

CONTRIBUTORS

Clark County Hazard Mitigation Planning Committee

Jurisdictional Representatives

Name		Title	Department	Jurisdiction
Steven	Krueger	Commissioner	Administration	Clark County
Tim	Harper	Commissioner	Administration	Clark County
Joe	Humes	Commissioner	Administration	Clark County
Colten	Protzman	Mayor	Administration	Alexandria
Ritchie	Kracht	Superintendent	Administration	Clark County R-1
Anthony	Anderson	Mayor	Administration	Kahoka
Sandy	Hopp	City Clerk	Administration	Kahoka
Kathy	Alvis	City Clerk	Administration	Wayland
Tracey		City Clerk	Administration	Wyaconda
Elizabeth	Summers	City Clerk	Administration	Luray
Josh	Taylor	Mayor	Administration	Revere

Stakeholder Representatives

Name		Title	Department	Agency/Organization
Tanner	Harrison	County Emergency Coordinator	Administration	Clark County/City of Kahoka
Evelena	Sutterfield	Member	Emergency Response	LEPC
James	Steele	Member	Emergency Response	LEPC
James	Steele	Chief	Emergency Response	Alexandria Fire Department
Mick	Wood	Chief	Emergency Response	Kahoka Fire Department
Nathan	Bartlett	Chief	Emergency Response	Wayland Fire Department
Chris	Feeney	Administrator	Administration	Clark County Port Authority
Paul	Brotherton	Citizen	Administration	Clark County

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EXECUTIVE SUMMARY

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Clark County and participating jurisdictions and school/special districts developed this multi-jurisdictional local hazard mitigation plan update to reduce future losses from hazard events to the County and its communities and school/special districts. This plan is an update of the previous plan that was approved by FEMA on August 2020. The plan and the update were prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to result in eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

The Clark County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that covers the following jurisdictions that participated in the planning process:

- Unincorporated Clark County
- City of Kahoka
- City of Wayland
- City of Wyaconda
- City of Alexandria
- Village of Luray
- City of Revere
- Clark County R-1 School District

Clark County and the entities listed above followed a plan update process using a methodology in accordance with FEMA guidance, which began with the formation of a Mitigation Planning Committee (MPC) comprised of representatives from Clark County and participating jurisdictions. The MPC updated the risk assessment that identified and profiled hazards that pose a risk to Clark County and analyzed jurisdictional vulnerability to these hazards. The MPC also examined the capabilities in place to mitigate the hazard damages, with emphasis on changes that have occurred since the previously approved plan was adopted. The MPC determined that the planning area is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Riverine and flash flooding, winter storms, severe thunderstorms (hail, lightning, high winds), and tornados are among the hazards that historically have had a significant impact.

Based upon the risk assessment, the MPC updated goals for reducing risk from hazards. The goals are listed below:

1. Public Awareness- Using a variety of communication avenues to increase the citizens awareness of and to promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effects of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

To advance the identified goals, the MPC developed recommended mitigation actions, as summarized in the table on the following pages. The MPC developed an implementation plan for each action, which identifies priority level, background information, ideas for implementation, responsible agency, timeline, cost estimate, potential funding sources, and more. These additional details are provided in Chapter 4.

Table I. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clark County 2025.1	Continue Clark County's participation and good standing in the National Flood Insurance Program.	Clark County	High	3	Flooding			✓
Clark County 2025.2	Flood Mitigation	Clark County	High	3	Flooding	✓	✓	
Clark County 2025.3	Installation/Upgrade Sirens	Clark County	High	1	All Hazards	✓		
Clark County 2025.4	Improve Transportation Infrastructure	Clark County	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Clark County 2025.5	Safe Room and Storm Shelters	Clark County	High	3	Tornado, Severe Thunderstorms	✓		
Clark County 2025.6	Generator for Shelter(s)	Clark County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clark County 2025.7	Vulnerable Citizen Awareness	Clark County	Low	1	All Hazards	✓		
Clark County 2025.8	Seismic Vulnerability Assessment	Clark County	Low	3	Earthquakes	✓		
Clark County 2025.9	Subsidence Vulnerability Assessment	Clark County	Low	3	Sinkholes	✓		
City of Kahoka 2025.1	Generator for Shelter(s)	City of Kahoka	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kahoka 2025.2	Improve Transportation Infrastructure	City of Kahoka	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Kahoka 2025.3	Installation/Upgrade Sirens	City of Kahoka	Medium	3	All Hazards	✓		
City of Kahoka 2025.4	Continue City of Kahoka's participation and good standing in the National Flood Insurance Program	City of Kahoka	High	3	Flooding			✓
City of Kahoka 2025.5	Vulnerable Citizen Awareness	City of Kahoka	Low	1	All Hazards	✓		
City of Kahoka 2025.6	Seismic Vulnerability Assessment	City of Kahoka	Low	3	Earthquakes	✓		
City of Wayland 2025.1	Installation/Upgrade Siren	City of Wayland	High	3	All Hazards	✓		
City of Wayland 2025.2	Improve Transportation Infrastructure	City of Wayland	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wayland 2025.3	Safe Rooms and Shelters	City of Wayland	High	3	Tornado, Severe Thunderstorms	✓		
City of Wayland 2025.4	Continue City of Wayland's participation and good standing in the National Flood Insurance Program	City of Wayland	High	3	Flooding			✓
City of Wayland 2025.5	Vulnerable Citizen Awareness	City of Wayland	Low	1	All Hazards	✓		
City of Wayland 2025-6	Seismic Vulnerability Assessment	City of Wayland	Low	3	Earthquakes	✓		
City of Wyaconda 2025.1	Installation/Upgrade Sirens	City of Wyaconda	High	3	All Hazards	✓		
City of Wyaconda 2025.2	Improve Transportation Infrastructure	City of Wyaconda	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wyaconda 2025.3	Safe Rooms and Shelters	City of Wyaconda	High	3	Tornado, Severe Thunderstorms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Wyaconda 2025.4	Continue City of Wyaconda's participation and good standing in the National Flood Insurance Program	City of Wyaconda	High	3	Flooding			✓
City of Wyaconda 2025.5	Vulnerable Citizen Awareness	City of Wyaconda	Low	1	All Hazards	✓		
City of Wyaconda 2025.6	Seismic Vulnerability Assessment	City of Wyaconda	Low	3	Earthquakes	✓		
City of Alexandria 2025.1	Levee Doors	City of Alexandria	High	3	Flooding	✓		
City of Alexandria 2025.2	Installation/Upgrade Sirens	City of Alexandria	High	3	All Hazards	✓		
City of Alexandria 2025.3	Improve Transportation Infrastructure	City of Alexandria	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Alexandria 2025.4	Safe Rooms and Shelters	City of Alexandria	High	3	Tornado, Severe Thunderstorms	✓		
City of Alexandria 2025.5	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program	City of Alexandria	High	3	Flooding			✓
City of Alexandria 2025.6	Vulnerable Citizen Awareness	City of Alexandria	Low	1	All Hazards	✓		
City of Alexandria 2025.7	Seismic Vulnerability Assessment	City of Alexandria	Low	3	Earthquakes	✓		
Village of Luray 2025.1	Installation/Upgrade Siren	Village of Luray	High	3	All Hazards	✓		
Village of Luray 2025.2	Improve Transportation Infrastructure	Village of Luray	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Village of Luray 2025.3	Safe Rooms and Shelters	Village of Luray	High	3	Tornado, Severe Thunderstorms	✓		
Village of Luray 2025.4	Continue Village of Luray's participation and good standing in the National Flood Insurance Program	Village of Luray	High	3	Flooding			✓

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Luray 2025.5	Vulnerable Citizen Awareness	Village of Luray	Low	1	All Hazards	✓		
Village of Luray 2025.6	Seismic Vulnerability Assessment	Village of Luray	Low	3	Earthquakes	✓		
City of Revere 2025.1	Installation/Upgrade Siren	City of Revere	High	3	All Hazards	✓		
City of Revere 2025.2	Improve Transportation Infrastructure	City of Revere	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Revere 2025.3	Safe Rooms and Shelters	City of Revere	High	3	Tornado, Severe Thunderstorms	✓		
City of Revere 2025.4	Continue City of Revere's participation and good standing in the National Flood Insurance Program	City of Revere	High	3	Flooding			✓
City of Revere 2025.5	Vulnerable Citizen Awareness	City of Revere	Low	1	All Hazards	✓		
City of Revere 2025.6	Seismic Vulnerability Assessment	City of Revere	Low	3	Earthquakes	✓		
Clark County R-1 2025.1	Safe Rooms	Clark County R-1	High	3	Tornado, Severe Thunderstorms, Earthquake	✓		
Clark County R-1 2025.1	Intercom System	Clark County R-1	Medium	3	Tornado, Severe Thunderstorms	✓		
Clark County R-1 2025.3	Natural Hazard Education	Clark County R-1	Medium	1	All Hazards	✓		

PREREQUISITES

44 CFR 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 the jurisdiction requesting approval of the plan. For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

This plan has been reviewed by and adopted with resolutions or other documentation of adoption by all participating jurisdictions and schools/special districts. The documentation of each adoption is included in Appendix A, and a model resolution is included on the following page.

The jurisdictions listed in the Executive Summary participated in the development of this plan and have adopted the multi-jurisdictional plan.

- Unincorporated Clark County
- City of Kahoka
- City of Wayland
- City of Wyaconda
- City of Alexandria
- Village of Luray
- City of Revere
- Clark County R-1 School District

Model Resolution

(LOCAL GOVERNING BODY/SCHOOL DISTRICT), Missouri RESOLUTION NO. _____

A RESOLUTION OF THE (LOCAL GOVERNING BODY /SCHOOL DISTRICT) ADOPTING THE (PLAN NAME)

WHEREAS the (local governing body/school district) recognizes the threat that natural hazards pose to people and property within (local government); and

WHEREAS the (local government/school district) has prepared a multi-hazard mitigation plan, hereby known as (title and date of mitigation plan) in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS (title and date of mitigation plan) identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in (local government/school district) from the impacts of future hazards and disasters; and

WHEREAS adoption by the (local governing body/school district) demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Plan.

NOW THEREFORE, BE IT RESOLVED BY THE (LOCAL GOVERNMENT/SCHOOL DISTRICT), in the State of Missouri, THAT:

Section 1. In accordance with (local rule for adopting resolutions), the (local governing body/school district) adopts the (title and date of mitigation plan). While content related to (local government/school district) may require revisions to meet the plan approval requirements, changes occurring after adoption will not require (local government/school district) to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of _____ in favor and __ against, and __ abstaining, this _____ day of _____, _____.

By (Sig): _____
Print name: _____

ATTEST:
By (Sig.): _____
Print name: _____

APPROVED AS TO FORM:
By (Sig.): _____
Print name: _____

1 INTRODUCTION AND PLANNING PROCESS

1	INTRODUCTION AND PLANNING PROCESS	1.1
1.1	<i>Purpose</i>	1.1
1.2	<i>Background and Scope</i>	1.1
1.3	<i>Plan Organization</i>	1.2
1.4	<i>Planning Process</i>	1.3
1.4.1	Multi-Jurisdictional Participation.....	1.4
1.4.2	The Planning Steps	1.6

1.1 PURPOSE

Hazard mitigation is “any actions taken to reduce or eliminate the long-term risk to human life and property from natural hazards”. We understand that hazard events will continue to occur, and at their worst can result in death and destruction of property and infrastructure. The work done to minimize the impact of hazard events to life and property is called hazard mitigation. Clark County and the participating jurisdictions and school districts developed this multijurisdictional local hazard mitigation plan update to reduce future losses from hazards.

The County of Clark, City of Kahoka, City of Wayland, City of Wyaconda, City of Alexandria, Village of Luray, City of Revere, and Clark County R-1 School District adopted the Plan as a prerequisite for mitigation grant eligibility pursuant to the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288) as amended by 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 §201.6) and finalized on October 31, 2007, and FEMA’s Local Mitigation Planning Handbook, May 2023, FEMA’s Local Mitigation Plan Review Guide, October 1, 2011 and the Local Mitigation Planning Policy Guide April 19, 2023.

1.2 BACKGROUND AND SCOPE

This plan is a 5-year update of the plan that was approved in August 2020. The plan and update were prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to result in the eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

Following is a list of participants in both the previous plan as well as the current update: County of Clark, City of Kahoka, City of Wayland, City of Wyaconda, City of Alexandria, Village of Luray, City of Revere, and Clark County R-1 School District.

In addition to securing grant funding eligibility, the plan is useful for incorporating hazard mitigation planning and principals into other documents, such as zoning regulations and land use plans.

1.3 PLAN ORGANIZATION

There were no major format or outline changes from the previously approved plan.

Below is an outline of the plan:

- Chapter 1: Introduction and Planning Process
- Chapter 2: Planning Area Profile and Capabilities
- Chapter 3: Risk Assessment
- Chapter 4: Mitigation Strategy
- Chapter 5: Plan Implementation and Maintenance
- Appendices

Table 1.1 shows each chapter and summarizing the changes made in the update.

