD/ Middle School                    | 359          | 54               | N | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms |
| Oelwein         | Oelwein CSD/ Wings Park Elementary School     | 345          | 56               | N | Each building has emergency warning systems for fire/tornado, fire extinguishers throughout building, evacuation and tornado drills are practiced, staff has had ALICE training, emergency information binders in all rooms, emergency kits in all classrooms |
| Rural Arlington | Starmont CSD/ Elementary School               | 268          | 125 (entire CSD) | N | Mitigation actions are covered with the school's Crisis Plan; examples of actions include fire extinguishers, fire/tornado drills, emergency kits in all classrooms   |
| Rural Arlington | Starmont CSD/ High School                     | 191          | See above        | N | Mitigation actions are covered with the school's Crisis Plan; examples of actions include fire extinguishers, fire/tornado drills, emergency kits in all classrooms   |
| Rural Arlington | Starmont CSD/ Middle School                   | 129          | See above        | N | Mitigation actions are covered with the school's Crisis Plan; examples of actions include fire extinguishers, fire/tornado drills, emergency kits in all classrooms   |
|                 | <b>TOTAL:</b>                                 | <b>3,192</b> | <b>510</b>       |   |   |
| Oelwein         | Northeast Iowa Community College- RAMS Center | 197          | 6                | N | ALICE Training for employees, weather radios, Emergency Preparedness Plan binders for easy access, regular safety inspections, safe spots for inclement weather posted in buildings, shelter room crisis kit present, use run/hide/fight video from FEMA      |
| Fayette         | Upper Iowa University                         | 754          | 285              | Y | Website identifies protocols for various emergencies: active shooter, bomb threat, evacuation, explosion, fire, lockdown, medical emergency and power outage.   |
|                 | <b>TOTAL ALL STUDENTS:</b>                    | <b>4,143</b> | <b>801</b>       |   |   |

Source: (Iowa Department of Education, 2023); (Northeast Iowa Community College, 2017) (Upper Iowa University, 2017); (Community School Districts, 2022)

### Community Lifelines

FEMA has identified eight (8) categories of Community Lifelines that are key resources in maintaining continuity of operations during a disaster event. Community Lifelines include:

Table 34: Community Lifelines

| Lifeline  | Description  |
|---|--|
|  <p>Safety &amp; Security</p>    | <p>Law Enforcement, Security, Fire Service, Search &amp; Rescue, Government Service &amp; Community Safety</p> |
|  <p>Food, Hydration, Shelter</p> | <p>Food, Hydration, Shelter &amp; Agriculture</p>  |
|  <p>Health &amp; Medical</p>     | <p>Medical Care, Public Health, Patient Movement, Medical Supply Chain &amp; Fatality Management</p>           |
|  <p>Energy</p>                  | <p>Power Grid &amp; Fuel</p>   |
|  <p>Communications</p>         | <p>Infrastructure, Responder Communications, Alerts, Warnings and Messages, Finance, 911 &amp; Dispatch</p>    |
|  <p>Transportation</p>         | <p>Highway, Roadway, Motor Vehicle, Mass Transit, Railway, Aviation, &amp; Maritime</p>                        |
|  <p>Hazardous Materials</p>    | <p>Facilities, Hazmat, Pollutants, &amp; Contaminants</p>  |
|  <p>Water Systems</p>          | <p>Potable Water Infrastructure &amp; Wastewater Management</p>  |

Impacts on Community Lifelines can be catastrophic and efforts to protect them, including hazard mitigation planning, should be prioritized. Many, if not all, of the critical facilities identified fit within the Community Lifelines categories.

### National Flood Insurance Program Participation

Table 35 reflects the National Flood Insurance Program (NFIP) status and Repetitive Loss (RL) Flood Property counts for eligible communities within the Planning Area.

Table 35: NFIP and RL Information, 2022

| Participating Jurisdiction | Community Identification (CID) Number | NFIP Status       | Repetitive Loss (RL) Properties | Types of Structures   |
|----------------------------|---------------------------------------|-------------------|---------------------------------|---|
| City of Arlington          |                                       | Not Participating | 0                               |   |
| City of Clermont           | 190374                                | Participating     | 0                               |   |
| City of Elgin              | 190125                                | Participating     | 2                               | Single family housing   |
| City of Fayette            | 190376                                | Participating     | 0                               |   |
| City of Hawkeye            | 190591                                | Participating     |                                 |   |
| City of Maynard            | 190377                                | Participating     |                                 |   |
| City of Oelwein            | 190126                                | Participating     | 7                               | Single family & 2 - 4 unit housing; non-residential structure |
| City of Randalia           |                                       | Not Participating | 1                               | Single family housing   |
| City of St. Lucas          |                                       | Not Participating |                                 |   |
| City of Wadena             |                                       | Not Participating |                                 |   |
| City of Waucoma            | 190381                                | Participating     | 1                               | Single family housing   |
| City of West Union         | 190706                                | Participating     |                                 |   |
| City of Westgate           |                                       | Not Participating |                                 |   |
| Fayette County             | 190866                                | Participating     |                                 |   |

Source: (Federal Emergency Management Agency, 2022); (Iowa Department of Natural Resources, 2022)

Table 36 reflects the National Flood Insurance Program (NFIP) policy statistics within those eligible communities participating in the NFIP.

Table 36: Fayette County NFIP Policy Statistics, April 2024

| Participating Jurisdiction | Policies in Force | Total Coverage (Amount in \$) | Total Annual Payment (Amount in \$) |
|----------------------------|-------------------|-------------------------------|-------------------------------------|
| City of Clermont           | 2                 | 451,000                       | 3,189                               |
| City of Elgin              | 5                 | 921,000                       | 6,804                               |
| City of Fayette            | 5                 | 1,280,000                     | 12,043                              |

|                    |    |           |        |
|--------------------|----|-----------|--------|
| City of Oelwein    | 16 | 1,527,000 | 23,494 |
| City of Waucoma    | 2  | 415,000   | 2,637  |
| City of West Union | 2  | 635,000   | 1,386  |
| Fayette County     | 12 | 1,892,000 | 10,337 |

Source: (Federal Emergency Management Agency, 2024)

### **Vulnerability by Hazard**

This vulnerability assessment is limited to the hazards that are viewed as having high or moderate planning significance by the HMPC and with jurisdictional input.

### **Summary of Key Issues**

The following section summarizes key issues brought out by the risk assessment from the hazards of moderate and high planning significance, arranged alphabetically by hazard.

#### ***Animal/Plant/Crop Disease***

- Emerald Ash Borer
- Avian Influenza
- Livestock disease

#### ***Droughts***

- Economic impact of crop loss
- Economic impact of higher livestock feed costs
- Fires at certain times of year

#### ***Flash Floods***

- Individuals can get caught unexpectedly in flash flooding
- There is no adequate warning for flash flooding
- Driveways, roads, bridges, etc. can get washed out, leaving no access in case of an emergency
- Low-lying areas and the foundations of structures are vulnerable with heavy rains
- When flood waters saturate the ground, ground water can become contaminated
- Private wells can become contaminated
- Flash floods have had and can have severe impacts to areas with structures and infrastructure damaged routinely, especially in the unincorporated areas in the low-lying areas adjacent to the water source

#### ***Floods***

- Initial public safety and long term health concerns
- When flood waters saturate the ground, ground water can become contaminated
- Private wells can become contaminated
- River floods have had and can have severe impacts to areas with structures and infrastructure damaged routinely, especially in the low-lying areas adjacent to the water source

#### ***Grass or Wildfire***

- Grass and wild land fires are often associated with lightning and drought conditions
- The Participating Jurisdictions are surrounded by rural area which may be vulnerable to grass and wild land fire given the supporting conditions (e.g. drought, etc.)
- Wildfires occur on an annual basis in every county in Iowa

### ***Hailstorm***

- 44 hail events in the past 16 years in Fayette County, including the Participating Jurisdictions
- Crops, structures, and vehicles are damaged by large hail events
- Hail events have become more prevalent in recent years
- The associated thunderstorms can generate damaging winds

### ***Hazardous Materials***

- Entire planning area and beyond could be affected depending on the amount of hazmat released and its potency
- Response team out of Linn County Iowa responds to hazmat incidents in Fayette County to assist county fire departments at the operations and technician levels
- Hazardous materials, in both liquid and gas form, are transported on the county's roadways, railways and through pipelines year round

### ***Infrastructure Failure***

- Bridge collapse
- Communications failure through interrupted cellular service

### ***Levee Failure***

- The rate of failure of a levee or floodwall is difficult to predict, and sudden failure is a possibility.

### ***Severe Winter Storms***

- Closure of schools and business impact economic productivity
- Access to people and livestock limited
- Unsafe driving conditions

### ***Terrorism***

- Active shooting incident
- Workplace violence
- Agro-terrorism (at the county fair or other public livestock venues)
- Bomb Threats

### ***Thunderstorms and Lightning***

- Associated winds and hail can cause damage to power infrastructure, structures, and vehicles
- Unsecured mobile homes, campers, barns, and sheds and their occupants are specifically vulnerable to high winds
- Trees and tree limb debris damage power lines, power infrastructure, structures, and automobiles
- Storefront windows are vulnerable to damage from high winds
- Roofs are frequently damaged from high winds
- Direct lightning strikes can cause major damage to the power infrastructure or structures, start a fire or cause death
- Six presidential disasters have been declared in Fayette County as part of severe storms
- Agricultural production and financial return can be severely impacted

### ***Tornadoes***

- Warning time for tornados is relatively short. Certain communities in the county have more vulnerable populations, such as Randalia with a higher number of elderly, or the multiple

jurisdictions in the county with popular campgrounds lacking storm shelter protections during an event. Damage endured from a tornado could range from minimal to complete devastations

- Agricultural production and financial return can be severely impacted

#### **Transportation Incident**

- Highway Transportation Incidents can range in severity from minor injuries and damage to the vehicle, to loss of life
- Roadways could be blocked off while the involved vehicles and/or response personnel are on scene

#### **Windstorm**

- Since windstorms do not have a narrow track like a tornado, associated damage can be extensive and affect broad regions including multiple counties.
- The county is susceptible to high wind events. Fayette County is located in Wind Zone IV, which is susceptible to winds up to 250 mph.

#### **National Risk Index**

In 2017, FEMA created the National Risk Index to provide a baseline of relative natural risk across the country. The National Risk Index incorporates multiple factors that can influence the risk level for a community. These factors include social vulnerability, the estimated annual loss, and the resilience of a community. Understanding the risk a community faces can help to better understand the community's vulnerabilities.

The Social Vulnerability Score for Fayette County is **Very Low** when compared to the rest of the U.S.

The Community Resilience Score for Fayette County is **Relatively High** when compared to the rest of the U.S.

The Expected Annual Loss (EAL) Score for Fayette County is **Relatively Low** when compared to the rest of the U.S.

The National Risk Index is an online tool with a dataset and mapping to demonstrate communities at risk within the United States for eighteen natural hazards. The following scores are calculated with these formulas:

Risk Index = Expected Annual Loss x Social Vulnerability ÷ Community Resilience

Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio

Nine of the eighteen natural hazards identified in the National Risk Index contribute to the Expected Annual Loss(EAL) for Fayette County. The Expected Annual Loss represents the average economic loss in dollars resulting from natural hazards each year.

For Fayette County, the Composite Expected Annual Loss is \$7,530,365.71, per the National Risk Index. The further break down of Expected Annual Loss by Building, Agriculture and Population is below:

Building EAL - \$4,181,050.95

Building EAL Rate = \$1 per \$1.35K of building value

Agriculture EAL - \$1,625,778.23

Agriculture EAL Rate = \$1 per \$263.06 of agriculture value

Population EAL – 0.15 fatalities

Population EAL Rate = 1 per 131.30K people

Population Equivalence EAL = \$1,723,536.52

**Table 37: Expected Annual Loss for Hazard Types**

| HAZARD            | EAL (\$)    | EAL SCORE | EAL RATING          | EAL Building Value | EAL Population Value | EAL Agriculture Value |
|-------------------|-------------|-----------|---------------------|--------------------|----------------------|-----------------------|
| TORNADO           | \$2,100,028 | 71.4      | Relatively HIGH     | \$1,177,448        | \$907,630            | \$14,950              |
| WINTER WEATHER    | \$203,618   | 82.5      | Relatively HIGH     | \$44,814           | \$157,163            | \$1,641               |
| RIVERINE FLOODING | \$1,636,148 | 80.2      | Relatively MODERATE | \$819,643          | \$165,098            | \$651,407             |
| STRONG WIND       | \$1,708,107 | 91.0      | Relatively HIGH     | \$1,200,924        | \$412,790            | \$94,393              |
| HAIL              | \$1,438,235 | 93.2      | Relatively MODERATE | \$871,115          | \$21,968             | \$545,152             |
| WILDFIRE          | \$8,018     | 24.0      | Very LOW            | \$7,145            | \$873                | \$1                   |
| DROUGHT           | \$97,116    | 67.7      | Relatively LOW      | NA                 | NA                   | \$97,116              |
| COLD WAVE*        | \$228,547   | 74.0      | Relatively MODERATE | \$84               | \$9,131              | \$219,332             |
| ICE STORM*        | \$36,430    | 41.5      | Relatively LOW      | \$35,337           | \$1,094              | NA                    |

\*included due to relation with Winter Weather.