Table 1.1. Changes Made in Plan Update

Plan Section	Summary of Updates
Chapter 1 - Introduction and Planning Process	Updated members of the Mitigation Planning Committee (MPC) and participating jurisdictions formally adopted the MPC.
Chapter 2 - Planning Area Profile and Capabilities	All Census and economic demographic data updated.
Chapter 3 - Risk Assessment	All hazard event data was updated and new risk and vulnerability analysis were performed using new data. Combined extreme heat and extreme cold into one hazard: extreme temperatures.
Chapter 4 - Mitigation Strategy	The mitigation category of each action was added to the action worksheets.
Chapter 5 - Plan Implementation and Maintenance	Updated MPC meetings for evaluating and updating the plan to quarterly.

1.4 PLANNING PROCESS

44 CFR Requirement 201.6(c)(1): [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.

Clark County, Missouri contracted with the Northeast Missouri Regional Planning Commission to facilitate the update of the multi-jurisdictional, local hazard mitigation plan. In fulfillment of this role, the RPC:

- Assist in establishing a Mitigation Planning Committee (MPC) as defined by the Disaster Mitigation Act (DMA),
- Ensure the updated plan meets the DMA requirements as established by federal regulations and follows the most current planning guidance of the Federal Emergency Management Agency (FEMA),
- Facilitate the entire plan development process,
- Identify the data that MPC participants could provide and conduct the research and documentation necessary to augment that data,
- Assist in soliciting public input,
- Produce the draft and final plan update in a FEMA-approvable document and coordinate the Missouri State Emergency Management Agency (SEMA) and (FEMA) plan reviews.

Table 1.2. Jurisdictional Representatives of Clark County Mitigation Planning Committee

Name	Title	Department	Jurisdiction
Steven Krueger	Presiding Commissioner	Administration	County of Clerk
Tim Harper	Associate Commissioner	Administration	County of Clark
Joe Humes	Association Commissioner	Administration	County of Clark
Colten Protzman	Mayor	Administration	City of Alexandria
Anthony Anderson	Mayor	Administration	City of Kahoka
Sandy Hopp	City Clerk	Administration	City of Kahoka
Elizabeth Summers	City Clerk	Administration	Village of Luray
Josh Taylor	Mayor	Administration	City of Revere
Kathy Alvis	City Clerk	Administration	City of Wayland
Tracey	City Clerk	Administration	City of Wyaconda
Ritchie Kracht	Superintendent	Administration	Clark County R-1 Schools
Tanner Harrison	Emergency Management	Emergency	County of Clark/City of Kahoka

Based on the area of expertise of each jurisdictional representative participating on the MPC, **Table 1.3** demonstrates each member's expertise in the six mitigation categories (Preventive Measures, Property Protection, Natural Resource Protection, Emergency Services, Structural Flood Control Projects, and Public Information).

Table 1.3. MPC Capability with Six Mitigation Categories

Community Department/Office	Preventive Measures	Structure and Infrastructure Projects		Natural Resource Protection	Public Information	Emergency Services
		Property Protection	Structural Flood Control Projects			
County Commission	✓		✓	✓	✓	
County/City Clerk	✓				✓	
EMD	✓	✓	✓	✓	✓	✓
School Superintendent					✓	
Public Works	✓	✓	✓	✓	✓	✓

1.4.1 Multi-Jurisdictional Participation

44 CFR Requirement §201.6(a)(3): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.

Hazard mitigation is defined as “sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards” and its purpose is to lessen the negative impact of a disaster on community’s economic, social and environmental well-being.

Outreach programs that increase the public’s awareness of hazard risks, projects to protect critical facilities and the removal of structures from flood hazard areas are all examples of mitigation actions. Local mitigation actions and concepts can also be incorporated into land use plans and building codes.

Local governments have the responsibility to protect the health, safety and welfare of their citizens. Proactive mitigation policies and actions help reduce risk and create safer, more disaster-resilient communities. Mitigation is an investment in a community’s future safety and sustainability by facilitating:

- The protection of public safety and prevention of loss of life and injury
- The reduction of harm to existing and future development
- The prevention of damage to a community’s unique assets

The importance of active public participation in such an endeavor is obvious but can be difficult to obtain in reality. Nowhere is difficulty more apparent than in small rural communities like those in Northeast Missouri. The County of Clark participated in all elements of the planning process.

Local government jurisdictions and the school district were invited to participate in the planning process via email and in many cases follow up phone calls and personal visits. (Appendix B-public documentation). Committee members were placed on a contact list featuring email and contact information. They were also directed to the Regional Planning Commissions webpage.

Jurisdictions that were presented with a multi-jurisdictional plan are required to participate in the

planning process and formally adopt the plan. The County of Clark, City of Kahoka, City of Wayland, City of Alexandria, Clark County R-1 School District, City of Revere, Village of Luray and City of Wyaconda participated in the plan update by meeting minimal requirements as described in the next paragraph. Each participating jurisdiction has formally adopted the mitigation plan.

Minimum participation requirements included:

- Designation of a representative to serve on the MPC;
- Provision of sufficient information to support plan development by completion and return of Data Collection Questionnaires and validating/correcting critical facility inventories;
- When applicable provide progress reports on mitigation actions from the previously approved plan and identify additional mitigation actions for the plan;
- Eliminate from further consideration those actions from the previously approved plan that were not implemented because they were impractical, inappropriate, not cost effective, or were otherwise not feasible;
- Review and comment on plan drafts;
- Provide documentation to show time donated to the planning effort; and
- Formally adopt the mitigation plan prior to submittal to SEMA and FEMA for final approval.

The County of Clark, City of Kahoka, City of Wayland, City of Alexandria, City of Revere, City of Wyaconda, Village of Luray, and Clark County R-1 School District met the participation requirements.

Table 1.4 shows the representation of each participating jurisdiction at the planning meetings, the provision of responses to the Data Collection Questionnaire, the active critical facility validation, the update/development of mitigation actions, and the documentation of donated time, as applicable.

Table 1.4. Jurisdictional Participation in Planning Process

Jurisdiction	Planning Meeting #1	Informal Meetings	Planning Meeting #2	Data Collection Questionnaire Response	Update/Develop Mitigation Actions
County of Clark	Yes	Yes	Yes	Yes	Yes
City of Kahoka	No	Yes	No	Yes	Yes
City of Wayland	No	Yes	No	Yes	Yes
City of Wyaconda	No	Yes	No	Yes	Yes
City of Alexandria	No	Yes	No	Yes	Yes
Village of Luray	No	Yes	No	Yes	Yes
City of Revere	No	Yes	No	Yes	Yes
Clark County R-1 School Dist	No	Yes	No	Yes	Yes

1.4.2 The Planning Steps

- The plan was developed using information from FEMA’s *Local Mitigation Planning Policy Guide* (April 19, 2023), *Local Mitigation Plan Review Guide* (October 1, 2011), and *Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials* (March 1, 2013).

- The development of the plan followed the 10-step planning process adapted from FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. The 10-step process allows the plan to meet funding eligibility requirements of the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance Program as well as qualify for points under Activity 510 for Mitigation Plans, under the Community Rating System. The following table shows how the CRS process aligns with the Nine Task Process outlined in the 2023 *Local Mitigation Planning Handbook*.

Table 1.5. Clark County Mitigation Plan Update Process

Community Rating System (CRS) Planning Steps (Activity 510)	Local Mitigation Planning Handbook (2023) Tasks (44 CFR Part 201)
Step 1. Organize	Task 1: Determine the Planning Area and Resources
	Task 2: Build the Planning Team 44 CFR 201.6(c)(1)
Step 2. Involve the public	Task 3: Create an Outreach Strategy 44 CFR 201.6(b)(1)
Step 3. Coordinate	Task 5: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Step 4. Assess the hazard	Task 4: Conduct a Risk Assessment 44 CFR 201.6(c)(2)(i) 44 CFR 201.6(c)(2)(ii) & (iii)
Step 5. Assess the problem	
Step 6. Set goals	Task 6: Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i); 44 CFR 201.6(c)(3)(ii); and 44 CFR 201.6(c)(3)(iii)
Step 7. Review possible activities	
Step 8. Draft an action plan	
Step 9. Adopt the plan	Task 8: Review and Adopt the Plan
Step 10. Implement, evaluate, revise	Task 7: Keep the Plan Current
	Task 9: Create a Safe and Resilient Community 44 CFR 201.6(c)(4)

Step 1: Organize the Planning Team
(Handbook Tasks 1, 2, and 5)

In June 2023 RPC staff met with the Clark County Commissioners to begin the planning process. On September 10, 2024 a Planning Meeting was held for the Clark County Plan Update. Local jurisdictions and stakeholders were notified by email and letter of the Planning Meeting and personal phone calls were made to promote attendance at the Planning Meeting. The Agenda for the Planning Meeting is included in Appendix B as well as the minutes for the Planning Meeting. After the Kickoff meeting jurisdictions unable to attend the meeting were contacted and asked to attend the next meeting. Finally, the decision was made to move forward interacting with the jurisdiction individually due to the inability to get the entire MPC to meet as a group.

Table 1.6. Schedule of MPC Meetings

Meeting	Topic	Date
Informational Meeting	Met directly with local jurisdictions and follow up phone calls to discuss the planning process and the importance of participation.	6/14/23-12/31/23
Planning Meeting	Purpose, process, planning area, building the team, participation, requirements, public outreach, data collection questionnaires, discussion of hazards, risk.	9/10/24
Informal Meetings	Purpose, discussion of hazards, risk assessment, determine/update	10/29/24-1/31/25
Planning Meeting #2	Review of the draft plan, discussion of plan update process, plan maintenance, discussion of adoption resolutions, submission to SEMA/FEMA	2/25/25

Step 2: Plan for Public Involvement
(Handbook Task 3)

44 CFR Requirement 201.6(b): 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.

The Kickoff Meeting’s agenda is included in Appendix B which includes discussion, minutes, signature sheet, and copies of the handouts. A survey was created in SurveyMonkey to solicit public input, and local government representatives also chose to solicit public involvement at the local level as they would be the key contacts for obtaining public comment. Public notice was posted on the NEMO RPC website, and a notice was posted in all of the City Hall’s in the participating jurisdictions.

No public comments were received which is characteristic for the area. The public in Clark County typically does not become active in planning activities such as plan development or updates.

Step 3: Coordinate with Other Departments and Agencies and Incorporate Existing Information
(Handbook Task 2)

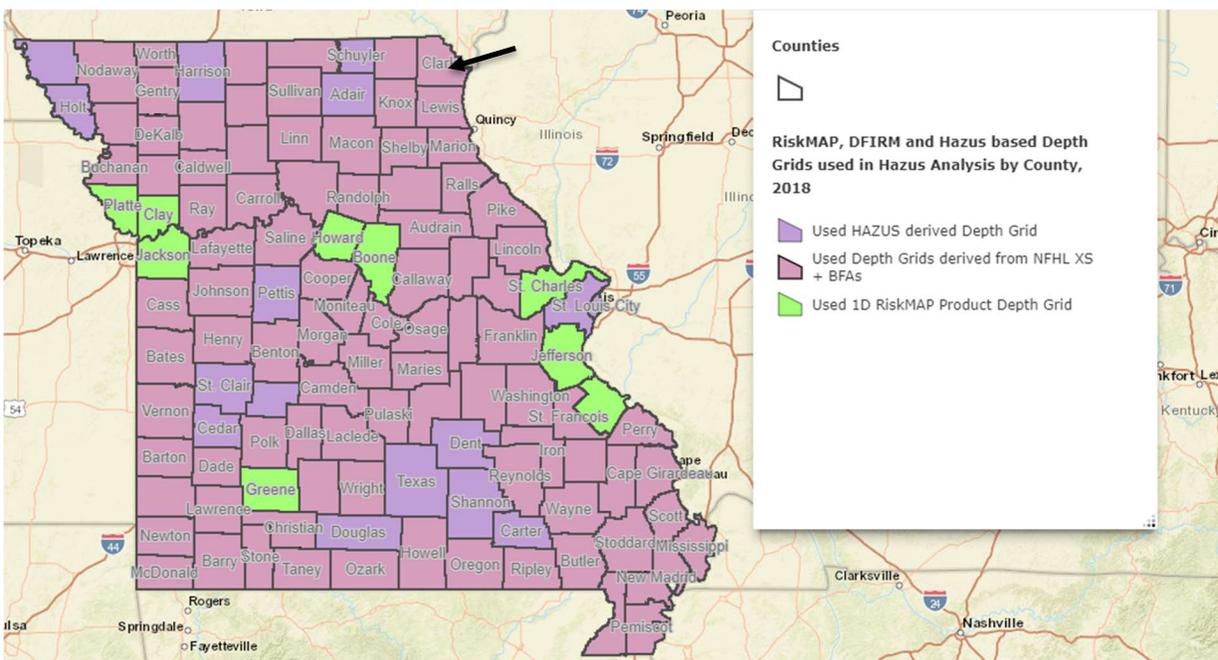
44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (2) An opportunity for neighboring communities, local 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 Clark County stakeholders were engaged through communication with jurisdictional representatives, who were asked to share an invitation to attend the Planning Meeting and seek their input. Stakeholders invited to participate include, police departments, fire departments, nursing homes, economic developers, Missouri Department of Natural Resources, Missouri Department of Transportation, water districts, and ambulance districts. Neighboring communities were informed of the Clark County plan update and were invited to attend or offer input to the plan as they saw fit. No comments were received directly from the stakeholders during the planning process as jurisdictional representatives

Coordination with FEMA Risk MAP Project

Figure 1.1 illustrates the current status of Missouri Counties in regards to RiskMap projects.

Figure 1.1. RiskMAP Study Status Map



Integration of Other Data, Reports, Studies, and Plans

Other documents critical to the formation to the plan included the Flood Insurance Studies (FIS), Flood Insurance Rate Maps (FIRMs), State Department of Natural Resources (DNR) dam information, the National Inventory of Dams (NID), dam inspection reports, state fire reports, Wildland/Urban Interface and Intermix areas from the SILVIS Lab - Department of Forest Ecology and Management - University of Wisconsin, local comprehensive plans, economic development plans, US Department of Agriculture's (USDA) Risk Management Agency Crop Insurance Statistics, and local budgets.

Examples of information that was incorporated into the plan include:

- FEMA FIRM maps
- DNR dam inspection reports
- SEMA's ArcGIS helped with mapping for hazards
- 2023 State Hazard Mitigation Plan-building counts and content exposure
- American Factfinder and U.S. Census Bureau, demography

Step 4: Assess the Hazard: Identify and Profile Hazards (Handbook Task 4)

At the September 10, 2024 meeting MPC profiled their hazards which was accomplished by reviewing:

- previous disaster declarations in the county
- hazards in the most recent State Hazard Mitigation Plan
- hazards identified in the previously approved hazard mitigation plan.

The results of this process can be reviewed in Section 3 of this document. Data Collection Questionnaires from the previous plan update were disseminated to jurisdictions in attendance. Participants were requested to review and update the Questionnaires and submit to the RPC no later than October 8, 2024. An email and face to face meeting with those not in attendance but considered potential planning team members were sent requesting completion of the Data Collection Questionnaire. Data Collection Questionnaires can be found in Appendix B.

Step 5: Assess the Problem: Identify Assets and Estimate Losses (Handbook Task 4)

Assets were identified with demographic data from the US Census, Census of Agriculture, GIS Structure data, Data Collection Questionnaires and information from the RPC. The vulnerability and loss estimates were either taken from the 2023 Missouri State Hazard Mitigation Plan or other best available data, as appropriate. The values of buildings in the community were obtained and are provided in the plan.

Step 6: Set Goals (Handbook Task 6)

The MPC reviewed the goals from the previously approved plan at the September 10, 2024 meeting and amended and consolidated the previous goals.

1. Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they

may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.

2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

Step 7: Review Possible Mitigation Actions and Activities ***(Handbook Task 6)***

As part of the in person and phone meetings, members were asked to review the mitigation strategy from the previously approved plan and note changes and update as it pertains to their individual jurisdictions. Committee members were requested to address progress (or lack thereof) on previously identified actions in the previously approved plan. MPC members were encouraged to continue forward only those actions that substantively address long-term mitigation solutions to the risks identified in the risk assessment.

There were virtually no changes to any of the risk's assessment in the plan. The MPC used the STAPLEE method to analyze and prioritize proposed actions.

Step 8: Draft an Action Plan ***(Handbook Task 6)***

Proposed actions were provided by MPC members and rated using the STAPLEE methodology. These actions were reviewed for concurrence by the MPC during the final review of the draft plan and the updated Mitigation Strategy is included in Chapter 4. Draft copies were available to the public for review at participating jurisdictions. The STAPLEE worksheets can be found in Appendix B.

Step 9: Adopt the Plan ***(Handbook Task 8)***

After the majority of the draft plan was composed, adoption resolution examples were given to the jurisdictional representatives and requested for adoption by whatever means their jurisdictions utilize for such activities. Adoption resolutions can be found in Appendix A.

Step 10: Implement, Evaluate, and Revise the Plan ***(Handbook Tasks 7 & 9)***

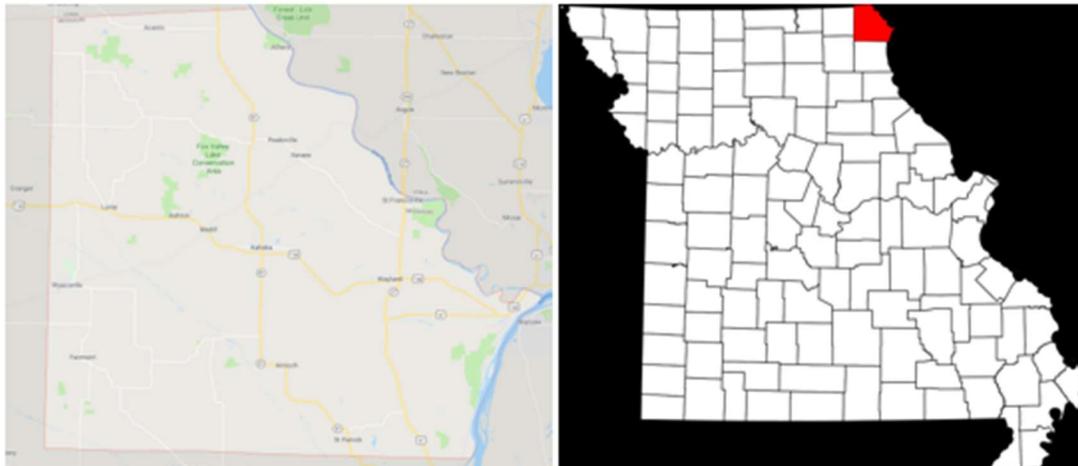
Part of the plan draft development included an outline of plan maintenance (Chapter 5) and was discussed and accepted by the MPC members in face to face and phone meetings. This process includes reviews annually and in the wake of any significant hazard event, as well as provisions for the five-year update process.

2 PLANNING AREA PROFILE AND CAPABILITIES

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2.1 CLARK COUNTY PLANNING AREA PROFILE

Figure 2.1. Maps of Clark County



According to the 2020 US Census, the population estimate for Clark County is 6,634 persons compared to the 2010 Census population of 7,139; a decrease of 7.61% in the ten-year period. This decrease in population falls far behind the growth estimate for the State of Missouri for the same time period (2.8%) and of the Nation at 7.4%. According to the 2023 American Community Survey Estimates, Clark County has experienced 11.02% decrease in population since the 2000 Census.

The Clark County median household income from the 2020 US Census is \$38,133. As of the 2023

American Community Survey, the median household income is \$51,458. This is an approximate 34.94% increase. This percent of growth falls significantly less than the growth estimate for the Nation for the same time period (63%) and higher than the State of Missouri at 69%.

2.1.1 Geography, Geology and Topography

Clark County has a total of 511.9 square miles of land and approximately 4.59 square miles is water.

The County is a mix of residents living in unincorporated and incorporated areas. Kahoka is the largest community with a population of 1,961, Wayland has 408 residents, Wyaconda is home to 214 residents, Alexandria has 105 residents, Luray has 73 residents, while Revere has 76 residents according to the 2020 US Census. The remaining population of 3,797 resides in unincorporated areas of the County. The county has maintained its population with only a slight decrease in population.

Clark County, Missouri, is located in the northeastern part of the state and features a landscape characterized by rolling hills, river valleys, and fertile plains. The county is part of the Dissected Till Plains, a region shaped by glacial activity during the Pleistocene Epoch. This glaciation left behind a thick layer of loess (windblown silt) and till, contributing to the area's rich, well-drained soils that support agriculture. The Mississippi River forms the county's eastern boundary, creating steep bluffs and floodplains, while smaller rivers and creeks, such as the Wyaconda River, have carved valleys through the region. The underlying bedrock primarily consists of Mississippian and Pennsylvanian-age limestones and shales, with some sandstone formations present. Overall, Clark County's geology and topography support both agricultural productivity and natural scenic beauty, with a mix of flat croplands and gently undulating hills.

2.1.2 Climate

Clark County has an annual average of 39 inches of rainfall and 20 inches of snow per year. Clark County averages 199 sunny days per year with the national average being 205 days. Annual average high in July is 87 degrees and the average annual low in January is 15 degrees.

2.1.3 Population/Demographics

Table 2.1 provides the populations for each city, village, and the unincorporated county for 2010, 2020, and the latest population estimates or American Community Survey with the number and percentage change.

Table 2.1. Clark County Population 2010-2020 by Jurisdiction

Jurisdiction	2010 Population	2020 Population	2023 Annual Population Estimate or ACS Population	# Change (2010-2020)	% Change (2010-2020)
Clark County	7,139	6,634	6,680	-505	-7.61%
Kahoka	2,078	1,961	2,083	-117	-5.97%
Wayland	533	408	489	-125	-30.64%
Wyaconda	227	214	193	-13	-6.07%
Alexandria	159	105	50	-54	-51.43%
Luray	99	73	109	-26	-35.62%
Revere	79	76	49	-3	-3.95%

According to the American Community Survey estimates for 2023, 5.97% of the County's population was under the age of 5 (399). This percentage aligns closely with the nation at 5.47% and the State at 5.62%. Clark County has a population of 1,401 (20.97%) residents who are over the age of 65. At the National level 17.71% of residents are 65 and over; while 18.37% of Missourians are over the age of 65. The median age of residents in the County is 43.5 with the highest percentage of residents falling between the ages of 55-59. The median age of residents of the US is 39.2 with 39.3 being the median age of residents of Missouri.

There are 2,265 total occupied households in the County. The average household size is 2.90 compared to that of the Nation at 2.49 and the State at 2.36. Of the County's occupied households, 530 had children under the age of 18 (23.39%) and 40.79% occupied with individuals 65 and over. Racial makeup of the County is predominately white (95.7%) with (0.9%) being of Hispanic descent.

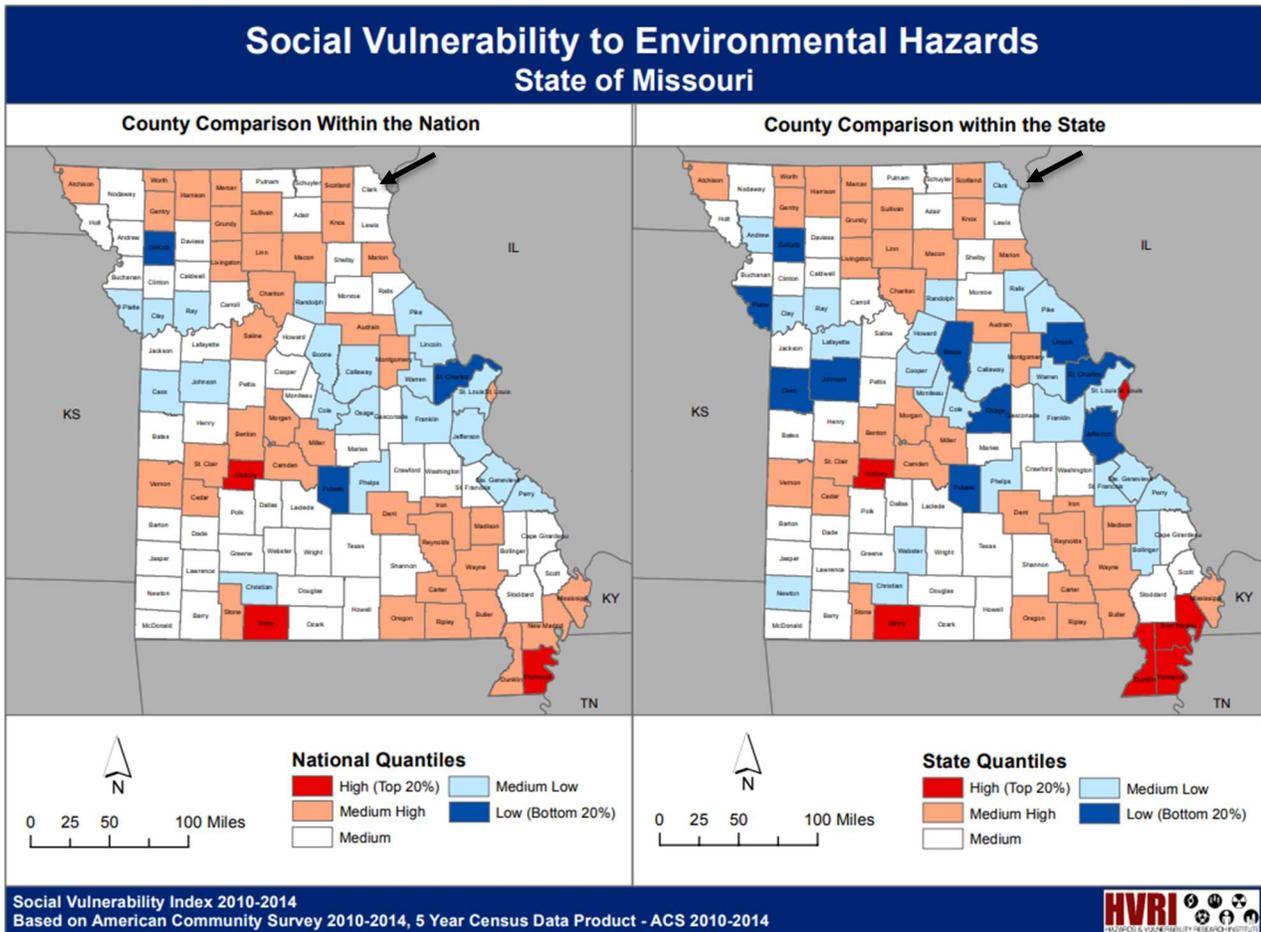
The University of South Carolina developed an index to evaluate and rank the ability to respond to, cope with, recover from, and adapt to disasters. The index synthesizes 29 socioeconomic variables which research literature suggests contribute to reduction in a community's ability to prepare for, respond to, and recover from hazards. SoVI ® data sources include primarily those from the United States Census Bureau.