**Table 38: Expected Annual Loss Rate**

| HAZARD            | BUILDING EAL RATE<br>(per Building Value) | POPULATION EAL RATE<br>(per Population) | AGRICULTURE EAL<br>RATE (per Agriculture<br>Value) |
|-------------------|---|---|--|
| TORNADO           | \$1 per \$4.81K                           | 1 per 249.34K                           | \$1 per \$28.61K                                   |
| WINTER WEATHER    | \$1 per \$126.31K                         | 1 per 1.44M                             | \$1 per \$260.65K                                  |
| RIVERINE FLOODING | \$1 per \$6.91K                           | 1 per 1.37M                             | \$1 per \$656.55                                   |
| STRONG WIND       | \$1 per \$4.71K                           | 1 per 548.23K                           | \$1 per \$4.53K                                    |
| HAIL              | \$1 per \$6.50K                           | 1 per 10.30M                            | \$1 per \$784.51                                   |
| WILDFIRE          | \$1 per \$792.24K                         | 1 per 259.25M                           | \$1 per \$547.27M                                  |
| DROUGHT           | -   | -                                       | \$1 per \$4.40K                                    |
| COLD WAVE*        | \$1 per \$67.33M                          | 1 per 24.78M                            | \$1 per \$1.95K                                    |
| ICE STORM*        | \$1 per \$160.18K                         | 1 per 206.92M                           | -  |

\*included due to relation with Winter Weather

**Resiliency**

According to the Iowa Hazard Mitigation Plan 2023, Fayette County has avoided an estimated amount of damage of \$2,787,629 due to mitigation actions from 1995-2023. The total amount spent on tracked mitigation projects in the county during that time was \$443,814. This indicates a return on investment (ROI) of 6.28 in Fayette County as of March 2023. The statewide ROI as of March 2023 is 1.36.

## Chapter 5- Mitigation Strategy

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This section presents the mitigation strategy developed by the Hazard Mitigation Planning Committee (HMPC) and the participating jurisdictions based on the county-wide risk assessment as well as each city's strategies. The mitigation strategies were developed through a collaborative group process and consist of general goal statements to guide the Participating Jurisdictions in efforts to lessen disaster impacts as well as specific mitigation actions that can be put in place to directly reduce vulnerability to hazards and losses. The following definitions are based on those found in FEMA publication 386-3, *Developing a Mitigation Plan* (April, 2003):

- Goals – General guidelines that explain what you want to achieve. They are usually long-term, policy-type statements and represent broad visions.
- Strategies – Implementation steps to attain the identified goals.
- Mitigation Actions – Specific actions that help achieve goals and objectives.

### Goals/Strategies

*Requirement §201.6(c)(3)(i):*

*[The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*

Goals were used to provide direction for reducing hazard-related losses in the Participating Jurisdictions, and strategies identified implementation areas for achieving identified goals:

**Goal 1:** Minimize vulnerability of the people and their property in the Participating Jurisdictions to the impacts of hazards.

**Strategy 1:** Develop safe and functioning shelters and evacuation plans for the public in the event of a disaster.

**Strategy 2:** Ensure that emergency responders are prepared and able to react in any hazard situation.

**Strategy 3:** Ensure that local jurisdictions are prepared and able to react in any hazard situation.

**Goal 2:** Protect critical facilities, infrastructure, and other community assets from the impacts of hazards.

**Strategy 1:** Ensure that emergency responders have the tools they need to prepare and/or respond to hazards.

**Strategy 2:** Maintain the function of critical facilities and services to provide continued support in the event of a disaster.

**Strategy 3:** Ensure that communities have the ability to take necessary action to lessen the impact of a disaster.

**Strategy 4:** Provide ample warning to people and business to reduce loss of life or property.

**Goal 3:** Improve education and awareness regarding hazards and risk in the Participating Jurisdictions.

**Strategy 1:** Increase public knowledge and awareness of potential hazards and the individual and collaborative actions that can be taken to reduce or eliminate the risk and impact of an event.

**Strategy 2:** Use technology resources, such as county websites, social media pages, or text alerts, to better distribute information on hazards impacting the county.

**Goal 4:** Strengthen communication among agencies and between agencies and the public.

**Strategy 1:** Ensure that emergency responders have the ability and protocol to communicate effectively with one another and the public before, during and after a hazard event.

**Strategy 2:** Increase public knowledge and awareness of potential hazards and the warning and response systems in place to react to an event.

## Identification and Analysis of Mitigation Actions

*Requirement §201.6(c)(3)(ii):*

*[The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*

After review of hazards and defining the level of concern placed on each by the county and its communities, mitigation actions were developed by each jurisdiction to address those hazards deemed most critical. Actions fell into broad categories as defined below:

- **Prevention:** Administrative or regulatory actions or processes that influence the way land and buildings are developed and built
- **Property protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them for the hazard area
- **Structural:** Actions that involve the construction of structures to reduce the impact of hazards
- **Natural resource protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems
- **Emergency services:** Actions that protect people and property during and immediately after a disaster or hazard event
- **Public education and awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them

For each action identified in this plan, a mitigation action implementation worksheet and STAPLEE score was completed. The STAPLEE priorities are found under “Implementation of Mitigation Actions” and the implementation worksheets identify High Priority Actions, Medium Priority Actions, and Low Priority Actions.

## Implementation of Mitigation Actions

*Requirement §201.6(c)(3)(iii):*

*[The mitigation strategy shall include] an action strategy describing how the actions identified in paragraph (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefits review of the proposed projects and their associated costs.*

After the actions to include in the mitigation strategy for each of the jurisdictions were determined, a STAPLEE tool was used to help guide a discussion to prioritize the mitigation actions that are included in this plan. STAPLEE is used to assess the costs and benefits, and overall feasibility of mitigation actions. STAPLEE stands for the following:

- **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
- **Technical:** Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
- **Administrative:** Are there adequate staffing, funding, and maintenance capabilities to implement the project?
- **Political:** Will there be adequate political and public support for the project?
- **Legal:** Does your jurisdiction have the legal authority to implement the action?
- **Economic:** Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

The STAPLEE criteria were reviewed prior to the prioritization discussion. The participating attendees then discussed each proposed action and its feasibility given the STAPLEE criteria and came to consensus on the priority level of actions. Actions were also weighed in their ability to address or mitigate hazards that were given a high level of planning significance (priority) by **any** participating jurisdiction:

- |                       |                                  |                     |
|-----------------------|----------------------------------|---------------------|
| • Flash Floods        | • Severe Winter Storms           | • Tornadoes         |
| • Hailstorm           | • Thunderstorms and<br>Lightning | • Grass or Wildfire |
| • Hazardous Materials | • Windstorm                      |                     |
| • River Floods        |                                  |                     |

Based on high feasibility (through STAPLEE criteria) and ability to address high priority hazards (through CPRI scoring), each action was prioritized as high, medium, or low:

- **High Priority** = high feasibility and addresses higher priority hazards
- **Medium Priority** = fairly feasible and addresses moderate to high priority hazards
- **Low Priority** = low feasibility and addresses low to moderate priority hazards

**All Priority Hazards** include High, Medium, and Low Priority Hazards.

Table 39: General Mitigation Actions by Jurisdiction and Priority 42 lists the general mitigation actions the Participating Jurisdictions selected to include in the plan, the action category, goals, and hazards addressed by the mitigation action. More details regarding the specific actions by jurisdiction are included in: High Priority Actions, Medium Priority Actions, and Low Priority Actions.

**Table 39: General Mitigation Actions by Jurisdiction and Priority**

| Mitigation Action:   | Jurisdiction:   | Action Category:   | Priority: | Goal Addressed: | Priority Hazard Addressed: |
|--|---|--|-----------|-----------------|----------------------------|
| Establish and maintain well-equipped, well-trained emergency response capabilities with active partnerships                | County, Arlington, Clermont, Elgin, Fayette, Hawkeye, Oelwein, Randalia, Wadena, Waucoma, West Union, Westgate, Community School Districts, UIU | Emergency Services, Public Education & Awareness   | High      | 1,2,3,4         | All Priority Hazards       |
| Provide increased flood mitigation efforts and enhancements  | County, Clermont, Elgin, Fayette, Hawkeye, Maynard, Oelwein, St. Lucas, Wadena, Waucoma, West Union   | Property Protection, Structural, Natural Resource Protection, Emergency Services, Public Education & Awareness | High      | 1,2,4           | All Floods                 |
| Acquire flood prone properties and convert to open space/green space, or pursue easements when acquisition is not possible | Clermont, Maynard, Waucoma  | Property Protection, Natural Resource Protection, Public Education & Awareness                                 | High      | 1,2,3           | All Floods                 |
| Participate in Turkey River Watershed Management Authority planning, and other waterway planning / initiatives             | County, Arlington, Clermont, Elgin, Fayette/UIU, Maynard, Wadena, Waucoma, West Union   | Property Protection, Structural, Natural Resource Protection   | High      | 1,2             | All Floods                 |
| Consider the application and construction of on-road structures to protect county infrastructure from flooding             | County  | Property Protection, Structural, Natural Resource Protection   | High      | 1,2             | All Floods                 |
| Support stormwater management practices (i.e. drainage, infiltration, retention basins, bioswale, raingardens, etc.)       | Hawkeye, St. Lucas, West Union, UIU   | Property Protection, Structural, Natural Resource Protection, Public Education & Awareness                     | High      | 1,2,3           | All Floods                 |
| Create and maintain a communication network for rainfall and flood gauge reporting along waterways                         | County  | Property Protection, Natural Resource Protection, Public Ed. & Awareness                                       | High      | 1,2,3,4         | All Floods                 |
| NFIP participation / consideration   | County, Clermont, Elgin, Fayette, Maynard, Oelwein, Waucoma, West Union   | Prevention, Public Education & Awareness   | High      | 1,2,3           | All Floods                 |

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| Mitigation Action:   | Jurisdiction:  | Action Category:   | Priority: | Goal Addressed: | Priority Hazard Addressed: |
|--|--|--|-----------|-----------------|----------------------------|
| Acquisition, storage, demolition or restoration of damaged structure(s) and property                         | County, Hawkeye, Randalia  | Public Education and Awareness   | High      | 1,2,3,4         | All Priority Hazards       |
| Promote Fayette Co Multi-Hazard Mitigation Plan to public, & ensure that plan is reviewed and kept current   | County   | Prevention, Public Education & Awareness   | High      | 1,2,3,4         | All Priority Hazards       |
| Maintain compatible regional interoperable portable communications systems and the supporting infrastructure | County,  | Emergency Services   | Medium    | 1,2,4           | All Priority Hazards       |
| Purchase, install, upgrade, or maintain warning and alert notification equipment and/or system(s)            | All  | Emergency Services   | Medium    | 1,2,4           | All Storms                 |
| Generators/transfer switches/back-up power supply  | County, Clermont, Elgin, Fayette, Maynard, St. Lucas, Waucoma, Community School Districts                    | Emergency Services   | Medium    | 1,2,4           | All Priority Hazards       |
| Develop city/county/school codes or plans to address hazard issues   | County, Clermont, Fayette, Hawkeye, Oelwein, Randalia, St. Lucas, Wadena, Waucoma, NFV CSD, West Central CSD | Prevention, Property Protection, Natural Resource Protection, Public Education & Awareness | Medium    | 1,2,3,4         | All Priority Hazards       |
| Construct and stock FEMA-compliant tornado safe room(s); community shelters                                  | County, Maynard, Oelwein CSD, Starmont CSD,  | Structural, Emergency Services   | Medium    | 1,2             | All Storms                 |
| Develop and enhance technology resources   | County, Fayette,   | Emergency Services, Public Education & Awareness   | Medium    | 1,2,3,4         | All Priority Hazards       |
| Outreach to the public about hazards/encourage pre-disaster and recovery planning                            | County, Randalia   | Prevention, Public Education and Awareness   | Low       | 1,2,3,4         | All Priority Hazards       |

| Mitigation Action:  | Jurisdiction:  | Action Category:   | Priority: | Goal Addressed: | Priority Hazard Addressed: |
|---|--|--|-----------|-----------------|----------------------------|
| Develop, upgrade, enhance, and protect infrastructure, and/or critical facilities | County, Arlington, Elgin, Maynard, Oelwein, Wadena, West Union, Westgate | Property Protection, Emergency Services, Structural, Natural Resource Protection | Low       | 1,2             | All Priority Hazards       |

Strategies for hazard mitigation in any jurisdiction reduce overall damage in the county. Implementation of the actions will be undertaken by the county and participating jurisdictions. Not all of the mitigation actions included in the plan are relevant to all jurisdictions. The following tables provide more detailed information for each general mitigation action listed in Table 39: General Mitigation Actions by Jurisdiction and Priority , including the jurisdiction and its specific action, the responsible agency for pursuing the action, potential funding sources and timeframes. Timeframes listed as “ongoing” indicate that the action is something that the jurisdiction has started and will continue to pursue and/or an action (like training) that re-occurs throughout the life of the planning document. Specific actions can also be found listed in each jurisdictional section of this plan.