According to the SoVI Score for Clark County, they have a medium social vulnerability to environmental hazards compared to the nation, and a medium-low social vulnerability when compared to the state of Missouri. A low number means the county is more resilient to hazard events, and a high number means the county is less resilient.

Medium social vulnerability means that Clark County has a moderate level of risk and challenges in coping with environmental hazards compared to the nation. This suggests that while the community has some resilience, there are still social or economic factors—such as income levels, access to resources, or population demographics—that may make it more susceptible to the impacts of disasters.

Medium-low social vulnerability indicates that, when compared to the state of Missouri, Clark County has a slightly lower level of risk and a somewhat greater ability to withstand and recover from environmental hazards. This suggests that while there are still some vulnerabilities, they are less pronounced relative to other counties in Missouri.

Figure 2.2. SoVI for Clark County



Source: [SoVI@- College of Arts and Sciences | University of South Carolina](http://SoVI@-CollegeofArtsandSciences|UniversityofSouthCarolina)

Table 2.2. Unemployment, Poverty, Education, and Language Percentage Demographics, Clark County, Missouri

Jurisdiction	Total in Labor Force	Percent of Population Unemployed	Percent of Families Below the Poverty Level	Percentage of Population (High School graduate)	Percentage of Population (Bachelor's degree or higher)	Percentage of population with spoken language other than English
Clark County	5,271	5.8	4.4	77.3	89.4	2.1
Kahoka	1,511	8.9	5.14	59.7	94.3	0.7
Wayland	476	0	7.36	72.8	100	0
Wyaconda	147	5.6	13.47	84.2	100	0
Luray	51	0	1.83	80	100	0
Alexandria	48	0	40	0	-	0
Revere	49	0	0	84.6	-	0
Missouri	4,997,010	3.4	48.1	73.6	89	7
United States	271,122,729	4.3	47.8	73.2	88.1	22.5

Source: U.S. Census, 2023 American Community Survey, 5-year Estimates.

2.1.4 History

Clark County is located in the very northeast corner of the State of Missouri in the United States of America. The county seat is the City of Kahoka. The county was organized on December 16, 1836 and named for William Clark, leader of the Lewis and Clark expedition and later Governor of Missouri Territory. Missouri folklorist Margot Ford McMillen wrote that early settlers were attracted to Clark County’s good and inexpensive agricultural land. One section was called “Bit Nation” because land was sold there for just twelve and one-half cents (“one bit” of a Spanish dollar) an acre. Today the incorporated cities of Kahoka, Wayland, Wyaconda, Luray, Alexandria, and Revere lie within the boundaries of Clark County. There are in addition several unincorporated small villages within the county.

Schools of Clark County

Clark County R-1 School District: The Clark County R-1 School District, located in Clark County, Missouri, serves students from Kahoka and surrounding communities. The district was formed through the consolidation of smaller rural schools, a common trend in Missouri during the mid-20th century as communities sought to improve educational opportunities by pooling resources. Over the years, Clark County R-1 has expanded its facilities and academic programs to meet the needs of a growing student population. The district includes Clark County High School, Black Hawk Elementary, Running Fox Elementary, and Clark County Middle School, providing education from pre-kindergarten through 12th grade.

2.1.5 Occupations

Table 2.3 provides occupation statistics for the incorporated cities and the county, as a whole.

Table 2.3. Occupation Statistics, Clark County, Missouri

Place	Management, Business, Science, and Arts Occupations		Service Occupations		Sales and Office Occupations		Natural Resources, Construction, and Maintenance Occupations		Production, Transportation, and Material Moving Occupations	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Clark County	763	28%	371	13.7%	448	16.5%	332	12.2%	800	29.4%
City of Kahoka	205	7.5%	142	5.2%	160	5.9%	24	0.8%	192	7.0%
City of Wayland	6	0.2%	21	0.7%	29	1.0%	41	1.5%	74	2.7%
City of Wyaconda	15	0.5%	6	0.2%	15	0.5%	28	1.0%	21	0.7%
City of Alexandria	2	0.07%	0	0%	9	0.3%	0	0%	8	0.3%
Village of Luray	3	0.1%	3	0.1%	12	0.4%	2	0.07%	7	0.2%
City of Revere	0	0%	4	0.1%	0	0%	26	0.9%	7	0.2%

2.1.6 Agriculture

Clark County has a total of 574 farms with the total acreage of 215,798 acres. The average farm size is 376 acres which is higher than the state average of 308 acres. The top crops for Clark County are Soybeans with 54,517 acres and Corn with 48,349 acres. The average value of product sold per farm was \$107,064.

2.1.7 FEMA Hazard Mitigation Assistance (HMA) Grants in Planning Area

Table 2.4 outlines FEMA HMA Grants in Clark County from 1993-2024.

Table 2.4. FEMA HMA Grants in Clark County from 1993-2024

Disaster Declaration	Project Type	Sub-Grantee	Date Approved	Project Total
995	Acquisition of Private Real Property	Clark County	5/6/1994	\$205,520.00
995	Acquisition of Private Real Property	City of Alexandria	3/31/1994	\$931,412.00
Total				\$1,136,932.00

Source: Federal Emergency Management Agency, February 14, 2025

2.1.8 FEMA Public Assistance (PA) Grants in Planning Area

Between 1993-2024 Clark County received a total of 99 public assistance grants totaling \$2,872,507.22. Grants details are shown below in Table 2.5.

Table 2.5. FEMA PA Grants in Clark County from 1993-2024

Source: Federal Emergency Management Agency, February 14, 2025

Disaster #	Application Title	Applicant ID	Damage Category	Project Size	Project Amount
4238	MMS113C - Roads	045-99045-00	C - Roads and Bridges	Small	\$12,775.94
4238	MMS106C - Roads	045-99045-00	C - Roads and Bridges	Small	\$10,410.19
4238	MMS115C - Roads	045-99045-00	C - Roads and Bridges	Small	\$13,049.05
4238	MMS114C - Roads	045-99045-00	C - Roads and Bridges	Small	\$12,842.67
4238	MMS128C - Roads	045-99045-00	C - Roads and Bridges	Small	\$10,732.32
4238	RLY001A - Debris Removal	045-99045-00	A - Debris Removal	Small	\$11,971.30
4238	MMS037C - Roads	045-99045-00	C - Roads and Bridges	Small	\$29,045.49
4238	MMS126C - Roads	045-99045-00	C - Roads and Bridges	Small	\$14,097.38
4741	Debris Removal Under Bridges	045-99045-00	A - Debris Removal	Small	\$4,665.56
4741	4741DR-MO Clark County Roads & Culverts	045-99045-00	C - Roads and Bridges	Small	\$27,000.00

4451	Clark County Culvert Restoration	045-99045-00	C - Roads and Bridges	Small	\$29,300.40
4451	Levee Debris Removal	045-UDLHM-00	A - Debris Removal	Small	\$6,960.00
4451	Completed Emergency Work (PW# 657) EMERGENCY	045-UDLHM-00	B - Emergency Protective Measures	Large	\$323,736.03
1412	PROTECTIVE MEASURES	045-UCHJY-00	B - Emergency Protective Measures	Small	\$4,393.03
1809	(PW# 42) Clark County - DM005	045-99045-00	A - Debris Removal	Small	\$9,004.31
1809	(PW# 158) Roads-DM002	045-99045-00	C - Roads and Bridges	Small	\$6,005.29
1773	(PW# 584) EMERGENCY PROTECTIVE MEASURES	045-99045-00	B - Emergency Protective Measures	Small	\$2,071.83
1773	(PW# 809) DEBRIS FROM A USACE LEVEE	045-UCHJY-00	A - Debris Removal	Small	\$44,975.00
1773	(PW# 25) EMERGENCY PROTECTIVE MEASURES ON USACE LEVEE	045-UVDF7-00	B - Emergency Protective Measures	Small	\$3,975.00
1934	(PW# 385) CLTS05- Clark County Road CR 173	045-99045-00	C - Roads and Bridges	Small	\$11,122.89
4451	Emergency Protective Measures (PW# 1065) ROAD/CULVERT	045-U5PNB-00	B - Emergency Protective Measures	Small	\$17,891.86
1412	WASHOUTS	045-99045-00	C - Roads and Bridges	Large	\$88,186.14
1773	(PW# 2) EMERGENCY PUMPING ON A USACE LEVEE	045-00604-00	B - Emergency Protective Measures	Small	\$10,212.00
1773	(PW# 3) PA PILOT - DEBRIS REMOVAL - REVISED 9/16/08	045-00604-00	A - Debris Removal	Small	\$1,841.00
1773	(PW# 5) BOAT LAUNCH / ROAD WASHOUT - REVISED 08/04/08	045-00604-00	G - Parks, Recreational Facilities, and Other Items	Small	\$7,563.54
1773	(PW# 313) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$11,096.65
1773	(PW# 588) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$17,754.19
1773	(PW# 221) EMERGENCY PROTECTIVE MEASURES	045-UCHJY-00	B - Emergency Protective Measures	Large	\$137,682.50
1961	(PW# 46) CCSDB01-Snow Removal	045-00F0E-00	B - Emergency Protective Measures	Small	\$1,457.50
1934	(PW# 131) ALEX001-1934- Alexandria	045-00604-00	B - Emergency Protective Measures	Small	\$12,328.00
1961	(PW# 234) COKB01-Snow Removal	045-37790-00	B - Emergency Protective Measures	Small	\$7,294.41
1934	(PW# 142) CLJL03-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$3,616.99
1934	(PW# 148) CLMP004-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$13,383.36
1934	(PW# 157) CLJL06- Road Aggregate	045-99045-00	C - Roads and Bridges	Small	\$27,496.42
1934	(PW# 384) CLLW03- Road	045-99045-00	C - Roads and Bridges	Small	\$9,600.00
1934	(PW# 386) CLTS04- Roads, Ditches & Embankments	045-99045-00	C - Roads and Bridges	Small	\$18,414.23
1934	(PW# 388) CLLW01- Low Water Crossing	045-99045-00	C - Roads and Bridges	Small	\$18,000.00
4451	Kahoka Road Repairs and Culvert Replacement	045-37790-00	C - Roads and Bridges	Small	\$10,937.50
1773	(PW# 1502) DONATED RESOURCE - CORRECTION	045-00604-00	B - Emergency Protective Measures	Small	\$7,120.00
1773	(PW# 242) CULVERT DAMAGES	045-99045-00	C - Roads and Bridges	Small	\$21,257.46
1773	(PW# 360) ROAD / CULVERT WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$32,338.56
1773	(PW# 586) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$18,908.17
1773	(PW# 590) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$10,055.30
1934	(PW# 158) CLMP002-Graveled surface roadways	045-99045-00	C - Roads and Bridges	Small	\$8,181.34
4451	Clark County Northern Road Restoration	045-99045-00	C - Roads and Bridges	Large	\$162,408.32

1412	(PW# 556) EARTH DAM DAMAGES	045-UCHJY-00	D - Water Control Facilities	Small	\$28,750.00
1809	(PW# 150) Bridge Erosion-DM007	045-99045-00	C - Roads and Bridges	Small	\$1,177.09
1773	(PW# 751) EMERGENCY PROTECTIVE MEASURES	045-UCHJY-00	B - Emergency Protective Measures	Small	\$20,000.00
1773	(PW# 115) ROAD WASHOUT (REVISED 8-23-08)	045-UVDF7-00	C - Roads and Bridges	Small	\$7,832.14
1961	(PW# 227) CCSDDB02-Donated Resources Snow Removal	045-00F0E-00	B - Emergency Work Donated Resources	Small	\$1,447.12
1934	(PW# 145) CLJL04-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$10,067.37
1934	(PW# 146) CLRKET3-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$34,275.12
1934	(PW# 151) CLMP003-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$11,118.11
1934	(PW# 382) CLLW02- Low water Crossing	045-99045-00	C - Roads and Bridges	Small	\$23,500.00
4451	Emergency Protective Measures	045-UCHJY-00	B - Emergency Protective Measures	Large	\$302,483.27
4451	Debris Removal	045-UCHJY-00	A - Debris Removal	Small	\$19,989.86
4451	Uncompleted Levee Debris Removal	045-UDLHM-00	A - Debris Removal	Small	\$64,955.04
1773	(PW# 223) CULVERT DAMAGE	045-99045-00	C - Roads and Bridges	Small	\$23,755.20
1773	(PW# 312) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$26,376.31
1773	(PW# 358) ROAD / CULVERT WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$14,323.58
1773	(PW# 758) EMERGENCY PROTECTIVE MEASURES	045-UCHJY-00	B - Emergency Protective Measures	Large	\$115,882.17
1773	(PW# 112) ROAD WASHOUT	045-UVDF7-00	C - Roads and Bridges	Small	\$18,034.02
1773	(PW# 587) LEVEE ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$59,973.46
1961	(PW# 216) CC-B01 - Emergency Protective Measures - 48 Hour	045-99045-00	B - Emergency Protective Measures	Small	\$17,510.76
1934	(PW# 137) ALEX002-1934-Alexandria	045-00604-00	A - Debris Removal	Small	\$2,972.00
1934	(PW# 139) ALEX004-1934-Alexandria	045-00604-00	C - Roads and Bridges	Small	\$1,804.80
1934	(PW# 144) CLTS02-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$6,565.40
1934	(PW# 143) CLJL05-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$27,116.69
1934	(PW# 149) CLMP005-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$11,580.58
1934	(PW# 113) CLJL01-1934-Wayland Special Road District	045-UVDF7-00	C - Roads and Bridges	Small	\$2,532.42
1934	(PW# 1191) CL-MP1 - Bridge abutment wing slopes	045-99045-00	C - Roads and Bridges	Small	\$8,042.00
1412	(PW# 1693) HEAVY RAINS	045-99045-00	C - Roads and Bridges	Small	\$18,140.89
1809	(PW# 52) Clark County DM006	045-99045-00	C - Roads and Bridges	Small	\$3,871.17
1773	(PW# 9) EMERGENCY WORK ON A USACE LEVEE	045-00604-00	B - Emergency Protective Measures	Small	\$43,188.00
1773	(PW# 1503) DONATED RESOURCE - CORRECTION	045-99045-00	B - Emergency Protective Measures	Small	\$276.24
1773	(PW# 350) DEBRIS FROM A USACE LEVEE	045-U5PNB-00	A - Debris Removal	Small	\$28,300.00
1961	(PW# 316) CC-B02-Donated Resources Snow Removal	045-99045-00	B - Emergency Work Donated Resources	Small	\$1,605.84
1934	(PW# 141) CLTS03-1934-Clark County	045-99045-00	C - Roads and Bridges	Small	\$7,791.11

	(PW# 140) CLJL02 1934 Wayland				
1934	Special Road District	045-UVDF7-00	C - Roads and Bridges	Small	\$49,809.00
1412	(PW# 1687) BRIDGE DAMAGED	045-99045-00	C - Roads and Bridges	Small	\$16,803.15
	(PW# 442) DONATED		B - Emergency Protective		
1773	RESOURCES	045-UCHJY-00	Measures	Small	\$17,715.80
	(PW# 19) PA PILOT - DEBRIS				
1773	REMOVAL	045-UVDF7-00	A - Debris Removal	Small	\$13,768.28
	(PW# 282) DCS06-Emergency		B - Emergency Protective		
1934	Protective Measures	045-UCHJY-00	Measures	Large	\$178,465.53
	(PW# 281) DCS07-Debris				
1934	Removal	045-UCHJY-00	A - Debris Removal	Small	\$3,041.80
	(PW# 189) ALEX003-Donated		B - Emergency Work Donated		
1934	Resources	045-00604-00	Resources	Small	\$2,204.76
	(PW# 150) CLMP001-1934-Clark				
1934	County	045-99045-00	C - Roads and Bridges	Small	\$36,550.55
	(PW# 383) CLMP006- Gravel				
1934	surfaced roadways	045-99045-00	C - Roads and Bridges	Small	\$41,060.04
	Clark County Southern Roads				
4451	Restoration	045-99045-00	C - Roads and Bridges	Small	\$62,290.40
1809	(PW# 157) Gravel Roads DM003	045-99045-00	C - Roads and Bridges	Small	\$4,947.62
			B - Emergency Work Donated		
1773	(PW# 8) DONATED RESOURCES	045-00604-00	Resources	Small	\$613.67
1773	(PW# 459) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$16,595.72
1773	(PW# 593) ROAD WASHOUT	045-99045-00	C - Roads and Bridges	Small	\$17,287.20
			B - Emergency Work Donated		
1773	(PW# 36) DONATED RESOURCES	045-UVDF7-00	Resources	Small	\$749.95
	(PW# 261) CCCC01C - Road and				
4130	Culvert Repair	045-99045-00	C - Roads and Bridges	Small	\$43,619.63
	(PW# 162) CCCC02C - Clark				
4130	County Culvert	045-99045-00	C - Roads and Bridges	Small	\$36,552.53
1961	(PW# 221) CC-E02 - Graders	045-99045-00	E - Buildings and Equipment	Small	\$1,000.00
	(PW# 266) DCS14 - Emergency		B - Emergency Protective		
1934	Protective Measures	045-U5PNB-00	Measures	Large	\$91,404.00
	(PW# 468) DCS15 - Donated		B - Emergency Work Donated		
1934	Resources	045-U5PNB-00	Resources	Small	\$2,177.50
	(PW# 147) CLTS01-1934-Clark				
1934	County	045-99045-00	C - Roads and Bridges	Small	\$6,453.21
Total					\$2,871,507.22

Source: Federal Emergency Management Agency, February 14, 2025

2.2 JURISDICTIONAL PROFILES AND MITIGATION CAPABILITIES

This section will include individual profiles for each participating jurisdiction. It will also include a discussion of previous mitigation initiatives and ongoing mitigation capabilities in the planning area. There will be a summary table indicating specific capabilities of each jurisdiction that relate to their ability to implement mitigation opportunities. The unincorporated county is profiled first, followed by the incorporated communities, special districts, and school districts.

2.2.1 Unincorporated Clark County

By Missouri State Statute (Section 48.020.1) Clark County is defined as a 3rd Class County, meaning it's assessed valuation is less than six hundred million dollars. The County seat is located in Kahoka.

Clark county has six cities and villages (City of Kahoka, City of Wayland, City of Wyaconda, Village of Luray, City of Alexandria, and the Village of Revere). The county government provides services such as law enforcement, judicial services, land records, tax collection, property

assessment, administration of elections, construction and maintenance of roads and bridges.

The County is governed by an elected board of Commissioners composed of a Presiding Commissioner, Eastern District Commissioner, and Western District Commissioner. Other positions within Clark County include:

- County Assessor
- County Prosecuting Attorney
- County Public Administrator
- County Recorder
- County Sheriff
- County Collector of Revenue
- Emergency Management
- Circuit Clerk
- County Coroner
- County Treasurer
- County Road and Bridge Supervisor

Mitigation Initiatives/Capabilities

The County of Clark as well as the City of Kahoka have an Emergency Management Director (EMD). The EMD plans and directs disaster responses or crisis management activities, provides disaster preparedness training and prepares emergency plans and procedures for natural disasters.

The County of Clark has the ability to expand upon and enhance the capabilities described in this plan. Through ongoing investment in resources, strategic partnerships, staff development, and the adoption of new technologies or best practices, the county is committed to strengthening their mitigation efforts over time. As needs evolve and new opportunities arise, the county will continue to assess and improve its capacity to effectively reduce risk and enhance resilience in the community.

Table 2.6 displays information for the unincorporated county based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. Clark County does have the authority to expand on current capabilities.

Table 2.6. Unincorporated Clark County Mitigation Capabilities

Capabilities	Status, <i>Including Date of Document or Policy</i>
Planning Capabilities	
Comprehensive Plan	No
Builder’s Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2024
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	Yes-2024
Economic Development Plan	No

Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	Yes-2012
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	Varies by district
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A

Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	Yes
Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	N/A
Fees for water, sewer, gas, or electric services	N/A
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2024

2.2.2 City of Kahoka

The City of Kahoka was platted in 1858 and named for the Cahokia Tribe of the Iliniwek or Illinois Confederacy. Kahoka is located in the central part of Clark County and the city has a total area of 1.6 square miles.

As of the census of 2020, there were 1,961 people, 872 households, and 470 families living in the city. The population density was 1,226 inhabitants per square mile (473.0/km²). There were 1,001 housing units at an average density of 637.6 per square mile (246.2/km²). The racial makeup of the city was 96.1% white, 0.1% African American, 0.3% Native American, 0.1% Asian, 0.3% from other races, and 2.3% from two or more races Hispanic or Latino of any race were 1.2% of the population.

There were 872 households of which 30.2% had children under the age of 18 living with them, 43.0% were married couples living together, 10.5% had a female householder with no husband present, 5.4% had a male householder with no wife present, and 41.0% were non-families. 36.0% of all households were made up of individuals and 18.6% had someone living alone who was 65 years of age or older. The average household size was 2.25 and the average family size was 2.92.

The median age in the city was 31.6 years. 23.7% of residents were under the age of 18; 8.5% were between the ages of 18 and 24; 23.1% were from 25 to 44; 23.6% were from 45 to 64; and 21% were 65 years of age or older. The gender makeup of the city was 46.5% male and 53.5% female.

The City of Kahoka has the ability to expand and improve its mitigation capabilities by leveraging local resources, regional partnerships, and seeking support from the county and other external agencies. They are committed to enhancing their mitigation efforts through strategic community planning, collaboration, and access to countywide initiatives. As opportunities arise, the city will assess local resources and capacity and partner with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.7 displays information for the City of Kahoka based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Kahoka does have the authority to expand on current capabilities.

Table 2.7. City of Kahoka Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	Yes-2020
County Emergency Operations Plan	Yes-2019
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	Yes-2014
County Mitigation Plan	Yes-2014
Debris Management Plan	Yes-2019
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	Yes-2020
Policies/Ordinance	
Zoning Ordinance	No
Building Code	Yes
Floodplain Ordinance	Yes
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	Yes
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes

NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	Yes
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	Yes
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	Yes
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Apply for Community Development Block	Yes

Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.3 City of Wayland

Wayland was laid out in 1880. The city was named for Jerre Wayland, a pioneer settler. A post office called Wayland has been in operation since 1874.

Sickles Tavern was listed on the National Register of Historic Places in 1986.

According to the United States Census Bureau, the city has a total area of 0.67 square miles, all land.

As of the census^[2] of 2020, there were 408 people, 197 households, and 85 families living in the city. The population density was 795.5 inhabitants per square mile (307.1/km²). There were 249 housing units at an average density of 371.6 per square mile (143.5/km²). The racial makeup of the city was 98.5% White, 0.2% African American, 0.4% Asian, 0.2% from other races, and 0.8% from two or more races. Hispanic or Latino of any race were 0.6% of the population.

There were 197 households of which 29.2% had children under the age of 18 living with them, 43.3% were married couples living together, 7.7% had a female householder with no husband present, 8.2% had a male householder with no wife present, and 40.8% were non-families. 35.2% of all households were made up of individuals and 13.3% had someone living alone who was 65 years of age or older. The average household size was 2.29 and the average family size was 2.92.

The median age in the city was 38.9 years. 24.6% of residents were under the age of 18; 7.9% were between the ages of 18 and 24; 23.6% were from 25 to 44; 27.9% were from 45 to 64; and 15.9% were 65 years of age or older. The gender makeup of the city was 48.6% male and 51.4% female.

The City of Wayland is capable of expanding its mitigation capabilities by tapping into local resources, forging regional partnerships, and obtaining assistance from the county and other outside agencies. By focusing on proactive community planning, strengthening collaborative efforts, and engaging in countywide initiatives, the city remains dedicated to improving its mitigation strategies. When opportunities arise, the city will assess its current resources and, if necessary, partner with the county and neighboring jurisdictions to enhance resilience and effectively manage potential hazards.

Table 2.8 displays information for the City of Wayland based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Wayland does have the authority to expand on current capabilities.

Table 2.8 Wayland Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2019

Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	Yes-2019
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	Yes
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9x
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No

Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.4 City of Wyaconda

Wyaconda is a city in Clark County, Missouri, United States. The population was 214 at the 2020 census. The city was organized in 1888 and is named after a Siouan name for God or the Great Spirit. The first land purchased from the Santa Fe and Land Co. was in 1888.

According to the United States Census Bureau, the city has a total area of 0.64 square miles, all land.

At the 2020 census, there were 214 people, 98 households and 56 families in the city. The population density was 334.4 inhabitants per square mile (129.7/km²). There were 140 housing units at an average density of 218.8 per square mile (84.5/km²). The racial makeup of the city was 93.9% White, 1.9% from two or more races, and 0.5% Native American.

There were 98 households of which 26.5% had children under the age of 18 living with them, 49% were married couples living together, 5.1% had a female householder with no husband present, 5.1% had a male householder with no wife present, and 40.8% were non-families. 38.8% of all households were made up of individuals and 16.3% had someone living alone who was 65 years of age or older. The average household size was 2.18 and the average family size was 2.77.

The median age was 44.1 years. 22.4% of residents were under the age of 18; 5.6% were between the ages of 18 and 24; 21.0% were from 25 to 44; 31.2% were from 45 to 64; and 20.3% were 65 years of age or older. The population was 49.1% male and 50.9% female.

The City of Wyaconda is capable of expanding its mitigation capabilities by tapping into local resources, forging regional partnerships, and obtaining assistance from the county and other outside agencies. By focusing on proactive community planning, strengthening collaborative efforts, and engaging in countywide initiatives, the city remains dedicated to improving its mitigation strategies. When opportunities arise, the city will assess its current resources and, if necessary, partner with the county and neighboring jurisdictions to enhance resilience and effectively manage potential hazards.