*Requirement §201.6(c)(3)(iv):  
For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan*



**High Priority Actions**

*1. Establish and maintain well-equipped, well-trained emergency response capabilities with active partnerships*

| Jurisdiction:  | Specific Actions:   | Responsible Agency:                      | Funding Source:   | Timeframe: | Cost:                          | Hazards Addressed  |
|----------------|---|--|---|------------|--------------------------------|--|
| Fayette County | Emergency training, including seminars on HAZMAT spills, storm spotter training, training for responding to potential air transportation or terrorism incidents, recruiting & retention of volunteers, etc. | City and county emergency response teams | Local/state funds, Community Foundation funds, federal grants (EMPG, USDA)                      | Ongoing    | Varies, >\$10,000 & <\$100,000 | Hazardous Materials, Tornado, Windstorm, Thunderstorm, Flash Flood, Transportation Incident, Terrorism |
|                | Maintain HAZMAT agreement with Linn County  | Fayette EMA                              | County general funds, EMA budget  | Ongoing    | \$4,500                        | Hazardous Materials  |
|                | New equipment, including fire suppression related (e.g. dry hydrants), personal property protection, enhanced radio equipment   | Cities or County                         | Fayette Co. budget, Community Foundation funds, federal grants (HMGP, EMPG, USDA), other grants | Ongoing    | Varies                         | Grass or Wildfire, Hazardous Materials, Transportation Incident, Infrastructure Failure,               |
| Arlington      | Updated and enhanced fire protection equipment sought   | Arlington Fire Dept.                     | Fire grants, local fundraising, Community Foundation funds                                      | Ongoing    | >\$10,000 & <\$100,000         | Grass or Wildfire, Hazardous Materials, Transportation Incident, Terrorism, Infrastructure Failure     |
| Clermont       | Updated and enhanced fire protection and response equipment sought (e.g. air packs)   | Clermont Fire Dept.                      | Fire grants, local fundraising, Community Foundation funds                                      | Ongoing    | >\$10,000 & <\$100,000         | Grass or Wildfire, Hazardous Materials, Transportation Incident,                                       |

|         |  |   |  |         |                        |  |
|---------|--|---|--|---------|------------------------|--|
|         |  |   |  |         |                        | Terrorism, Infrastructure Failure  |
|         | Acquire portable light plant.            | Clermont Fire Dept./Clermont Public Works | City budget, local fundraising, Community Foundation funds, other grants | Ongoing | >\$1,000 & <\$50,000   | Grass or Wildfire, Hazardous Materials, Transportation Incident, Terrorism, Infrastructure Failure |
| Elgin   | New/enhanced fire response equipment     | Elgin Volunteer Fire Dept.                | Fire grants, local fundraising, Community Foundation funds               | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident, Terrorism, Infrastructure Failure |
| Fayette | Maintain/enhance fire response equipment | Fayette Fire Dept.                        | Fire grants, local fundraising, Community Foundation funds               | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident, Infrastructure Failure            |
|         | Additional police resources              | Fayette Police Dept.                      | Safety grants, local fundraising, Community Foundation funds             | Ongoing | >\$10,000 & <\$100,000 | Hazardous Materials, Terrorism, Transportation Incident  |
| Oelwein | New/enhanced fire district facility      | Oelwein Fire Dept.                        | Fire grants, local fundraising, Community Foundation funds, USDA         | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident,                                   |

|            |   |  |  |         |                        |  |
|------------|---|--|--|---------|------------------------|--|
|            |   |  |  |         |                        | Infrastructure Failure   |
| Randalia   | Work with Fayette County Emergency Mgt. and Public Health to complete a special needs inventory of vulnerable seniors in community  | City of Randalia, Fayette EMA, Fayette Public Health | Time   | Ongoing | N/A                    | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hazardous Materials, Hailstorms, Grass or Wildfire, Thunderstorms Levee Failure, Terrorism, Extreme Heat, Dam Failure, Earthquakes, Landslides, |
| Wadena     | Expand law enforcement, fire or emergency response capacity (recruitment / outreach for fire and EMS volunteers; continue training) | Wadena-Illyria Fire Dept.                            | Safety/fire grants, participant fees, local fundraising, Community Foundation funds, FEMA EMPG | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident, Infrastructure Failure, Terrorism   |
| Waucoma    | Maintain/improve emergency responder equipment  | Waucoma Fire District                                | Safety/fire grants, local fundraising, Community Foundation funds                              | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident, Infrastructure Failure, Terrorism   |
| West Union | New/enhanced fire district facility and response equipment  | West Union Fire Dept.                                | Fire grants, local fundraising, Community Foundation funds, USDA                               | Ongoing | >\$10,000 & <\$100,000 | Grass or Wildfire, Hazardous Materials, Transportation Incident,   |

|                            |  |                            |   |           |                           |  |
|----------------------------|--|----------------------------|---|-----------|---------------------------|--|
|                            |  |                            |   |           |                           | Infrastructure Failure, Terrorism  |
| Westgate                   | Maintain/improve emergency responder equipment   | Westgate Fire Dept.        | Safety/fire grants, local fundraising, Community Foundation funds | Ongoing   | >\$10,000 & <\$100,000    | Grass or Wildfire, Hazardous Materials, Transportation Incident, Infrastructure Failure, Terrorism |
| Community School Districts | Pursue additional safety/security measures at schools as determined necessary; continue staff and student active shooter trainings | Community School Districts | Local funds   | 1-3 years | Est. >\$1,000 & <\$10,000 | Terrorism, Tornado, Grass or Wildfire, Windstorms, Thunderstorms, Earthquakes,                     |
| Upper Iowa University      | Pursue additional security measures at university as necessary; continue staff and student security trainings & exercises          | Upper Iowa University      | Upper Iowa University – Human Resources Time                      | Ongoing   | N/A                       | Terrorism, Tornado, Grass or Wildfire, Windstorms, Thunderstorms, Earthquakes,                     |

**2. Provide increased flood mitigation efforts and enhancements**

| Jurisdiction:  | Specific Actions:  | Responsible Agency:   | Funding Source:   | Timeframe: | Cost:                  | Hazards Addressed        |
|----------------|--|---|---|------------|------------------------|--------------------------|
| Fayette County | Include and incorporate watershed practices identified and modeled by the Turkey River Watershed Management Authority’s (TRWMA) Watershed Resiliency Plan  | Fayette County Board of Supervisors, Fayette County Conservation, cities      | Time, Iowa DNR, FEMA (HMGP, PDM, FMA), Fish and Wildlife Service, Nature Conservancy, City and County General Funds, Fayette County Soil and Water Conservation District, USDA Rural Development, Farm Service Agency, NRCS, Habitat preservation organizations | Ongoing    | \$10,000,000           | River Flood              |
|                | Support planning and initiatives of the newly established Upper Wapsi and Maquoketa River Watershed Management Authorities   | Fayette County Board of Supervisors, Fayette County Conservation, cities      |   | Ongoing    | \$50,000               | River Flood              |
|                | Work with Flood Mitigation Professionals in the implementation of agricultural conservation practices, water control basins, on-road water control structures, wetlands and riparian buffers, restoration and protection of stream ecosystems, conservation easements, and urban green streetscape practices | Fayette County Board of Supervisors, Fayette County Conservation, cities      |   | Ongoing    | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Clermont       | Maintain/improve flood mitigation equipment, including acquiring new pump for sewer plant  | Clermont City Council   | CDBG, FEMA (HMGP, PDM, FMA), USDA   | 5 years    | \$50,000               | River Flood, Flash Flood |
|                | Coordinate with landowners along Turkey River to plant native grass / riparian plantings along floodways to reduce impacts from flooding   | Clermont City Council, private landowners, Fayette County Conservation, TRWMA | City general funds, FEMA (HMGP, PDM, FMA), Fish and Wildlife Service, Nature Conservancy, NRCS, FSA, Fayette SWCD   | Ongoing    | >\$1,000,000           | River Flood              |
| Hawkeye        | Consider modified culverts in areas that are susceptible to flooding   | Hawkeye City Council  | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program)   | Ongoing    | >\$10,000 & <\$100,000 | Flash Flood              |

|            |  |                         |   |                                       |                        |                          |
|------------|--|-------------------------|---|---------------------------------------|------------------------|--------------------------|
| Maynard    | Waterway and structural changes including considering construction of levee along the Little Volga River   | Maynard City Council    | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | 5 years                               | \$200,000 - \$500,000  | River Flood              |
| Oelwein    | Waterway and structural changes/maintenance/upgrades/construction  | Oelwein City Council    | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing                               | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| St. Lucas  | Replace or retrofit bridges/culverts to meet capacity requirements; improvements to culvert on E. Main St. through downtown to reduce flooding (e.g. modified culvert) | St. Lucas City Council  | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Within 1 – 2 years of receiving funds | >\$10,000 & <\$100,000 | Flash Flood              |
| Wadena     | Continue to maintain / build up levee / landform around wastewater treatment site to protect against flooding  | Wadena City Council     | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing                               | >\$10,000 & <\$100,000 | River Flood, Dam Failure |
| Waucoma    | Pursue better equipment for filling sandbags during flooding events  | Waucoma City Council    | City general funds, Community Foundation funds                            | Within 1 – 2 years of receiving funds | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
|            | Waterway & structural maintenance / upgrades   | Waucoma City Council    | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing                               | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
|            | Construct, retrofit or maintain drainage systems (pipes, culverts, and channels) to provide adequate and proper functioning systems                                    | Waucoma City Council    | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing                               | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| West Union | Develop water and/or soil conservation strategies  | West Union City Council | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing                               | >\$10,000 & <\$100,000 | River Flood, Flash Flood |

**3. Acquire flood prone properties and convert to open space/green space, or pursue easements when acquisition is not possible**

| Jurisdiction: | Specific Actions:   | Responsible Agency:   | Funding Source:                              | Timeframe: | Cost:                  | Hazards Addressed        |
|---------------|---|-----------------------|--|------------|------------------------|--------------------------|
| Clermont      | Identify and acquire flood prone properties and convert to public or green space  | Clermont City Council | City general funds, HMGP, PDM, FMA, IDNR SRF | 5 years    | >\$10,000 & <\$200,000 | River Flood, Flash Flood |
| Maynard       | Consider land acquisition or easements on properties north of Hwy 150 bridge on Little Volga River to provide space for stormwater structures, natural buffers or open space areas to mitigate flooding | Maynard City Council  | City general funds, HMGP, PDM, FMA, IDNR SRF | Ongoing    | >\$10,000 & <\$200,000 | River Flood, Flash Flood |
| Waucoma       | Acquire / buy out flood prone properties and convert to public / green space  | Waucoma City Council  | City general funds, HMGP, PDM, FMA, IDNR SRF | Ongoing    | >\$10,000 & <\$200,000 | River Flood, Flash Flood |