Table 2.9 displays information for the City of Wyaconda based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Wyaconda does have the authority to expand on current capabilities.

Table 2.9 Wyaconda Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2019
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	Yes-2019
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	Yes
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No

Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9x
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No

Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.5 City of Alexandria

Alexandria was founded in the 1830s. The community was named after John Alexander, the proprietor of a nearby ferry. A post office called Alexandria has been in operation since 1840.

According to the United States Census Bureau, the city has a total area of 0.39 square miles (1.01 km²), of which 0.38 square miles (0.98 km²) is land and 0.01 square miles (0.03 km²) is water. Located along the Mississippi River, Alexandria is prone to flooding, with large swaths of the area submerged during the Great Flood of 1993.

As of the census of 2020, there were 139 people, 64 households, and 44 families living in the city. The population density was 356.4 inhabitants per square mile (137.7/km²). There were 79 housing units at an average density of 202.6 per square mile (78.2/km²). The racial makeup of the city was 96.4% White, 0.7% African American, and 2.9% from two or more races.

There were 64 households of which 28.1% had children under the age of 18 living with them, 48.4% were married couples living together, 14.1% had a female householder with no husband present, 1.6% had a male householder with no wife present, and 36.7% were non-families. 31.3% of all households were made up of individuals and 6.3% had someone living alone who was 65 years of age or older. The average household size was 2.17 and the average family size was 2.88.

The median age in the city was 45.5 years. 21.6% of residents were under the age of 18; 5.8% were between the ages of 18 and 24; 24.5% were from 25 to 44; 30.9% were from 45 to 64; and 17.2% were 65 years of age or older. The gender makeup of the city was 50.4% male and 49.6% female.

While local resources are limited, the City of Alexandria has the ability to expand and improve its mitigation capabilities by leveraging regional partnerships and seeking support from the county and other external agencies. The City of Alexandria is committed to enhancing their mitigation efforts through collaboration, shared services, and access to countywide initiatives. As opportunities arise, the city will assess local capacities and work with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.10 displays information for the City of Alexandria based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Alexandria does have the authority to expand on current capabilities.

Table 2.10 Alexandria Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2024
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	No
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	Yes
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9x
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No

Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	No
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	No
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	N/A
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.6 Village of Luray

Luray was platted in 1837. The source of the name Luray is obscure; according to the State Historical Society of Missouri, most likely it is Native American in origin. A post office called Luray has been in operation since 1841. After 170 years in operation, the Luray office closed on November 4, 2011.

According to the United States Census Bureau, the village has a total area of 0.20 square miles (0.52 km²), all land.

As of the census of 2020, there were 97 people, 41 households, and 26 families residing in the village. The population density was 485.0 inhabitants per square mile (187.7/km²). There were 41 housing units at an average density of 205.0 per square mile (79.2/km²). The racial makeup of the village was 97.9% White, 1.0% African American, and 1.0% from two or more races.

There were 41 households of which 34.1% had children under the age of 18 living with them, 51.2% were married couples living together, 7.3% had a male householder with no wife present, and 41.5% were non-families. 29.3% of all households were made up of individuals and 7.3% had someone living alone who was 65 years of age or older. The average household size was 2.37 and the average family size was 2.85.

The median age in the village was 43.5 years. 27.8% of residents were under the age of 18; 5.2% were between the ages of 18 and 24; 30.9% were from 25 to 44; 24.7% were from 45 to 64; and 11.3% were 65 years of age or older. The gender makeup of the village was 50.5% male and 49.5% female.

While local resources are limited, the Village of Luray has the ability to expand and improve its mitigation capabilities by leveraging regional partnerships and seeking support from the county and other external agencies. The Village of Luray is committed to enhancing their mitigation efforts through collaboration, shared services, and access to countywide initiatives. As opportunities arise, the city will assess local capacities and work with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.11 displays information for the Village of Luray based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The Village of Luray does have the authority to expand on current capabilities.

Table 2.11 Luray Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2019
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	Yes-2019
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No

Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9x
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes

Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.7 City of Revere

Revere is a village in Clark County, Missouri, United States. The population was 73 at the 2020 census, at which time it was a town and has a total area of .19 square miles, all land.

Founded on October 22, 1887 by the Santa Fe Railroad, Revere was "probably named in honor of Paul Revere." During the period prior to 1900, Revere flourished as an intermediate stop for the railroad.

In 1898, J.H. Talbott of Luray started the Revere Current, a weekly newspaper that consisted of five pages of world and local news including advertisements, train schedule and local markets. Circulation closed on July 18, 1901 when Talbott left for law school.

Located at the former site of the Revere Methodist Church, Ar-Del Park was dedicated on May 30, 1946 as a memorial to Revere natives John Arnold Wallace and Delmar Brown, who died serving their country during World War II. A large boulder with a plaque dedicated to all Clark County veterans is located in the park.

Revere was a town into the 2000s, but became a village after a change in state law: a 2009 law provided for the conversion of all towns with fewer than five hundred residents into villages. On July 26, 2011 the United States Postal Service announced plans to consider closing the Revere post office as part of a nationwide restructuring plan. On May 9, 2012 it was announced that a new strategy would preserve the nation's smallest post offices, reversing the earlier plan.

As of the 2020 census, there were 73 people, 36 households, and 20 families residing in the village. The population density was 384.2 inhabitants per square mile (148.8/km²). There were 38 housing units at an average density of 200.0 per square mile (77.2/km²). The racial makeup of the village was 97.3% White, 1.4% from two or more races, and 1.4% African American.

There were 36 households of which 22.2% had children under the age of 18 living with them, 50.0% were married couples living together, 8.3% had a female householder with no husband present, 41.7% were non-families. 30.6% of all households were made up of individuals and 13.9% had someone living alone who was 65 years of age or older. The average household size was 2.03 and the average family size was 2.65.

The median age in the village was 50.5 years. 17.8% of residents were under the age of 18; 4.1% were between the ages of 18 and 24; 24.7% were from 25 to 44; 29.4% were from 45 to 64; and 24.7% were 65 years of age or older. The gender makeup of the village was 52.1% male and 47.9% female.

While local resources are limited, the City of Revere has the ability to expand and improve its mitigation capabilities by leveraging regional partnerships and seeking support from the county and other external agencies. The City of Revere is committed to enhancing their mitigation efforts through collaboration, shared services, and access to countywide initiatives. As opportunities arise, the city will assess local capacities and work with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.12 displays information for the City of Revere based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Revere does have the authority to expand on current capabilities.

Table 2.12 Revere Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	No
County Emergency Operations Plan	Yes-2019
Local Recovery Plan	No
County Recovery Plan	No
City Mitigation Plan	No
County Mitigation Plan	No
Debris Management Plan	Yes-2019
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No

Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) program	No
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	6.9x
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	N/A
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	N/A
Building Inspector	N/A
Mapping Specialist (GIS)	N/A
Engineer	N/A
Development Planner	No
Public Works Official	N/A
Emergency Management Director	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No

Salvation Army	No
Veterans Groups	Yes
Local Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	Yes
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	N/A
Ability to incur debt through general obligation bonds	N/A
Ability to incur debt through special tax bonds	N/A
Ability to incur debt through private activities	N/A
Withhold spending in hazard prone areas	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.8 Summary of Jurisdictional Capabilities

Table 2.13 Mitigation Capabilities Summary Table

CAPABILITIES	Uninc. Clark County	City of Kahoka	City of Wayland	City of Wyaconda	City of Alexandria	Village of Luray	City of Revere
Planning Capabilities							
Comprehensive Plan	No	No	No	No	No	No	No
Builder's Plan	No	No	No	No	No	No	No
Capital Improvement Plan	No	No	No	No	No	No	No
Local Emergency Plan	No	Yes	No	No	No	No	No
County Emergency Plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Local Recovery Plan	No	No	No	No	No	No	No
County Recovery Plan	No	No	No	No	No	No	No
Local Mitigation Plan	No	Yes	No	No	No	No	No
County Mitigation Plan	No	Yes	No	No	No	No	No
Debris Management Plan	Yes	Yes	Yes	Yes	No	Yes	Yes
Economic Development Plan	No	No	No	No	No	No	No
Transportation Plan	No	No	No	No	No	No	No
Land-use Plan	No	No	No	No	No	No	No
Flood Mitigation Assistance (FMA) Plan	No	No	No	No	No	No	No
Watershed Plan	No	No	No	No	No	No	No
Firewise or other fire mitigation plan	No	No	No	No	No	No	No
School Mitigation Plan	No	No	No	No	No	No	No
Critical Facilities Plan (Mitigation/Response/Recovery)	No	Yes	No	No	No	No	No
Policies/Ordinance							
Zoning Ordinance	No	No	No	No	No	No	No
Building Code	No	Yes	No	No	No	No	No
Floodplain Ordinance	Yes	Yes	Yes	Yes	No	No	No
Subdivision Ordinance	No	No	No	No	No	No	No
Tree Trimming Ordinance	No	No	No	No	No	No	No
Nuisance Ordinance	No	Yes	No	No	Yes	No	No
Storm Water Ordinance	No	No	No	No	No	No	No
Drainage Ordinance	No	No	No	No	No	No	No
Site Plan Review Requirements	No	No	No	No	No	No	No
Historic Preservation Ordinance	No	No	No	No	No	No	No
Landscape Ordinance	No	No	No	No	No	No	No

CAPABILITIES	Uninc. Clark County	City of Kahoka	City of Wayland	City of Wyaconda	City of Alexandria	Village of Luray	City of Revere
Seismic Construction Ordinance	No	No	No	No	No	No	No
Program							
Zoning/Land Use Restrictions	No	No	No	No	No	No	No
Codes Building Site/Design	No	No	No	No	No	No	No
National Flood Insurance Program (NFIP) Participant	No	No	No	No	No	No	No
NFIP Community Rating System (CRS) Participating Community	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazard Awareness Program	No	No	No	No	No	No	No
National Weather Service (NWS) Storm Ready	No	Yes	No	No	No	No	No
Firewise or other fire mitigation plan	No	No	No	No	No	No	No
Building Code Effectiveness Grading (BCEGs)	No	No	No	No	No	No	No
ISO Fire Rating	Varies	6.9x	6.9x	6.9x	6.9x	6.9x	6.9x
Economic Development Program	No	No	No	No	No	No	No
Land Use Program	No	No	No	No	No	No	No
Public Education/Awareness	No	No	No	No	No	No	No
Property Acquisition	No	No	No	No	No	No	No
Planning/Zoning Boards	No	No	No	No	No	No	No
Stream Maintenance Program	No	No	No	No	No	No	No
Tree Trimming Program	No	No	No	No	No	No	No
Engineering Studies for Streams (Local/County/Regional)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mutual Aid Agreements	Yes	Yes	Yes	Yes	No	Yes	Yes
Studies/Reports/Maps							
Hazard Analysis/Risk Assessment (Local)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hazard Analysis/Risk Assessment (County)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flood Insurance Maps	Yes	Yes	Yes	Yes	No	Yes	Yes
FEMA Flood Insurance Study (Detailed)	No	No	No	No	No	No	No
Evacuation Route Map	No	No	No	No	No	No	No
Critical Facilities Inventory	No	No	No	No	No	No	No
Vulnerable Population Inventory	No	No	No	No	No	No	No
Land Use Map	No	No	No	No	No	No	No
Staff/Department							
Building Code Official	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CAPABILITIES	Uninc. Clark County	City of Kahoka	City of Wayland	City of Wyaconda	City of Alexandria	Village of Luray	City of Revere
Building Inspector	N/A	Yes	Yes	N/A	N/A	N/A	N/A
Mapping Specialist (GIS)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Engineer	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Development Planner	No	No	No	No	No	No	No
Public Works Official	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emergency Management Coordinator	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NFIP Floodplain Administrator	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emergency Response Team	No	No	No	No	No	No	No
Hazardous Materials Expert	No	No	No	No	No	No	No
Local Emergency Planning Committee	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Emergency Management Commission	No	Yes	Yes	No	No	No	No
Sanitation Department	No	No	No	No	No	No	No
Transportation Department	No	No	No	No	No	No	No
Economic Development Department	No	No	No	No	No	No	No
Housing Department	No	No	No	No	No	No	No
Historic Preservation	No	No	No	No	No	No	No
Non-Governmental Organizations (NGOs)							
American Red Cross	Yes	No	No	No	No	No	No
Salvation Army	No	No	No	No	No	No	No
Veterans Groups	Yes	No	No	Yes	Yes	Yes	Yes
Environmental Organization	No	No	No	No	No	No	No
Homeowner Associations	No	No	No	No	No	No	No
Neighborhood Associations	No	No	No	No	No	No	No
Chamber of Commerce	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Community Organizations (Lions, Kiwanis, etc.)	No	Yes	Yes	No	No	Yes	Yes
Financial Resources							
Apply for Community Development Block Grants	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fund projects through Capital Improvements funding	Yes	Yes	Yes	Yes	No	Yes	Yes
Authority to levy taxes for specific purposes	NA	Yes	Yes	Yes	Yes	Yes	Yes
Fees for water, sewer, gas, or electric services	NA	Yes	Yes	Yes	N/A	Yes	Yes
Impact fees for new development	NA	N/A	N/A	N/A	N/A	N/A	N/A

CAPABILITIES	Uninc. Clark County	City of Kahoka	City of Wayland	City of Wyaconda	City of Alexandria	Village of Luray	City of Revere
Incur debt through general obligation bonds	NA	N/A	N/A	N/A	N/A	N/A	N/A
Incur debt through special tax bonds	NA	N/A	N/A	N/A	N/A	N/A	N/A
Incur debt through private activities	NA	N/A	N/A	N/A	N/A	N/A	N/A
Withhold spending in hazard prone areas	NA	N/A	N/A	N/A	N/A	N/A	N/A

Source: Data Collection Questionnaire, February 14, 2025

2.2.9 Special District

No Special Districts participated in the plan update.

2.2.10 School District Profiles and Mitigation Capabilities

Clark County R-1 School District is the only school district in the planning area. Clark County R-1 School District has the ability to expand and improve mitigation capabilities by utilizing available local resources, forming partnerships with regional entities, and seeking support from the county and other external agencies. Through strategic planning, collaboration with local community organizations, and participation in countywide initiatives, the district is committed to enhancing its ability to mitigate hazards and protect students, staff, and facilities. As opportunities arise, the district will assess its resources and capacity and, when needed, work with the county and neighboring communities to strengthen its resilience and ensure a safe environment for education.

Missouri Department of Elementary and Secondary Education information for the Clark County R-1 School District is listed below:

Figure 2.3 Clark County R-1 School District DESE Information



Missouri School Directory

[Missouri School Directory \(map\)](#) (Maps are provided purely for reference, please contact county authorities to obtain official school district boundary information.)

Clark Co. R-1 (023-101)

Phone: 660-727-2377	427 W Chestnut
Fax: 660-727-2035	427 W. Chestnut
E-mail: rkracht@clarkcounty.k12.mo.us	Kahoka, MO 63445-1139
County-District Code: 023-101	Supervisory Area: I
County: Clark	MSIP: Accredited
Congressional District: 6	Assessed Valuation: \$116,646,590
House District: 4	Tax Levy: \$3.5000
Senate District: 18	

	Schools	Cert. Staff	Enrollment (Prior Year)		
			Residents	Non-Res.	Total
Elementary Schools	3	61	565	0	565
Middle Schools	1	24	228	0	228
Jr. High Schools	0	0	0	0	0
High Schools	1	35	310	0	310
Total	5	120	1,103	0	1,103

Name	Title	Yrs in District
Mr. Kevin Ross	Pres. of Bd.	
Mrs. Linzi Forquer	Secy. of Bd.	
Dr. Ritchie Kracht	Supt.	21
Mrs. Jennifer M Oaks	Secy. To Supt.	12
Mr. John R Weaver	Dir. Activities	30
Mrs. Linzi Forquer	Bkpr.	6
Mrs. Megan Wendling	Dir. Specl. Serv.	29
Mrs. Megan Wendling	Dir. Pat	29
Mrs. Lora Hauck	Dir. Food Serv.	9
Mrs. Erin Hopp	Coord. A+	14
Mrs. Megan Wendling	Prof. Dev. Chairperson	

Clark Co. High (1050)

680 E Main Kahoka, MO 63445-1747 **Grade Span:** 09-12
 Phone: 660-727-2205 Fax: 660-727-2245
Principal: Mr. Dennis Dent (15 years in district)
E-mail: DDENT@CLARKCOUNTY.K12.MO.US

Data as of: 1/27/2025 12:35:29 PM

Report as of: 1/27/2025

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Missouri School Directory

[Missouri School Directory \(map\)](#) (Maps are provided purely for reference, please contact county authorities to obtain official school district boundary information.)

Clark Co. Middle (3000)

384 N Jefferson Kahoka, MO 63445-1338
Phone: 660-727-3319 Fax:660-727-3363

Grade Span: 06-08

Principal: Mr. Lance Smith (30 years in district)
E-mail: LSMITH@CLARKCOUNTY.K12.MO.US

Black Hawk Elem. (4040)

751 W Chestnut Kahoka, MO 63445-1320
Phone: 660-727-3318 Fax:660-727-8017

Grade Span: K-05

Principal: Mrs. Betsy Parrish (6 years in district)
E-mail: bparrish@clarkcounty.k12.mo.us

Running Fox Elem. (4060)

27192 US Highway 61 Alexandria, MO 63430-9752
Phone: 660-754-6766 Fax:660-754-6725

Grade Span: K-05

Principal: Mrs. Olivia Nixon (3 years in district)
E-mail: onixon@clarkcounty.k12.mo.us

Early Childhood Center (7500)

566 E Commercial 566 E Commercial Kahoka, MO 63445-1400
Phone: 660-727-3327 Fax:660-727-2035

Grade Span: PK-PK

Principal: Mrs. Megan Wendling (29 years in district)
E-mail: mwendling@clarkcounty.k12.mo.us

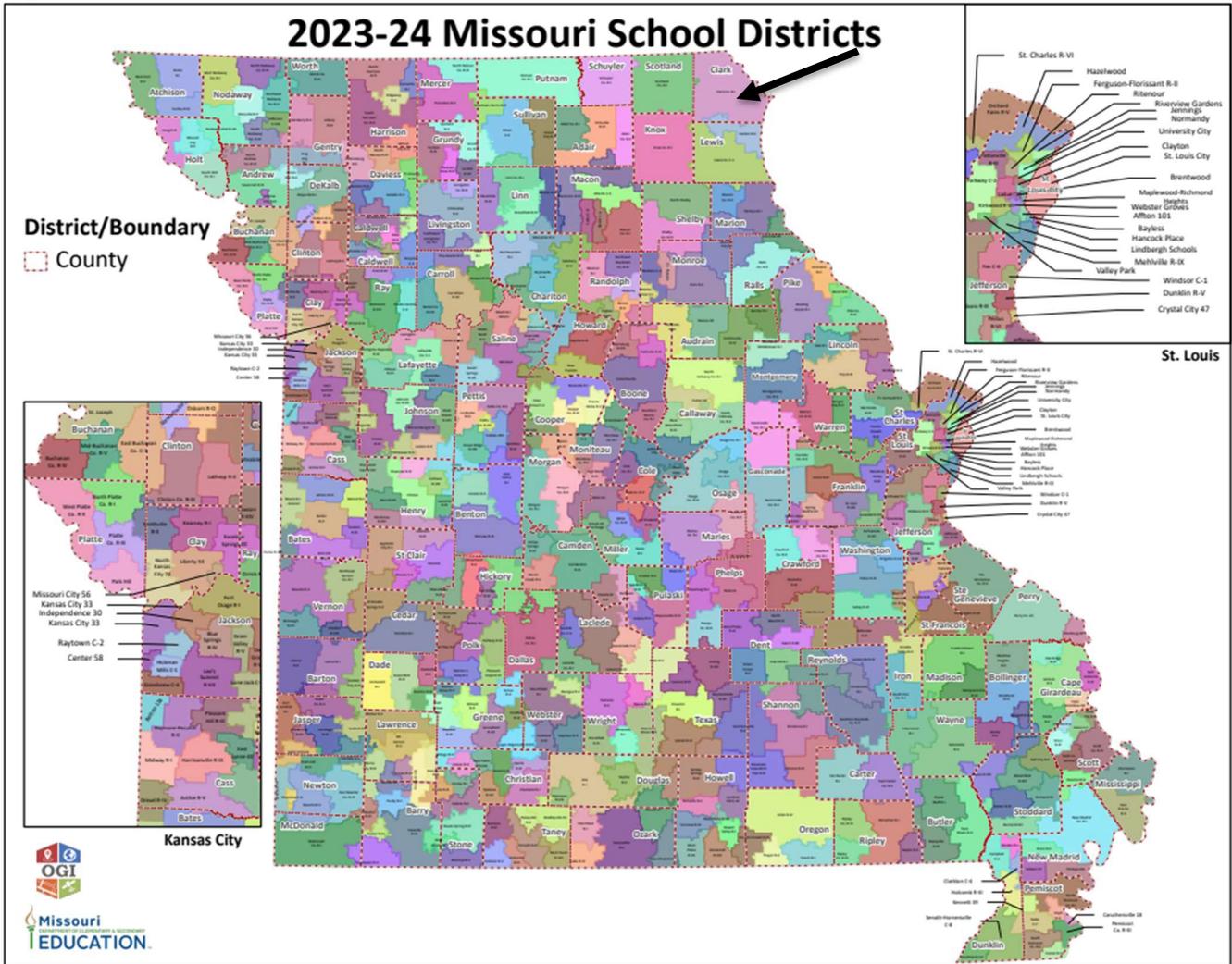
Data as of: 1/27/2025 12:35:29 PM

Report as of: 1/27/2025

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The boundaries of the Clark County R-1 School District encompass all of Clark County as shown in **Figure 2.4**.

Figure 2.4 2023-2024 Missouri School Districts



Source: <https://apps.dese.mo.gov>

2.2.11 School District Profiles and Mitigation Capabilities

Table 2.14 shows the buildings and building enrollment for each building within the Clark County R-1 School District.

Table 2.14. 2025 Clark County R-1 School District Buildings and Enrollment Data, February 14, 2025

District Name	Building Name	Building Enrolment
Clark County R-1	Black Hawk Elementary	369
Clark County R-1	Clark County High	310
Clark County R-1	Clark County Middle	228
Clark County R-1	Early Childhood Center	99
Clark County R-1	Running Fox Elementary	98

Source: <https://dese.mo.gov/school-data>, February 14, 2025

Table 2.15 displays information for the Clark County R-1 School District based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The Clark County R-1 School District does have the authority to expand on current capabilities.

Table 2.15 Summary of Mitigation Capabilities- Clark County School District

Capability	Clark County Schools
Planning Elements	
Master Plan/ Date	Yes - 2022
Capital Improvement Plan/Date	Yes - 2024
School Emergency Plan / Date	Yes – 2021
Weapons Policy/Date	Yes – 2024
Personnel Resources	
Full-Time Building Official (Principal)	Yes
Emergency Manager	Yes
Grant Writer	Yes
Public Information Officer	Yes
Financial Resources	
Capital Improvements Project Funding	Yes
Local Funds	Yes
General Obligation Bonds	Yes
Special Tax Bonds	No
Private Activities/Donations	Yes
State and Federal Funds/Grants	Yes
Other	
Public Education Programs	Yes
Privately or Self- Insured?	Private
Fire Evacuation Training	Yes
Tornado Sheltering Exercises	Yes
Public Address/Emergency Alert System	Yes
NOAA Weather Radios	Yes
Lock-Down Security Training	Yes
Mitigation Programs	Yes
Tornado Shelter/Saferoom	Yes
Campus Police	No

Source: Data Collection Questionnaire, February 14, 2025

3 RISK ASSESSMENT

3	RISK ASSESSMENT	3.1
3.1	<i>HAZARD IDENTIFICATION.....</i>	3.3
3.1.1	Review of Existing Mitigation Plans	3.3
3.1.2	Review Disaster Declaration History.....	3.4
3.1.3	Research Additional Sources	3.5
3.1.4	Hazards Identified	3.7
3.1.5	Multi-Jurisdictional Risk Assessment	3.8
3.2	<i>ASSETS AT RISK</i>	3.8
3.2.1	Total Exposure of Population and Structures	3.8
3.2.2	Critical and Essential Facilities and Infrastructure	3.10
3.2.3	Other Assets.....	3.13
3.3	<i>LAND USE AND DEVELOPMENT.....</i>	3.17
3.3.1	Development Since Previous Plan Update.....	3.17
3.3.2	Future Land Use and Development	3.18
3.4	<i>HAZARD PROFILES, VULNERABILITY, AND PROBLEM STATEMENTS.....</i>	3.21
3.4.1	Flooding (Riverine and Flash).....	3.21
3.4.2	Levee Failure	3.37
3.4.3	Dam Failure	3.48
3.4.4	Earthquakes	3.58
3.4.5	Land Subsidence/Sinkholes	3.68
3.4.6	Drought.....	3.74
3.4.7	Extreme Temperatures	3.82
3.4.8	Severe Thunderstorms Including High Winds, Hail, and Lightning	3.91
3.4.9	Severe Winter Weather	3.97
3.4.10	Tornado.....	3.106
3.4.11	Wildfire	3.115

44 CFR Requirement §201.6(c)(2): [The plan shall include] A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

The goal of the risk assessment is to estimate the potential loss in the planning area, including loss of life, personal injury, property damage, and economic loss, from a hazard event. The risk assessment process allows communities and school/special districts in the planning area to better understand their potential risk to the identified hazards. It will provide a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events.

This chapter is divided into four main parts:

- **Section 3.1 Hazard Identification** identifies the hazards that threaten the planning area and provides a factual basis for elimination of hazards from further consideration;
- **Section 3.2 Assets at Risk** provides the planning area's total exposure to natural hazards, considering critical facilities and other community assets at risk;
- **Section 3.3 Land Use and Development** discusses development that has occurred since the last plan update and any increased or decreased risk that resulted. This section also discusses areas of planned future development and any implications on risk/vulnerability;
- **Section 3.4 Hazard Profiles and Vulnerability Analysis** provides more detailed information about the hazards impacting the planning area. For each hazard, there are three sections: 1) Hazard Profile provides a general description and discusses the threat to the planning area, the geographic location at risk, potential Strength/Magnitude/Extent, previous occurrences of hazard events, probability of future occurrence, risk summary by jurisdiction, impact of future development on the risk; 2) Vulnerability Assessment further defines and quantifies populations, buildings, critical facilities, and other community/school or special district assets at risk to natural hazards; and 3) Problem Statement briefly summarizes the problem and develops possible solutions.