**4. Participate in Turkey River Watershed Management Authority (TRWMA) planning, and other waterway planning / initiatives**

| Jurisdiction:  | Specific Actions:  | Responsible Agency:                                 | Funding Source:  | Timeframe: | Cost:    | Hazards Addressed |
|----------------|--|---|--|------------|----------|-------------------|
| Fayette County | Support work and planning of the TRWMA   | Fayette County, Fayette County Conservation, Cities | Iowa Legislature, county budget  | Ongoing    | \$25,000 | River Flood       |
| Arlington      | Participate in TRWMA planning. Consider opportunities for implementing community project ideas   | Arlington City Council                              | City budget, Community Foundation grants, green infrastructure grants, Alliant/Iowa DNR Operation ReLeaf Program (tree planting) | Ongoing    | \$25,000 | River Flood       |
| Oelwein        | Participate in Upper Wapsi Watershed Management Authority; invite representatives of watershed authority and/or Fayette County Conservation to present to city | Oelwein City Council                                | Time   | Ongoing    | N/A      | River Flood       |



|  |   |   |  |         |         |                          |
|--|---|---|--|---------|---------|--------------------------|
|  | Work with watershed authority and county conservation to identify flooding/stormwater management projects in areas of need (e.g. north of East Ave., along Dry Run Creek, 7th St. South, by Platt Park, etc.) | Oelwein City Council, Fayette County Conservation, Upper Wapsi Watershed Mgt. Authority | Time, USDA Search Grant, IDNR SRF 0% interest loans (for planning/engineering studies) | Ongoing | Unknown | River Flood, Flash Flood |
|--|---|---|--|---------|---------|--------------------------|

**5. Consider the application and construction of on-road structures to protect county infrastructure from flooding**

| Jurisdiction:  | Specific Actions:  | Responsible Agency:     | Funding Source:                   | Timeframe: | Cost:      | Hazards Addressed        |
|----------------|--|-------------------------|-----------------------------------|------------|------------|--------------------------|
| Fayette County | Assess county road locations that can be modified to incorporate on-road structures to mitigate against flooding | Fayette County Engineer | Local funding sources, FEMA funds | Ongoing    | <\$100,000 | River Flood, Flash Flood |

**6. Support stormwater management (i.e. drainage, infiltration, retention basins, bioswale, raingardens, and siltation removal projects)**

| Jurisdiction: | Specific Actions:   | Responsible Agency:  | Funding Source:   | Timeframe: | Cost:                  | Hazards Addressed |
|---------------|---|----------------------|---|------------|------------------------|-------------------|
| Fayette       | Street infrastructure improvements to incorporate curb and gutter in areas                          | Fayette City Council | City general funds, USDA, IDNR (SRF program)  | Ongoing    | >\$10,000 & <\$100,000 | Flash Flood       |
| Hawkeye       | Fill in gaps in curb and gutter / storm sewer system, which is currently under capacity             | Hawkeye City Council | City general funds, USDA, IDNR (SRF program)  | Ongoing    | >\$10,000 & <\$100,000 | Flash Flood       |
|               | Consider implementing pervious paving projects in areas that require improved stormwater management | Hawkeye City Council | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program), other grant programs | Ongoing    | >\$10,000 & <\$100,000 | Flash Flood       |
| Oelwein       | Support stormwater management practices (e.g. raingardens, retention basins, bio-swales, etc.)      | Oelwein City Council | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA,  | Ongoing    | >\$10,000 & <\$100,000 | Flash Flood       |

|           |   |  |   |         |                        |                          |
|-----------|---|--|---|---------|------------------------|--------------------------|
|           |   |  | IDNR (SRF program), other grant programs  |         |                        |                          |
|           | Construct, retrofit or maintain drainage systems (pipes, culverts, and channels) to provide adequate and proper functioning systems                           | Oelwein City Council                       | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program), other grant programs | Ongoing | >\$10,000 & <\$100,000 | Flash Flood, River Flood |
| St. Lucas | Pursue stormwater pond construction in steeply sloped area south of downtown (based on recommendation of NE Iowa Resource Conservation and Development study) | St. Lucas City Council, private landowners | City general funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program), other grant programs | Ongoing | >\$10,000 & <\$100,000 | Flash Flood, River Flood |

**7. Create and maintain a communication network for rainfall and flood gauge reporting along water sources**

| Jurisdiction:  | Specific Actions:   | Responsible Agency: | Funding Source: | Timeframe: | Cost: | Hazards Addressed                              |
|----------------|---|---------------------|-----------------|------------|-------|--|
| Fayette County | Develop a public communication system to relay information on contamination of waterways or water sources | Fayette EMA         | Time            | Ongoing    | N/A   | River Flood, Flash Flood, Hazardous Materials, |

*Requirement §201.6(c)(3)(ii):*

*[The mitigation plan] must address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate*

**8. NFIP participation / consideration**

| Jurisdiction:  | Specific Actions:   | Responsible Agency:        | Funding Source:    | Timeframe: | Cost:                  | Hazards Addressed        |
|----------------|---|----------------------------|--------------------|------------|------------------------|--------------------------|
| Fayette County | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain | Fayette County Supervisors | City general funds | Ongoing    | >\$10,000 & <\$100,000 | River Flood, Flash Flood |

|           |  |                        |                    |                |                        |                          |
|-----------|--|------------------------|--------------------|----------------|------------------------|--------------------------|
|           | administrator as identified in floodplain regulations.   |                        |                    |                |                        |                          |
| Arlington | Complete process for membership in NFIP. Develop/update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Designate floodplain administrator to maintain work as identified in floodplain regulations. | Arlington City Council | City general funds | Within 5 years | >\$10,000 & <\$100,000 | Flash Flood              |
| Clermont  | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.                               | Clermont City Council  | City general funds | Ongoing        | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Elgin     | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.                               | Elgin City Council     | City general funds | Ongoing        | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Fayette   | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations.                               | Fayette City Council   | City general funds | Ongoing        | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Hawkeye   | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain  | Hawkeye City Council   | City general funds | Ongoing        | >\$10,000 & <\$100,000 | Flash Flood              |

|            |  |                         |                    |         |                        |                          |
|------------|--|-------------------------|--------------------|---------|------------------------|--------------------------|
|            | administrator as identified in floodplain regulation.  |                         |                    |         |                        |                          |
| Maynard    | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations. | Maynard City Council    | City general funds | Ongoing | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Oelwein    | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations. | Oelwein City Council    | City general funds | Ongoing | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| Waucoma    | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations. | Waucoma City Council    | City general funds | Ongoing | >\$10,000 & <\$100,000 | River Flood, Flash Flood |
| West Union | Continue membership in NFIP. Update floodplain regulations to continue to meet or exceed minimum State of Iowa regulations. Maintain work of floodplain administrator as identified in floodplain regulations. | West Union City Council | City general funds | Ongoing | >\$10,000 & <\$100,000 | River Flood, Flash Flood |

**9. Acquisition, storage, demolition or restoration of damaged structure(s) and property**

| Jurisdiction:  | Specific Actions:   | Responsible Agency:                 | Funding Source:         | Timeframe: | Cost:                                     | Hazards Addressed  |
|----------------|---|-------------------------------------|-------------------------|------------|---|--|
| Fayette County | Follow guidelines to apply for and secure funding to purchase and demolish existing damaged structure(s)                | Fayette County Board of Supervisors | County funds, DNR, IEDA | Ongoing    | >\$10,000 - <\$100,000                    | Tornado, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Infrastructure Failure, Levee Failure, Dam Failure, |
| Hawkeye        | Acquire and demolish damaged/nuisance structures  | Hawkeye City Council                | City funds, DNR, IEDA   | Ongoing    | Estimated \$2,000 - \$60,000 per property | Tornado, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Levee Failure, Dam Failure, Earthquake              |
| Randalia       | Community beautification enhancements sought, including demolition or restoration of currently uninhabitable properties | Randalia City Council               | City funds, DNR, IEDA   | Ongoing    | Estimated \$2,000 - \$60,000 per property | Tornado, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Infrastructure Failure, Levee Failure, Dam Failure, |

**10. Ensure the plan is updated prior to expiration, and promote the plan to the public**

| Jurisdiction:  | Specific Actions:   | Responsible Agency: | Funding Source:                          | Timeframe: | Cost:                 | Hazards Addressed |
|----------------|---|---------------------|--|------------|-----------------------|-------------------|
| Fayette County | Ensure that the Fayette County MJHMP Hazard Mitigation plan remains current and is updated and submitted for approval every 5 years                 | Fayette County EMA  | County emergency mgmt. funds, HMPG       | 3 -4 years | >\$10,000 & <\$30,000 | ALL               |
|                | Maintain the hazard mitigation plan in a public location and on the planner’s website; note annual mitigation strategies implemented & accomplished | Fayette County EMA  | Time, County emergency mgmt. funds, HMPG | Ongoing    | Time                  | ALL               |

**Medium Priority Actions**

**1. Maintain compatible regional interoperable portable communications systems and the supporting infrastructure**

| Jurisdiction:  | Specific Actions:  | Responsible Agency:                           | Funding Source:  | Timeframe: | Cost:                  | Hazards Addressed  |
|----------------|--|---|--|------------|------------------------|--|
| Fayette County | Implement fixed and/or mobile data systems in every County agency responsible for public safety, including one in each emergency response vehicle. | E-911, city & county emergency response teams | City or county general funds, Community Foundation funds, EMPG (county emergency mgt.) | Ongoing    | Estimated \$1,000,000+ | Tornado, Windstorm, Flash Flood, Hazardous Materials, Grass or Wildfire, Thunderstorms, Terrorism, Levee Failure, Transportation Incident, Dam Failure |
| Elgin          | Backup system for hazard / emergency communication (radio communication, etc.)   | Elgin Fire Dept., Elgin City Council          | City general funds, Community Foundation funds   | Ongoing    | Unknown                | Tornado, Windstorm, Flash Flood, Hazardous Materials, Grass or Wildfire,   |

|  |  |  |  |  |  |   |
|--|--|--|--|--|--|---|
|  |  |  |  |  |  | Thunderstorms, Terrorism, Levee Failure, Transportation Incident, Dam Failure |
|--|--|--|--|--|--|---|

*2. Purchase, install, upgrade, or maintain warning and alert notification equipment and/or system(s)*

| Jurisdiction:  | Specific Actions:   | Responsible Agency: | Funding Source: | Timeframe: | Cost:    | Hazards Addressed  |
|----------------|---|---------------------|-----------------|------------|----------|--|
| Fayette County | Continue to use and build public knowledge of warning systems/alert notification providers, including IPAWS, Alert Iowa, and RAVE | Fayette EMA         | Time            | Ongoing    | <\$1,000 | Tornado, Severe Winter Storm, River Flood, Windstorms, Flash Flood, Hazardous Materials, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Landslides, Sinkholes, Drought |
|                | Encourage public use of NOAA weather radios   | Fayette EMA         | Time            | Ongoing    | <\$1,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood,   |



|           |   |                        |   |                           |                           |  |
|-----------|---|------------------------|---|---------------------------|---------------------------|--|
|           |   |                        |   |                           |                           | Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Landslides, Sinkholes, Drought  |
|           | County/cities to transition to sirens with the capability for automated activation by the Fayette County Sheriff's Office | Fayette EMA and cities | HMGP, Community Foundation funds, local match / fundraising | 1 – 2 years after funding | Unknown                   | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Landslides, Sinkholes, Grass or Wildfire |
| Arlington | Upgrade/enhance warning siren system  | Arlington City Council | HMGP, City general funds, Community Foundation funds        | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire,  |

|          |  |                       |  |                           |                           |  |
|----------|--|-----------------------|--|---------------------------|---------------------------|--|
|          |  |                       |  |                           |                           | Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides   |
| Clermont | Acquire additional warning siren for community | Clermont City Council | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides |
| Fayette  | Maintain/add sirens                            | Fayette City Council  | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure,  |

|          |                          |                       |  |                           |                           |  |
|----------|--------------------------|-----------------------|--|---------------------------|---------------------------|--|
|          |                          |                       |  |                           |                           | Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides   |
| Maynard  | Enhanced warning sirens  | Maynard City Council  | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides |
| Randalia | Pursue new warning siren | Randalia City Council | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$50,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure,   |

|            |                               |  |  |                           |                           |  |
|------------|-------------------------------|--|--|---------------------------|---------------------------|--|
|            |                               |  |  |                           |                           | Earthquakes, Drought, Sinkholes, Landslides  |
| Wadena     | Upgrade siren at fire station | Wadena City Council, Wadena Fire Dept. | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides |
| West Union | New siren                     | West Union City Council                | HMGP, City general funds, Community Foundation funds | 1 – 2 years after funding | Est. >\$3,000 & <\$40,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought,                       |

|  |  |  |  |  |  |                          |
|--|--|--|--|--|--|--------------------------|
|  |  |  |  |  |  | Sinkholes,<br>Landslides |
|--|--|--|--|--|--|--------------------------|

*3. Generators/transfer switches/back-up power supply*

| Jurisdiction:  | Specific Actions:  | Responsible Agency: | Funding Source:                              | Timeframe: | Cost:                        | Hazards Addressed   |
|----------------|--|---------------------|--|------------|------------------------------|---|
| Fayette County | Assist cities in identifying generator needs, including considering transfer switches, storage location and fuel needs | Fayette EMA         | Time, local funding sources, grants          | Ongoing    | City \$ for generators       | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, |
|                | Purchase and install adequate generator(s) and necessary equipment appropriate to city and county needs                | County and cities   | FEMA (HMGP, PDM), Community Foundation funds | Ongoing    | Estimated \$5,000 – 100,000+ | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms,  |

|          |   |                       |   |                                       |           |  |
|----------|---|-----------------------|---|---------------------------------------|-----------|--|
|          |   |                       |   |                                       |           | Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident,   |
| Clermont | Backup power supply at well house and Larrabee Building | Clermont City Council | City general/enterprise funds, FEMA (HMGP, PDM), Community Foundation funds | Estimated 6 – 12 months after funding | <\$10,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, |

|         |   |                      |   |                             |           |   |
|---------|---|----------------------|---|-----------------------------|-----------|---|
|         |   |                      |   |                             |           | Transportation Incident,  |
| Elgin   | Generators/transfer switches/back-up power supply | Elgin City Council   | City general/enterprise funds, FEMA (HMGP, PDM), Community Foundation funds | 6 – 12 months after funding | <\$10,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, |
| Fayette | Backup power supply for community needs           | Fayette City Council | City general/enterprise funds, FEMA (HMGP, PDM), Community Foundation funds | 6 – 12 months after funding | <\$10,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat,   |



|         |  |                      |   |                             |           |   |
|---------|--|----------------------|---|-----------------------------|-----------|---|
|         |  |                      |   |                             |           | Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident,   |
| Maynard | Backup power supplies/generators at Community Hall, water tower, and city hall | Maynard City Council | City general/enterprise funds, FEMA (HMGP, PDM), Community Foundation funds | Ongoing                     | <\$10,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, |
| Oelwein | Conduct inventory and assessment of current city generators                    | Oelwein City Council | City general funds, staff time  | 6 – 12 months after funding | <\$5,000  | Tornado, Severe Winter Storm, River Flood,  |

|           |                       |                         |  |                                   |           |  |
|-----------|-----------------------|-------------------------|--|-----------------------------------|-----------|--|
|           |                       |                         |  |                                   |           | Windstorm,<br>Flash Flood,<br>Hailstorms,<br>Grass or<br>Wildfire,<br>Thunderstorms<br>, Levee Failure,<br>Extreme Heat,<br>Dam Failure,<br>Earthquakes,<br>Drought,<br>Sinkholes,<br>Landslides,<br>Infrastructure<br>Failure,<br>Terrorism,<br>Transportation<br>Incident, |
| St. Lucas | Additional generators | St. Lucas City Councils | City general/enterprise<br>funds, FEMA (HMGP,<br>PDM), Community<br>Foundation funds | 6 – 12<br>months after<br>funding | <\$10,000 | Tornado,<br>Severe Winter<br>Storm, River<br>Flood,<br>Windstorm,<br>Flash Flood,<br>Hailstorms,<br>Grass or<br>Wildfire,<br>Thunderstorms<br>, Levee Failure,<br>Extreme Heat,<br>Dam Failure,<br>Earthquakes,<br>Drought,<br>Sinkholes,<br>Landslides,<br>Infrastructure   |

|                            |  |                                    |   |                             |                    |   |
|----------------------------|--|------------------------------------|---|-----------------------------|--------------------|---|
|                            |  |                                    |   |                             |                    | Failure, Terrorism, Transportation Incident,  |
| Waucoma                    | Backup generator for event center – a stationary, for outside of building            | Waucoma City Council, event center | City general/enterprise funds, FEMA (HMGP, PDM), Community Foundation funds | 6 – 12 months after funding | <\$10,000          | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, |
| Community School Districts | Schools to attain additional or larger generators and associated equipment as needed | Community School Districts         | Local sources, FEMA (HMGP, PDM), Community Foundation                       | Ongoing                     | \$20,000- \$50,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms   |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  | , Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, |
|--|--|--|--|--|--|--|--|

*4. Develop city/county/school codes or plans to address hazard issues*

| Jurisdiction:  | Specific Actions:   | Responsible Agency: | Funding Source:  | Timeframe: | Cost:   | Hazards Addressed   |
|----------------|---|---------------------|--|------------|---------|---|
| Fayette County | Continue to update or pursue other applicable plans/ordinances, such as flood plans, channel improvement projects, stormwater plans/ordinances, watershed plans, mass casualty plans, evacuation plans, emergency operations plans, comprehensive plans, hazard mitigation plans, zoning ordinances, and roadway construction studies | County and cities   | Local City and County general funds, USDA Search Grant, IDNR SRF 0% interest loans, FEMA FMA | Ongoing    | Unknown | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, |

|  |  |               |             |                |            |   |
|--|--|---------------|-------------|----------------|------------|---|
|  |  |               |             |                |            | <p>Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure, Animal/Plant/Crop Disease, Human Disease,</p>   |
|  | <p>Electronically distribute planning documents among appropriate county resources</p> | <p>County</p> | <p>Time</p> | <p>Ongoing</p> | <p>N/A</p> | <p>Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure,</p> |

|          |   |   |                          |                          |                        |  |
|----------|---|---|--------------------------|--------------------------|------------------------|--|
|          |   |   |                          |                          |                        | Animal/Plant/Crop Disease, Human Disease,  |
| Clermont | Work with owners of local campground to finalize a plan for emergency notifications and / or evacuations during storm events                          | Clermont City Council, local campground                   | Time, City general funds | Ongoing                  | N/A                    | Tornado, Severe Winter Storm, Windstorm, Hailstorm, Flash Flood, River Flood, Thunderstorm, Landslide, Sinkholes |
| Fayette  | Create/update Fayette Comprehensive Plan, to address long term land use, development, and natural resource protection issues for the community        | Fayette City Council                                      | City general funds       | Ongoing                  | >\$5,000 – >\$15,000   | River Flood, Flash Flood, Levee Failure, Grass or Wildfire, Drought  |
|          | Create/implement a Tree Treatment and Replacement Plan  | Fayette City Council                                      | City general funds       | 1 -2 years after funding | >\$10,000 & <\$100,000 | Animal/Plant/Crop Disease  |
| Hawkeye  | Create a plan for how the Lutheran Church and / or community hall can be used as a community shelter during a storm event                             | Hawkeye City Council, Lutheran Church                     | Time, City general funds | Ongoing                  | N/A                    | Tornado, Severe Winter Storm, Windstorm, Hailstorm, Flash Flood, Thunderstorm,                                   |
| Randalia | Solidify evacuation plan for limited mobility community members in event of an emergency; work with Fayette County EMA to understand planned response | Randalia City Council, Fayette EMC, Fayette Public Health | Time, City general funds | Ongoing                  | N/A                    | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms,                                   |

|                  |  |                             |   |            |               |   |
|------------------|--|-----------------------------|---|------------|---------------|---|
|                  |  |                             |   |            |               | Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure, Animal/Plant/Crop Disease, Human Disease, |
| St. Lucas        | Contact Iowa DNR to discuss a Groundwater Protection Plan and ground water protection measures for community | St. Lucas City Council, DNR | City general funds, USDA Search Grant, IDNR SRF 0% interest loans, FEMA FMA, other grants | Ongoing    | Unknown       | Flash Flood, Earthquake, Drought  |
| Oelwein CSD      | Continue maintenance and updating on emergency plan information binders and kits.                            | Oelwein CSD                 | School funding/local funding  | Ongoing    | Est. <\$5,000 | ALL   |
| West Central CSD | Complete Emergency Operations Plan (EOP) and implement regular drills to practice the plan.                  | West Central CSD            | School funding/Local funding  | 1- 2 years | Est. <\$5,000 | ALL   |



**5. Construct and stock FEMA-compliant tornado safe room(s); community shelters**

| Jurisdiction: | Specific Actions:  | Responsible Agency:  | Funding Source:  | Timeframe:              | Cost:     | Hazards Addressed                           |
|---------------|--|----------------------|--|-------------------------|-----------|---|
| Maynard       | New shower house/safe room at city park campground         | Maynard City Council | City general, FEMA (HMGP, PDM), Community Foundation funds | 1 – 2 yr. after funding | >\$65,000 | Tornado, Windstorm, Hailstorm, Thunderstorm |
| Oelwein CSD   | Work to implement storm safe rooms at all schools          | Oelwein CSD          | Local funds, FEMA (HMGP, PDM), Community Foundation funds  | 1 – 2 yr. after funding | >\$65,000 | Tornado, Windstorm, Hailstorm, Thunderstorm |
| Starmont CSD  | Work to implement one additional storm safe room at school | Starmont CSD         | Local funds, FEMA (HMGP, PDM), Community Foundation funds  | 1 – 2 yr. after funding | >\$65,000 | Tornado, Windstorm, Hailstorm, Thunderstorm |

**6. Develop and enhance technology resources**

| Jurisdiction: | Specific Actions:                              | Responsible Agency:  | Funding Source:    | Timeframe: | Cost:                  | Hazards Addressed   |
|---------------|--|----------------------|--------------------|------------|------------------------|---|
| Fayette       | Expand technology infrastructure and equipment | Fayette City Council | City general funds | Ongoing    | >\$10,000 & <\$100,000 | Infrastructure Failure, Tornado, Severe Winter Storm, Windstorm, Flash Flood, Grass or Wildfire, Thunderstorm |
| Maynard       | New digital map/files for city water system    | Maynard City Council | City general funds | Ongoing    | >\$1,000               | Flash Flood   |

**Low Priority Actions**

*1. Outreach to the public about hazards/encourage pre-disaster and recovery planning*

| Jurisdiction:  | Specific Actions:   | Responsible Agency: | Funding Source:         | Timeframe: | Cost:    | Hazards Addressed  |
|----------------|---|---------------------|-------------------------|------------|----------|--|
| Fayette County | Increase public knowledge of warning and response systems               | Fayette County EMA  | Time, County EMA budget | Ongoing    | <\$1,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure, Animal/Plant/Crop Disease, Human Disease, |
|                | Educate public about preparedness for hazards and disaster events (e.g. | Fayette County EMA  | Time, County EMA budget | Ongoing    | <\$1,000 | Tornado, Severe Winter   |

|  |  |   |      |         |     |   |
|--|--|---|------|---------|-----|---|
|  | Disaster Supply Kits, use of Iowa One Call prior to excavating, etc.)                    |   |      |         |     | Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure, Animal/Plant/Crop Disease, Human Disease, |
|  | Maximize appropriate sharing of planning documents between county and regional resources | County departments, school districts, cities, COG | Time | Ongoing | N/A | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire,   |

|           |   |                        |                          |         |               |  |
|-----------|---|------------------------|--------------------------|---------|---------------|--|
|           |   |                        |                          |         |               | Thunderstorms, Levee Failure, Extreme Heat, Dam Failure, Earthquakes, Drought, Sinkholes, Landslides, Infrastructure Failure, Terrorism, Transportation Incident, Hazardous Materials, Infrastructure Failure, Animal/Plant/Crop Disease, Human Disease, |
| Arlington | Increase public awareness of natural hazards. | Arlington City Council | Time, City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Drought, Extreme Heat, Sinkholes, Dam Failure,   |

|          |  |                       |                          |         |               |  |
|----------|--|-----------------------|--------------------------|---------|---------------|--|
|          |  |                       |                          |         |               | Earthquake, Landslide  |
| Hawkeye  | Increase public awareness of natural hazards.          | Hawkeye City Council  | Time. City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms. Levee Failure, Drought, Extreme Heat, Sinkholes, Dam Failure, Earthquake, Landslide |
| Randalia | Communicate with residents regarding community shelter | Randalia City Council | Time, City general funds | Ongoing | Est. <\$500   | Tornado, Severe Winter Storm, Flash Flood, Windstorm, Hailstorm, Thunderstorm,   |
|          | Increase public awareness of natural hazards.          | Randalia City Council | Time, City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms.   |

|            |   |                         |                          |         |               |  |
|------------|---|-------------------------|--------------------------|---------|---------------|--|
|            |   |                         |                          |         |               | Levee Failure, Drought, Extreme Heat, Sinkholes, Dam Failure, Earthquake, Landslide  |
| Wadena     | Increase public awareness of natural hazards. | Wadena City Council     | Time, City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Drought, Extreme Heat, Sinkholes, Dam Failure, Earthquake, Landslide |
| West Union | Increase public awareness of natural hazards. | West Union City Council | Time. City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Drought,   |

|                       |   |                       |                          |         |               |  |
|-----------------------|---|-----------------------|--------------------------|---------|---------------|--|
|                       |   |                       |                          |         |               | Extreme Heat, Sinkholes, Dam Failure, Earthquake, Landslide,   |
| Westgate              | Increase public awareness of natural hazards. | Westgate City Council | Time, City General funds | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Drought, Extreme Heat, Sinkholes, Dam Failure, Earthquake, Landslide |
| Upper Iowa University | Increase public awareness of natural hazards. | Upper Iowa University | Time, general funds      | Ongoing | Est. <\$5,000 | Tornado, Severe Winter Storm, River Flood, Windstorm, Flash Flood, Hailstorms, Grass or Wildfire, Thunderstorms, Levee Failure, Drought, Extreme Heat, Sinkholes, Dam                                |



|  |  |  |  |  |  |                                |
|--|--|--|--|--|--|--------------------------------|
|  |  |  |  |  |  | Failure, Earthquake, Landslide |
|--|--|--|--|--|--|--------------------------------|

*2. Develop, upgrade, enhance, and protect infrastructure, and/or critical facilities*

| Jurisdiction:  | Specific Actions:   | Responsible Agency:             | Funding Source:   | Timeframe: | Cost:                  | Hazards Addressed   |
|----------------|---|---------------------------------|---|------------|------------------------|---|
| Fayette County | Continue to upgrade and enhance water/wastewater/stormwater infrastructure, alternative energy sources, and utilities | County and cities               | CDBG, HMGP, PDM, FMA, USDA Rural Development, State RLF, City/County general funds              | Ongoing    | Variable, >\$1,000,000 | Infrastructure Failure, Tornado, Severe Winter Storm, Windstorm, Hailstorm, Thunderstorm, River Flood, Flash Flood, Earthquake, Landslide, Sinkholes, Dam Failure, Levee Failure, |
|                | Maintain transportation infrastructure, including addressing safety and functionality during storm events             | Fayette County Engineer and EMA | Local, state & federal road/bridge funds, CDBG, FEMA (HMGP, PDM, FMA), USDA, IDNR (SRF program) | Ongoing    | Variable, >\$1,000,000 | Infrastructure Failure, Tornado, Severe Winter Storm, Windstorm, River Flood, Flash Flood, Hailstorm, Thunderstorm, Levee Failure, Dam Failure,                                   |

|           |   |                        |   |         |                             |   |
|-----------|---|------------------------|---|---------|-----------------------------|---|
| Arlington | Replace/upgrade water mains.  | Arlington City Council | City general/enterprise funds, CDBG, USDA, IDNR (SRF program) | Ongoing | Est. >\$10,000 & <\$100,000 | Grass or Wildfire   |
| Clermont  | Add water/sewer shut offs on inlets in Skip A Way Campgrounds.  | Clermont City Council  | City general/enterprise funds, CDBG, USDA, IDNR,              | Ongoing | Est. >\$10,000 & <\$100,000 | Flash Flood, River Flood  |
|           | Line the sewer line on the causeway road.   | Clermont City Council  | City general/enterprise funds, CDBG, USDA, IDNR               | Ongoing | Est. >\$10,000 & <\$100,000 | Flash Flood, River Flood  |
|           | Continue work with the county, IDNR, and FEMA to determine acceptable actions to prevent flooding or failure of the causeway.               | Clermont City Council  | City general/enterprise funds, CDBG, USDA, IDNR, FEMA         | Ongoing | Est. >\$10,000              | Levee Failure   |
| Elgin     | Get updated well system online after addressing radon issue   | Elgin City Council     | City general/enterprise funds, CDBG, USDA, IDNR (SRF program) | Ongoing | Est. >\$10,000 & <\$100,000 | Grass or Wildfire, Flash Flood, Levee Failure,  |
|           | Improved/enhanced infrastructure sought   | Elgin City Council     | City general/enterprise funds, CDBG, USDA, HMGP, PDM, FMA     | Ongoing | Est. >\$10,000 & <\$100,000 | Infrastructure Failure, Tornado, Severe Winter Storm, Flash Flood, Levee Failure, Windstorm, Hailstorm, Thunderstorm, Earthquake, Landslide, Sinkhole |
|           | Consider an ordinance to limit development in landslide-prone areas, especially in environmentally/historically sensitive areas where other | Elgin City Council     | City general/enterprise funds                                 | Ongoing | Est. <\$10,000              | Landslide   |

|          |   |                       |   |         |                             |  |
|----------|---|-----------------------|---|---------|-----------------------------|--|
|          | mitigation actions would be prohibited.   |                       |   |         |                             |  |
| Maynard  | Upgrades to lift station system   | Maynard City Council  | City general/enterprise funds, CDBG, USDA, IDNR (SRF program) | Ongoing | Est. >\$10,000 & <\$100,000 | Flash Flood, Levee Failure, Tornado, Severe Winter Storm, Windstorm, Hailstorm, Thunderstorm |
|          | Improve infrastructure to limit infiltration due to heavy rain and snow melt impacting lift stations and the lagoon health as required by IDNR.   | Maynard City Council  | City general/enterprise funds, CDBG, USDA, IDNR               | Ongoing | Est. >\$10,000 & <100,000   | Severe Winter Storm, Tornado, Flash Flood, Thunderstorm                                      |
| Oelwein  | Implement flood mitigation measures for Dry Run Creek as determined by consultant study   | Oelwein City Council  | City general/enterprise funds, CDBG, USDA, IDNR, other grants | Ongoing | Est. >\$10,000 & <\$100,000 | River Flood, Flash Flood   |
| Wadena   | Improved/upgraded water/sewer facilities (loop water lines in certain areas of city, including across Mill St., from city hall, north to 4th St.) | Wadena City Council   | City general/enterprise funds, CDBG, USDA, IDNR (SRF program) | Ongoing | Est. >\$10,000 & <\$100,000 | Grass or Wildfire, Flash Flood, Dam Failure  |
| Westgate | Loop water mains for better water quality and flow, water main updates, repair manholes   | Westgate City Council | City general/enterprise funds, CDBG, USDA, IDNR (SRF program) | Ongoing | Est. >\$10,000 & <\$100,000 | Grass or Wildfire, Flash Flood   |

## Chapter 6- Plan Maintenance Process

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In order to ensure that this plan remains an active and relevant document, this section provides an overview of the overall strategy for plan maintenance and outlines the method and schedule for monitoring, updating, and evaluating the plan. It also discusses how the plan can be incorporated into existing planning mechanisms and how to address continued public involvement.

### Monitoring, Evaluating, and Updating the Plan

*Requirement 201.6(c)(4)(i):*

*[The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five year cycle.*

With adoption of this plan, the HMPC and the governing bodies with legal authority for each Participating Jurisdiction will be tasked with monitoring, evaluating, and maintaining the plan.

### Hazard Mitigation Planning Committee (HMPC)

A multi-jurisdictional Hazard Mitigation Planning Committee (HMPC) has been appointed by the Participating Jurisdictions. The HMPC will meet as a committee once annually to monitor and evaluate the plan. The Fayette County Emergency Management Coordinator will organize the meeting time and place and notify other members.

The core duty of the HMPC in relation to this plan is to see it successfully carried out and to report to the community governing boards and the public on the status of plan implementation and mitigation opportunities. Other duties include reviewing and promoting mitigation proposals, hearing stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and posting relevant information for the public to access.

More specifically, the HMPC, led by the Fayette County Emergency Management Coordinator, agree to:

- Meet annually to monitor and evaluate the implementation of the plan;
- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to all participants;
- Pursue the implementation of high priority, low- or no-cost recommended actions;
- Maintain vigilant monitoring of multi-objective, cost-share, and other funding opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in implementation and update of this plan;
- Keep the concept of mitigation in the forefront of community decision making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters;
- Report on plan progress and recommended changes to the governing body with legal authority of the Participating Jurisdictions; and
- Inform and solicit the public for input.

### Plan Maintenance Schedule

The HMPC agrees to meet annually to monitor progress and update the mitigation strategy. The Fayette County Emergency Management Coordinator is responsible for initiating these plan reviews. A five-year written update of the plan will be submitted to the Iowa Homeland Security and Emergency Management Division (HSEMD) and FEMA Region VII per Requirement §201.6(c)(4)(i) of the Disaster Mitigation Act (DMA) of 2000 and adopted by the governing body with legal authority of the Participating Jurisdictions within a five-year period from the final approval of this plan unless a disaster or other circumstances (e.g., changing regulations) require a change to this schedule.

### Plan Maintenance Process

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the plan. Changes in vulnerability can be identified by noting:

- Decreased vulnerability as a result of implementing recommended actions,
- Increased vulnerability as a result of failed or ineffective mitigation actions, and/or
- Increased vulnerability as a result of new development (and/or annexation).

Updates to this plan will:

- Consider changes in vulnerability due to action implementation,
- Document success stories where mitigation efforts have proven effective,
- Document areas where mitigation actions were not effective,
- Document any new hazards that may arise or were previously overlooked,
- Incorporate new data or studies on hazards and risks,
- Incorporate new capabilities or changes in capabilities,
- Incorporate growth and development-related changes to inventories, and
- Incorporate new action recommendations or changes in action prioritization.

To evaluate any changes in vulnerability as a result of plan implementation, the Participating Jurisdictions will undergo the following process:

- A representative from the responsible office identified in each mitigation action will be responsible for tracking and reporting to the jurisdictional lead annually on action status. The representative will also provide input on whether the action, as implemented, meets the defined objectives and is likely to be successful in reducing vulnerabilities.
- If the action does not meet identified objectives, the jurisdictional lead will determine what additional measures may be implemented, and an assigned individual will be responsible for defining action scope, implementing the action, monitoring success of the action, and making any required modifications to the plan.

Changes will be made to the plan to accommodate actions that have failed or are not considered feasible after a review of their adherence to established criteria, time frames, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed during the monitoring and update of this plan to determine feasibility for

future implementation. Updating of the plan will be enacted through written changes and submissions as the HMPC, particularly the Fayette County Emergency Management Coordinator, deems appropriate and necessary, and as approved by the governing bodies with legal authority for the Participating Jurisdictions.

## Incorporation into Existing Planning Mechanisms

*Requirement §201.6(c)(4)(ii):*

*[The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.*

Where possible, the Participating Jurisdictions will use existing plans and/or programs to implement hazard mitigation actions. Based on the capability assessments of the Participating Jurisdictions, the communities will continue to plan and implement programs to reduce loss of life and property from hazards. This plan builds upon the momentum developed through previous related planning efforts and mitigation programs, and recommends implementing actions, where possible, through the following means:

- Fayette County Multi-Hazard Emergency Operations Plan
- General or master plans of participating jurisdictions
- Fayette County Comprehensive Plan – plan updated in 2012 (including Fayette, Oelwein & West Union)
- Ordinances of participating jurisdictions
- Capital improvement plans and budgets
- Fayette County Multi-Jurisdiction Mitigation Plan developed in future
- Other community plans either in existence or developed in the future
- Other county/regional plans either in existence or developed in the future

The information from the 2018 Fayette County, Iowa Multi-Jurisdiction Multi-Hazard Mitigation Plan was not incorporated into plans, other than the Fayette County Multi-Hazard Emergency Operations Plan updates. The Fayette County Comprehensive Plan, as well as most city plans have not been updated recently so there was not an opportunity to include hazard mitigation planning information.

The governing body with legal authority for the participating jurisdictions adopting this plan will encourage other relevant planning mechanisms under their authority to consult this plan to ensure minimization of risk to natural hazards as well as maximum coordination of activities.

The local data collected will be included in the State of Iowa Hazard Mitigation Plan where appropriate.

HMPC members involved in updating these existing planning mechanisms will be responsible for integrating the findings and actions of the mitigation plan, as appropriate. The HMPC is also responsible for monitoring this integration and incorporating the appropriate information into the five-year update of the multi-jurisdictional hazard mitigation plan.

## Continued Public Involvement

*Requirement §201.6(c)(4)(iii):*

*[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.*

The update process provides an opportunity to publicize success stories from the plan's implementation and seek additional public comment. Information will be posted in a county-wide publication following the annual review of the mitigation plan. Public meeting(s) to receive public comment on plan maintenance and updating will be held during the update period. When the HMPC reconvenes for the update, it will coordinate with all stakeholders participating in the planning process, including those who joined the HMPC after the initial effort, to update and revise the plan. In conclusion, public notices will continue to be posted and public participation will continue to be sought and encouraged through available local media outlets as this planning document is reviewed and revised.

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## **Appendix B – Jurisdictional Resolutions**

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### **Fayette County Board of Supervisors**



**City of Arlington**

**City of Clermont**

**City of Elgin**

**City of Fayette**

City of Hawkeye

RESOLUTION NO. 2024-12

RESOLUTION ADOPTING THE FAYETTE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN 2024

WHEREAS, the City of Hawkeye has heretofore deemed it accessory and desirable to have a Hazard Mitigation Plan that identifies potential hazards and the actions that need to be taken to reduce or eliminate the long-term risks to human life and property from those hazards for the citizens of the City of Hawkeye; and

WHEREAS, a Local Mitigation Plan, as defined in 44 CFR Section 201.6 is required for local jurisdictions that elect to participate in FEMA hazard mitigation programs as a sub-applicant or sub-grantee; and

WHEREAS, the Fayette County Multi-Jurisdictional Hazard Mitigation Plan 2024 was funded by a Hazard Mitigation Grant Program planning grant; and

WHEREAS, the East Central Iowa Council of Governments (ECICOG) with the help of the Hazard Mitigation Planning Committee has prepared the hazard mitigation plan that will be placed on file in Hawkeye City Hall for public inspection upon approval of the plan by FEMA; and

WHEREAS, a public hearing has now been held in accordance with published notice of the same as by law provided; and

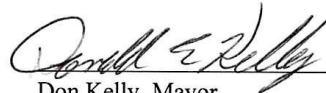
WHEREAS, the Fayette County Emergency Management Coordinator has recommended approval of the same,

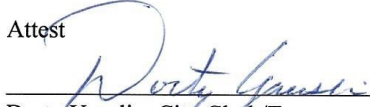
NOW, THEREFORE, BE IT RESOLVED by the Hawkeye City Council of the City of Hawkeye, Iowa, that the above-referenced Fayette County Multi-Jurisdictional Hazard Mitigation Plan 2024 be and the same is hereby approved.

Passed and approved this 3rd day of June, 2024. Motion - Campbell

AYES: Campbell, Curtis, Sunnes, Schnur  
Second - Schnur

NAYS:  
ABSENT:  
Shimelk

  
Don Kelly, Mayor

Attest  
  
Dorthy Yauslin, City Clerk/Treasurer

**City of Maynard**

**City of Oelwein**

**City of Randalia**



**City of St. Lucas**

**City of Wadena**

**City of Waucoma**

**City of West Union**

**City of Westgate**

**North Fayette Valley Community School District**

**Oelwein Community School District**

**Starmont Community School District**



**West Central Community School District**

**Upper Iowa University**

## Appendix C – Planning Process Documentation

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### Hazard Mitigation Planning Committee Meeting Notes

#### Fayette County EMA Commission Proposed Budget Public Hearing/EMA Commission Meeting Minutes

January 25, 2022

Commission Chair Kent Halverson called the scheduled EMA Commission meeting to order at 7:00 pm with 12 members of the communities present, EMA Coordinator and the FEMA M-J14 planner in attendance.

Clermont made a motion “To accept this meeting agenda as posted.” Hawkeye seconded this motion; members voted, and motion carried.

EMA Commission members were able to read the minutes for the Oct. 19,2021 meeting as well as having copies printed for review. Oran made a motion to “Accept last month’s meeting minutes as written”, Stanbrough seconded this motion; members voted, and motion carried.

EMA Commission Chairman asked members present to look over the proposed EMA Commission Budget for 2022-2023 (all members had the complete proposed budget worksheets emailed to them prior to this meeting). Coordinator Roberts explained to members present that there was a data processing error in last year’s budget so an amount of \$ 35,000. Will be added back into the general accountant the conclusion of this current year budget. Chairman Halverson asked for a motion “To accept the advertised proposed budget for the Fayette County EMA Commission for 2022-2023 operating year which includes a wage increase to \$ 50,000.00 .” Westgate made a motion to accept this motion; Fayette seconded this motion; members present voted and passed (electronic approvals from the cities of Arlington, Maynard, St. Lucas and Public Health).

Coordinators report:

- Continuing to provide 1-2 cross trainings monthly
- Assisting Boy Scouts with merit badge trainings
- All continuing ed hours needed for HSEMD completed.
- 4 exercises completed for HSEMD
- EMS grant app completed
- EMPG grant submitted and approved.
- Assisting with researching and field testing for a proposed radio upgrade.
- Assisting the fair board with plan review
- Submitted app for Oelwein Fire dept. Governors Volunteer award

New Business:

There was a brief discussion on the possibility of EMA possibly providing funding for two full-time dispatch positions. After making several telephone calls to Iowa Homeland Security it was determined

that ALL dispatch services and expenses must go through EMA or none at all. There was a brief discussion on how cities and entities are charged for dispatch services.

Robyn Reece the contracted planner for the FEMA M-J14 5-yr. plan update was in attendance to conduct the 'Kick Off' meeting. Reece explained what the process is, and the importance of attending meetings for a more inclusive county response plan. Reece handed out packets of information currently in the plan as it pertains to each city entity. EMA coordinator will deliver to those cities not in attendance.

With no further business to discuss Stanbrough made a motion to adjourn; Elgin seconded this motion. Members voted and motion carried. Adjourned at 8:15 pm.

Next scheduled meeting April 19, 2022 at 7:00pm in the basement of the Fayette County Courthouse.

Respectfully submitted....EMA Coordinator Roberts

EMMA Sgt. Kick Off Meeting  
 Fayette County Emergency Management Association Meeting  
 January 25, 2022 10:00-20:30

| NAME              | SIGNATURE   | ENTITY REPRESENTING         | EMAIL ADDRESS               |
|-------------------|-------------|-----------------------------|-----------------------------|
| Sgt. Cott         | [Signature] | Westgate Fire & Maintenance | sgt@westgatefire.com        |
| KEIT Halverson 17 | [Signature] | afraid                      |                             |
| Kyle Wood         | [Signature] | FAYETTE                     | fayette.mayor.wood@mail.com |
| Magaly Stambugh   | [Signature] | Fayette Co.                 |                             |
| Jane Matt         | [Signature] | Clanmont                    |                             |
| Erik Johnson      | [Signature] | Elgin                       |                             |
| DANAND KELLY      | [Signature] | HAWKRYE                     |                             |
| Lisa Roberts      | [Signature] | Fayette Co. EMA             | lroberts@co.fayette.iowa.us |
|                   |             |                             |                             |
|                   |             |                             |                             |
|                   |             |                             |                             |
|                   |             |                             |                             |
|                   |             |                             |                             |
|                   |             |                             |                             |
|                   |             |                             |                             |



City of Elgin March 6, 2023 Council Meeting Minutes

3-6-2023 Elgin City Council Meeting

Call to order at 700pm by Mayor Knobloch. Councilmembers Wenger, Thomas, Frieden, Christianson and Wachal were all present. Motion to approve the agenda by Wachal, 2<sup>nd</sup> by Frieden, vote 5-0 carried. Motion to approve the 2/20/2023 minutes by Wenger with the correction that her earnings for 2022 she will be donating to the Elgin Fire Department specifically, 2<sup>nd</sup> by Christianson, vote 5-0 carried. Motion to approve the 2/27/2023 minutes by Wenger, 2<sup>nd</sup> by Thomas vote 5-0 carried. For the bills Councilmember Wenger asked the Clerk about the workers comp audit cost, clerk shared she believes that is a yearly audit. Councilmember Frieden asked if there was a description form along with the Clerk’s information for mileage reimbursement, City Clerk noted yes there is a process in place for that. Mayor Knobloch had asked if there is documentation regarding hours for the cleaning at the Library/City Hall building, clerk shared she keeps an excel sheet of the hours kept and per the contract the Jill Christianson gets paid a set weekly fee. Motion to approve the following bills by Wachal, 2<sup>nd</sup> by Wenger, vote 5-0 carried.

**BILLS PAID – GENERAL**

|                                      |                                     |                   |
|--------------------------------------|-------------------------------------|-------------------|
| IOWA INSURANCE DIVISION              | 2022 PERPETUAL CARE CEMETERY REPORT | \$21.00 ACH       |
| AMAZON                               | SMALL FLAG POLE KIT FOR SAMPLE      | \$32.17 ACH       |
| ALLIANT ENERGY                       | UTILITY BILL                        | \$958.73 ACH      |
| <b>BILLS PAID – GENERAL SUBTOTAL</b> |                                     | <b>\$1,011.90</b> |

**BILLS TO BE PAID – GENERAL**

|  |  |                   |
|--|--|-------------------|
| A&J PETERSBURG                             | WORKER’S COMP AUDIT 11-2021 TO 11-2022                   | \$230.00          |
| GINGER WANDER                              | MILEAGE TO COURTHOUSE 2-21-23 & FLASHDRIVE REIMBURSEMENT | \$28.55           |
| CHAPMAN ELECTRIC                           | LIBRARY- 2 LIGHTBULBS REPLACED                           | \$134.20          |
| G&C TIRE                                   | FRIEGHTLINER, F350 AND BRUSH TIRE REPAIR                 | \$145.00          |
| HI-VIZ SAFETY                              | NO TRUCKS SIGN- QTY 2                                    | \$98.00           |
| JILL CHRISTIANSON                          | FEBRUARY CLEANING- 4 WEEKS                               | \$280.00          |
| ELGIN AREA AMBULANCE                       | MARCH 2023 SUPPORT                                       | \$500.00          |
| BARBARA WENGER                             | 401 MILL ST- COUNTY BOARD MEETING ATTENDANCE             | \$25.00           |
| BRIAN THOMAS                               | FINANCE- ASSISTED CLERK WITH FEBRUARY 23 BANK REC        | \$25.00           |
| <b>BILLS TO BE PAID – GENERAL SUBTOTAL</b> |  | <b>\$1,465.75</b> |
| <b>GENERAL SUBTOTAL</b>                    |  | <b>\$2,477.65</b> |

**BILLS PAID – RUT**

|                                  |              |                   |
|----------------------------------|--------------|-------------------|
| ALLIANT ENERGY                   | UTILITY BILL | \$1,154.75 ACH    |
| <b>BILLS PAID – RUT SUBTOTAL</b> |              | <b>\$1,154.75</b> |

**BILLS PAID – WATER**

Fayette County, Iowa Multijurisdictional Hazard Mitigation Plan 2024

|   |  |                                    |
|---|--|------------------------------------|
| AMERICAN WATER WORKS ASSOC.                               | CITY SUPERINTENDENT-REGION 1 CONFERENCE REGISTRATION | \$25.00 CHECK                      |
| ALLIANT ENERGY  | UTILITY BILL   | \$614.71 ACH                       |
| <b>BILLS PAID – WATER SUBTOTAL</b>                        |  | <b>\$639.71</b>                    |
| <br><b>BILLS TO BE PAID – WATER</b>                       |  |                                    |
| MICROBAC LABORATORIES                                     | TESTING  | \$15.50                            |
| <b>BILLS TO BE PAID – WATER SUBTOTAL</b>                  |  | <b>\$15.50</b>                     |
| <br><b>BILLS PAID – SEWER</b>                             |  |                                    |
| ALLIANT ENERGY  | UTILITY BILL   | \$1,517.07 ACH                     |
| <b>BILLS PAID– SEWER SUBTOTAL</b>                         |  | <b>\$1,517.07</b>                  |
| <br><b>BILLS TO BE PAID – SEWER</b>                       |  |                                    |
| MICROBAC LABORATORIES                                     | TESTINGS   | \$526.25                           |
| CHAPMAN ELECTRIC  | INSTALL FAN MOTOR AT LIFT STATION                    | \$99.78                            |
| <b>BILLS TO BE PAID– SEWER SUBTOTAL</b>                   |  | <b>\$626.03</b>                    |
| <br><b>BILLS TO BE PAID – SOLID WASTE</b>                 |  |                                    |
| KLUESNER SANITATION LLC                                   | FEBRUARY TRASH PICK-UP                               | \$2,950.42                         |
| <b>BILLS TO BE PAID– SOLID WASTE SUBTOTAL</b>             |  | <b>\$2,950.42</b>                  |
| <br><b>BILLS PAID – PAYROLL</b>                           |  |                                    |
| STAFF NET WAGES TOTAL                                     |  | \$3,959.98                         |
|   |  | <b>PAYROLL SUBTOTAL \$3,959.98</b> |
| <b>GENERAL SUBTOTAL \$2,477.65</b>                        |  |                                    |
| <b>RUT, WATER, SEWER, SOLID WASTE SUBTOTAL \$6,903.48</b> |  |                                    |
| <b>PAYROLL SUBTOTAL \$3,959.98</b>                        | <b>TOTAL</b>   | <b>\$13,341.11</b>                 |

The City Superintendent shared that the lagoon building electricity installment has been completed, councilmember Christianson asked if the building is insulated or still need to be done, superintendent noted it is done and Council can set up a tour when they are ready. Motion to approve the City Superintendent report by Thomas, 2<sup>nd</sup> by Christianson, vote 5-0 carried. Fire Chief was absent. City Superintendent shared the lagoon liner project will be later in the year to start. Clerk shared there will be a preliminary homeowner meeting for the East Street/Otter Street sewer line project on Wednesday 3/8. Mayor Knobloch read the following statement in regards to the State Audit: As a result of the completion of the State audit concerning certain financial transactions conducted by the former City Clerk, the City of Elgin is working with the State of Iowa and law enforcement to rectify these transactions, address the internal controls and operations, improve bank reconciliations, and to ensure disbursements are properly documented. We hope these measures taken will improve the quality of



administrative service so that the citizens of Elgin, Iowa, will not have such actions occur again. The State Audit will be removed from the old business. Councilmember Wenger shared a flagpole they have received for an option to replace the old poles- this would be put together as a kit and the cost would be approximately \$2000 for 30 poles. For the City Hall/Library building lighting and geothermal upgrade City Clerk shared the Library Board has come across a grant to assist with the cost they would apply for this themselves, it would require a 50% match. Library board member Hunsberger shared a couple of options to do an energy audit- tabled to discuss further. City Superintendent noted the emergency lights and exits should be replaced sooner rather than later, he will get pricing for the next meeting. Clerk asked council if they had any codes they would like to edit or update for the code book update project, Clerk shared with the popularity of solar panels we should have a code written for that. Council asked for an example for them to approve. Mayor suggested revisiting the 28E agreement with the Fayette County Sheriff's office when the current one expires-tabled to next meeting. In new business Motion made by Christianson to set the FY2024 budget public hearing for 3/20/2023 715pm, 2<sup>nd</sup> by Thomas, vote 5-0 carried. **A representative hired from Fayette County to revise the hazard mitigation policies had shared some information and asked for updates from Council, Mayor Knobloch noted the levy is done and can be removed from the list. Mayor Knobloch also noted with the updated flood maps that they did not take into account the raised levy, Robyn noted she would check on it. Their plan is to meet with the other towns then they will have the plan public for review once finished.** City Clerk shared the 2022 Cemetery Trusteeship Report from the Cemetery Board. Resolution 2023-3.02 was read to adopt the revised personnel policy, motion by Wenger, 2<sup>nd</sup> by Christianson, vote 5-0 carried. Clerk shared the resident from 307 Washington Street was asking for forgiveness on his utility billing delinquent fee as he has never been late before, motion by Frieden to approve, 2<sup>nd</sup> by Wachal, vote 5-0 carried. Clerk shared with Council that the Fayette County Board of Supervisors are looking into the possibility of deeding/vacating 401 Mill Street to the City of Elgin, motion to accept if they are able by Christianson, 2<sup>nd</sup> by Wachal, vote 5-0 carried. Resolution 2023-3.01 was read to transfer LOST funds to the General Fund, motion by Thomas, 2<sup>nd</sup> by Wenger, vote 5-0 carried. Clerk shared the agenda for the IMFOA spring conference and requested to attend, motion by Wenger to approve, 2<sup>nd</sup> by Christianson, vote 5-0 carried. In open session a resident asked about putting up a watch for children sign on Franklin Street by the park as there are many children crossing the street not watching for traffic, City Superintendent noted there is already a sign there. The same resident had asked in response to the audit if it is possible to bond the City Clerk to keep them from stealing money, Mayor Knobloch noted the City insurance policy has a loss clause to cover. Motion to adjourn at 759pm by Thomas, 2<sup>nd</sup> by Wenger, vote 5-0 carried.

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Mayor James Knobloch

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Ginger Wander, City Clerk

# Fayette County, Iowa Multijurisdictional Hazard Mitigation Plan 2024

| DL WebView CitizenAccess  |                          |  |             |                     |               |                   |                     |                    |  |
|---|--------------------------|--|-------------|---------------------|---------------|-------------------|---------------------|--------------------|--|
| Search Documents  |                          |  |             |                     |               |                   |                     |                    |  |
| Documents / Iowa / County / Fayette / Emergency Management Agency / Documents |                          |  |             |                     |               |                   |                     |                    |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | File Name                              | Entity Name | Department          | Document Type | SubDocument Ty... | Dated ↓             | Reference          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | 2024 Fayette County, Iowa Multi-Jur... | Fayette     | Emergency Manage... | Documents     |                   | 2024-05-01 00:00:00 | 2024 Fayette Count |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | EMA Emergency Notification Syste...    | Fayette     | Emergency Manage... | Documents     |                   | 2020-10-20 00:00:00 | EMA Emergency Nc   |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | Handout SBA Disaster Assitance Res...  | Fayette     | Emergency Manage... | Documents     |                   | 2020-03-16 00:00:00 | Handout SBA Disas  |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | Handout SBA Disaster Assitance Res...  | Fayette     | Emergency Manage... | Documents     |                   | 2020-03-16 00:00:00 | Handout SBA Disas  |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | EMA Coordinator List March 2020.pdf    | Fayette     | Emergency Manage... | Documents     |                   | 2020-02-12 00:00:00 | EMA Coordinator L  |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | Fayette County RFP HM Grant.pdf        | Fayette     | Emergency Manage... | Documents     |                   | 2016-01-01 00:00:00 | Fayette County RFP |  |

**POSTED ON COUNTY WEBSITE FOR PUBLIC REVIEW**

<https://fayetecounty.iowa.gov/>

*View All County Documents and Forms*

<https://cap.gmdsolutions.com/documents?folder=CFC09CB3-2827-4E94-8E0C-09EFF9FF10F6&page=1>

**Appendix D – FEMA Approval Letter**

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## Appendix E – COVID19 Event Timeline

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### COVID-19 TIMELINE

|            |  |
|------------|--|
| 12/31/2019 | Wuhan, China government confirms cases being treated. Days later new virus is identified.  |
| 1/3/2020   | China officially notifies World Health Organization (WHO) of outbreak  |
| 1/11/2020  | China reports 1 <sup>st</sup> known death from new virus   |
| 1/20/2020  | First confirmed cases outside of China   |
| 1/21/2020  | First confirmed case in United States – resident who travelled from China  |
| 1/30/2020  | WHO declares “Public Health Emergency of International Concern”  |
| 2/2/2020   | First reported death outside of China (Philippines)  |
| 2/11/2020  | WHO proposes official name for virus as “COVID-19”   |
| 2/29/2020  | First reported U.S. death from virus – later it is determined (4/21/20) there were deaths on 2/6/2020 and 2/17/2020 from virus   |
| 3/7/2020   | Iowa Governor Kim Reynolds orders “partial activation” of State Emergency Operations Center (SEOC)   |
| 3/8/2020   | First cases reported in Iowa in Johnson County (related to recent cruise to Egypt)   |
| 3/10/2020  | Grinnell College in Grinnell, Iowa announces going to online classes only effective 3/30/2020  |
| 3/11/2020  | All 3 state universities in Iowa announce they are going to online classes for rest of semester  |
| 3/13/2020  | U.S. President Trump officially declares national emergency. All 17 cases in Iowa related to travel. Des Moines Community School District (K12) announces closing through March 29 |
| 3/15/2020  | Iowa Governor Kim Reynolds recommends K12 schools close for four weeks.  |
| 3/16/2020  | Last day of Iowa Legislature before 30 day close   |
| 3/17/2020  | Iowa Governor Kim Reynolds issues State of Public Health Disaster Emergency Proclamation – restaurants and bars are prohibited from serving dine in                                |

customers. Fitness centers, theaters, casinos, and senior centers are closed. Public gathers are limited to 10 people or less

- 3/18/2020 Hy-Vee and Fareway grocery stores adjust hours for cleaning and re-supply in evenings
- 3/20/2020 U.S. President Trump invokes Defense Production Act to disperse medical supplies
- 3/21/2020 Fayette County, Iowa has first positive case.
- 3/22/2020 Iowa Governor Kim Reynolds issues new executive order through 3/30/2020 closing salons, barber shops, medical spas, massage therapists, tattoo shops, and swimming pools
- 3/23/2020 Iowa Governor Kim Reynolds announces 47% decrease in noncommercial traffic on Iowa roads due to closing throughout state. Encourages Iowans to stay home.
- 3/24/2020 First Iowa death reported. Tokyo Olympics delayed. U.S. National Guard activated in all fifty states.
- 3/26/2020 U.S. leads world in confirmed cases at 81,321 cases and more than 1,000 deaths. Iowa Governor Kim Reynolds orders retail shop to close including book, furniture, clothing, and jewelry stores. All elective and non-essential surgeries and medical procedures are prohibited. Closures of bars and restaurants is extended. Telehealth visits must be accepted by health insurance.
- 3/30/2020 Most cases in Linn County, Iowa – 71 cases and outbreaks in long term care facilities. Regional Medical Coordination Centers begin to go live in Iowa.
- 4/2/2020 More than 1 million cases in 171 countries, across 6 continents and more than 51,000 deaths. Iowa Governor Kim Reynolds extends order to close non-essential business, limit restaurants and bars to carryout services only, halt non-essential surgeries and dental procedures and limit gatherings. School closures are extended through 4/30/2020
- 4/5/2020 Iowa Department of Public Health (IDPH) says 10% of cases in the state are in long term care facility residents and staff and 40% of deaths in Iowa are associated with long term care facilities.
- 4/6/2020 Iowa Governor Kim Reynolds broadens business closures to include malls, social/fraternal clubs, bingo halls, bowling alleys, pool halls, arcades, amusement parks, libraries, museums, zoos, skating rinks/parks, indoor/outdoor playgrounds, tobacco/vaping shops, racetracks, toy/game/music/instrument /movie stores and campgrounds.

- 4/7/2020      Outbreak reported in Iowa meat processing plant.
- 4/10/2020    IDPH issues PPE Shortage Order requiring healthcare workers to re-use face masks, use washable gowns, minimize patient contact, cancel non-essential appointments and procedures, and use telemedicine when possible due to supply limitations.
- 4/17/2020    Iowa Governor Kim Reynolds announces K12 schools closed the rest of the school year.
- 4/20/2020    Additional reports of outbreaks in meat processing plants in eastern Iowa.
- 4/21/2020    Iowa Governor Kim Reynolds announces Test Iowa to launch to increase testing capacity in the state.
- 4/24/2020    Iowa Governor Kim Reynolds announces she is signing a declaration to re-open the state beginning 4/27/2020 and starting with elective surgeries/procedures and farmers markets.
- 4/26/2020    Global death toll passes 200,000 with more than 2.8 million cases worldwide
- 5/1/2020      Iowa Governor Kim Reynolds begins re-opening state starting with 77 counties who have the lowest spread of virus
- 5/5/2020      Iowa cases surpass 10,000 with 207 deaths in the state.
- 5/7/2020      Additional sectors of the economy are re-opened in Iowa including dental offices, campgrounds, spas, gyms, malls, and stores.
- 5/13/2020     Businesses in all 99 counties in Iowa are re-opened including restaurants, health clubs, and spas with provided state guidance.
- 5/22/2020     Additional businesses are re-opened including movie theaters, aquariums, museums, bars, and wedding reception venues. School activities are resumed
- 5/22/2020     It is announced that any resident in Iowa who wants tested can get tested,
- 5/27/2020     U.S. deaths surpass 100,000
- 6/1/2020      Additional businesses re-open including casinos, amusement parks, pool halls, and outdoor performance venues
- 6/10/2020     Iowa State Fair Board voted to postpone the Iowa State Fair until 2021 – first time the fair has been postponed since WWII
- 6/26/2020     Iowa Governor Kim Reynolds extends the proclamation to allow school team athletics.

- 7/6/2020 U.S. deaths surpass 130,000
- 7/15/2020 Iowa Governor Kim Reynolds announces schools will re-open in the fall and kids will be in attendance in person
- 8/4/2020 Iowa Governor Kim Reynolds announces school re-opening guidance
- 8/25/2020 First COVID19 death in Fayette County, Iowa.
- 
- 10/19/2020 Global total cases 36,706,213; total deaths worldwide: 1,064,420; number of countries with cases: 214 (Think Global Health)
- 
- 3/10/2023 Global total cases: 676,609,955; total deaths worldwide: 6,881,955; number of countries with cases: 189 (John Hopkins COVID19 Dashboard)
- Fayette County, Iowa 4,959 positive cases, 88 deaths**
- State of Iowa cases: 903,991 positive cases; 10,725 deaths
- May 11, 2023 FEMA end of incident period across all COVID19 emergency and major disaster declarations for state, tribal, and territorial governments.

Additional information”

Timeline sources include NY Times, “A Timeline of the Coronavirus Pandemic”; Think Global Health, “Updated: Timeline of the Coronavirus”; Iowa Starting Line website, John Hopkins COVID19 Dashboard website

Coronavirus.iowa.gov – 28 Iowa Governor Proclamations from March 2020 to October 16, 2020