3.1 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 jurisdiction.

Natural hazards can be complex, occurring with a wide range of intensities. Some events are instantaneous and offer no window of warning, such as earthquakes. Some offer a short warning in which to alert the public to take actions, such as tornadoes or severe thunderstorms. Others occur less frequently and are typically more expensive, with some warning time to allow the public time to prepare, such as flooding.

Each year there are increases in human-caused incidents, which can be just as devastating as natural disasters. For the purpose of this plan “human-caused hazards” are technological hazards and terrorism. These are distinct from natural hazards primarily in that they originate from human activity. In contrast, while the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-induced. The term “technological hazards” refers to the origins of incidents that can arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials. For the sake of simplicity, this guide assumes that technological emergencies are accidental and that their consequences are unintended.

3.1.1 Review of Existing Mitigation Plans

The MPC previously developed a multi-jurisdictional Hazard Mitigation Plan dated August 2020 and Clark County, Kahoka, Wayland, Wyaconda, Alexandria, Luray, Revere, and Clark County R-1 School District participated in the multi-jurisdictional countywide plan. The 2020 Hazard Mitigation Plan was consulted in development of the risk assessment and information included and updated where appropriate.

The MPC decided to include only natural hazards, as only natural hazards are required by federal regulations to be included. The human-caused and technological hazards were eliminated from further analysis due to these hazards are not necessary for plans to meet the requirement of the Disaster Mitigation Act of 2000.

Pandemic was excluded from the mitigation planning process as biological hazards have unpredictable mutation rates, transmission patterns, and global spread, making them harder to address through traditional mitigation frameworks than natural disasters that have historical data and predictable patterns that allow for structural mitigation measures.

3.1.2 Review Disaster Declaration History

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. If the disaster is 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.

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 scale and type of damages and institutions or industrial sectors

affected.

Missouri State of Emergencies are Executive Orders (E.O.) signed by the Governor. For disasters, a State of Emergency could lead to a Federal Disaster Declaration. Since the last plan update, no non-federally declared events resulted in a significant event impacting the planning area.

Since the last plan update, the following Disaster Declarations have been issued for Clark County: 3482 and 4490 both for biological hazards, and 4741 due to severe storms.

Table 3.1 lists the federal FEMA disaster declarations that included the planning area from 1965 to present.

Table 3.1. FEMA Disaster Declarations that included Clark County, Missouri, 1965-Present

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
198	Flooding	6/14/1965 6/14/1965	IA, PA
372	Heavy Rains, Tornadoes, Flooding	4/19/1973 4/19/1973	IA, PA
439	Severe Storms, Flooding	6/10/1974 6/10/1974	IA, PA
3017	Drought	9/24/1976 9/24/1976	PA
3071	Ice Jam and Flooding	3/12/1979 3/12/1979	PA
779	Severe Storms, Flooding	10/14/1986 9/18/1986-10/15/1986	PA
995	Flooding, Severe Storms	7/9/1993 6/10/1993-10/25/1993	IA, PA
1054	Severe Storms, Tornadoes, Hail, Flooding	6/2/1995 5/13/1995-6/23/1995	IA, PA
1412	Severe Storms, Tornadoes, and Flooding	5/6/2002 4/24/2002-6/10/2002	PA
1403	Ice Storm	2/6/2002 1/29/2002-2/13/2002	PA
1463	Severe Storms, Tornadoes, Flooding	5/6/2003 5/4/2003-5/30/2003	IA, PA
3232	Hurricane	9/10/2005 8/29/2005-10/1/2005	PA
3281	Severe Winter Storms	12/12/2007 12/8/2007-12/15/2007	PA
1809	Severe Storms, Flooding, Tornado	11/13/2008 9/11/2008-9/24/2008	IA, PA
1773	Severe Storms and Flooding	6/25/2008 6/1/2008-8/13/2008	IA, PA
3303	Severe Winter Storm	1/30/2009 1/26/2009-1/28/2009	PA
1934	Severe Storms, Flooding, and Tornadoes	8/17/2010 6/12/2010-7/31/2010	PA
3325	Flooding	6/30/2011	PA
3317	Severe Winter Storm	2/03/2011 1/31/2011-2/5/2011	PA
1961	Severe Winter Storm and Snowstorm	3/23/2011 1/31/2011-2/5/2011	PA
4130	Severe Storms, Straight-line Winds, Tornadoes, and Flooding	7/18/2013 5/29/2013-6/10/2013	PA

4238	Severe Storms, Tornadoes, Straight-line Winds, Flooding	8/7/2015 5/15/2015-7/27/2015	PA
3374	Severe Storms, Tornadoes, Straight-line Winds, Flooding	1/2/2016 12/22/2015-1/9/2016	PA
4451	Severe Storm	7/9/2019 4/29/2019-7/6/2019	PA
3482	Biological	3/13/2020 1/20/2020-5/11/2023	PA
4490	Biological	3/26/2020 1/20/2020-5/11/2023	IA, PA
4741	Severe Storm	9/21/2023 7/29/2023-8/14/2023	PA

Source: Federal Emergency Management Agency,
<https://www.fema.gov/data-visualization-summary-disaster-declarations-and-grants>

3.1.3 Research Additional Sources

List the additional sources of data on locations and past impacts of hazards in the planning area:

- Missouri Hazard Mitigation Plans (2010, 2013, 2018, and 2023)
- Previously approved planning area Hazard Mitigation Plan (August 2020)
- Federal Emergency Management Agency (FEMA)
- Missouri Department of Natural Resources
- National Drought Mitigation Center Drought Reporter
- US Department of Agriculture’s (USDA) Risk Management Agency Crop Insurance Statistics
- National Agricultural Statistics Service (Agriculture production/losses)
- Data Collection Questionnaires completed by each jurisdiction
- State of Missouri GIS data
- Environmental Protection Agency
- Flood Insurance Administration
- Hazards US (Hazus)
- Missouri Department of Transportation
- Missouri Division of Fire Marshal Safety
- Missouri Public Service Commission
- National Fire Incident Reporting System (NFIRS)
- National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information (NCEI);
- County and local Comprehensive Plans to the extent available
- County Emergency Management
- County Flood Insurance Rate Map, FEMA
- Flood Insurance Study, FEMA
- SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin
- U.S. Army Corps of Engineers
- U.S. Department of Transportation
- United States Geological Survey (USGS)
- Various articles and publications available on the internet

Note that the only centralized source of data for many of the weather-related hazards is the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information (NCEI). Although it is usually the best and most current source, there are limitations to the data which should be noted. The NCEI documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant

property damage, and/or disruption to commerce. In addition, it is a partial record of other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occurs in connection with another event. Some information appearing in the NCEI may be provided by or gathered from sources outside the National Weather Service (NWS), such as the media, law enforcement and/or other government agencies, private companies, individuals, etc. An effort is made to use the best available information but because of time and resource constraints, information from these sources may be unverified by the NWS. Those using information from NCEI should be cautious as the NWS does not guarantee the accuracy or validity of the information.

The NCEI damage amounts are estimates received from a variety of sources, including those listed above in the Data Sources section. For damage amounts, the NWS makes a best guess using all available data at the time of the publication. Property and crop damage figures should be considered as a broad estimate. Damages reported are in dollar values as they existed at the time of the storm event. They do not represent current dollar values.

The database currently contains data from January 1950 to March 2014, as entered by the NWS. Due to changes in the data collection and processing procedures over time, there are unique periods of record available depending on the event type. The following timelines show the different time spans for each period of unique data collection and processing procedures.

1. Tornado: From 1950 through 1954, only tornado events were recorded.
2. Tornado, Thunderstorm Wind and Hail: From 1955 through 1992, only tornado, thunderstorm wind and hail events were keyed from the paper publications into digital data. From 1993 to 1995, only tornado, thunderstorm wind and hail events have been extracted from the Unformatted Text Files.
3. All Event Types (48 from Directive 10-1605): From 1996 to present, 48 event types are recorded as defined in NWS Directive 10-1605.

Note that injuries and deaths caused by a storm event are reported on an area-wide basis. When reviewing a table resulting from an NCEI search by county, the death or injury listed in connection with that county search did not necessarily occur in that county.

3.1.4 Hazards Identified

The jurisdictions in Clark County differ in their susceptibilities to certain hazards. The hazards identified were based on the input from the planning team members, available historical data and the hazard modeling results described with the hazard mitigations plans. The jurisdictions and hazards chosen that significantly impact the planning area are listed in alphabetical order in **Table 3.2**. The chart includes an “x” to indicate the jurisdiction is impacted by the hazard and a “-“ indicates the hazard is not applicable to that jurisdiction.

Table 3.2. Hazards Identified for Each Jurisdiction

Jurisdiction	Dam Failure	Drought	Earthquake	Extreme Temperatures	Flooding (River and Flash)	Land Subsidence/ Sinkholes	Levee Failure	Severe Winter Weather	Thunderstorm/Lightning/ Hail/High Wind	Tornado	Wildfire
Clark County	X	X	X	X	X	X	X	X	X	X	X
City of Kahoka	X	X	X	X	X	X	-	X	X	X	X
City of Alexandria	X	X	X	X	X	X	X	X	X	X	X
Village of Luray	X	X	X	X	X	X	-	X	X	X	X
City of Revere	X	X	X	X	X	X	X	X	X	X	X
City of Wayland	X	X	X	X	X	X	X	X	X	X	X
City of Wyaconda	X	X	X	X	X	X	X	X	X	X	X
Clark County R-1 School District	-	X	X	X	X	-	-	X	X	X	X

3.1.5 Multi-Jurisdictional Risk Assessment

For this multi-jurisdictional plan, the risks are assessed for each jurisdiction where they deviate from the risks facing the entire planning area. The planning area is fairly uniform in terms of climate and topography as well as building construction characteristics. Accordingly, the geographic areas of occurrence for weather-related hazards do not vary greatly across the planning area for most hazards. Kahoka is slightly more urbanized within the planning area and has more assets that are vulnerable to the weather-related hazards and varied development trends impact the future vulnerability. Similarly, more rural areas have more assets (crops/livestock) that are vulnerable to animal/plant/crop disease.

The hazards that vary across the planning area in terms of risk include dam failure, levee failure, and sinkholes/land subsidence. These differences are discussed in greater detail in the vulnerability section of each hazard.

3.2 ASSETS AT RISK

This section assesses the population, structures, critical facilities and infrastructure, and other important assets in the planning area that may be at risk to natural hazards. **Table 3.3** shows the total population, building count, estimated value of buildings, estimated value of contents and estimated total exposure to parcels by jurisdiction.

3.2.1 Total Exposure of Population and Structures

Unincorporated County and Incorporated Cities

In the following three tables, population data is based on 2020 Census Bureau data. Building counts and building exposure values are based on parcel data developed by the State of Missouri Geographic Information Systems (GIS) database, which can be found at <http://bit.ly/MoHazardMitigationPlanViewer2023>. Contents exposure values were calculated by factoring a multiplier to the building exposure values based on usage type. The multipliers were derived from the Hazus and are defined below **Table 3.3**. Land values have been purposely excluded from consideration because land remains following disasters, and subsequent market devaluations are frequently short term and difficult to quantify. Another reason for excluding land values is that state and federal disaster assistance programs generally do not address loss of land (other than crop insurance). It should be noted that the total valuation of buildings is based on county assessors' data which may not be current. In addition, government-owned properties are usually taxed differently or not at all, and so may not be an accurate representation of true value. Note that public school district assets and special districts assets are included in the total exposure tables assets by community and county.

Table 3.3 shows the total population, building count, estimated value of buildings, estimated value of contents and estimated total exposure to parcels for the unincorporated county and each incorporated city. For multi-county communities, the population and building data may include data on assets located outside the planning area. **Table 3.4** that follows provides the building value exposures for the county and each city in the planning area broken down by usage type. Finally, **Table 3.5** provides the building count total for the county and each city in the planning area broken out by building usage types (residential, commercial, industrial, and agricultural).

Table 3.3. Maximum Population and Building Exposure by Jurisdiction

Jurisdiction	2020 Annual Population Estimate	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
Kahoka	1,961	907	\$134,561	\$81,854	\$216,416
Wayland	408	174	\$20,990	\$10,894	\$31,884
Wyaconda	214	124	\$13,583	\$11,806	\$25,389
Alexandria	105	64	\$9,140	\$5,189	\$14,329
Luray	73	44	\$2,307	\$1,322	\$3,629
Revere	76	69	\$8,255	\$4,572	\$12,827
Clark County	6,634	8685	\$262,817	\$130,018	\$392,835
Totals		10,067	\$451,655	\$245,656	\$697,311

Source: U.S. Bureau of the Census, Annual population estimates/ 5-Year American Community Survey 2020; Building Count and Building Exposure, Missouri GIS Database from SEMA Mitigation Management; Contents Exposure derived by applying multiplier to Building Exposure based on Hazus 6.0 standard contents multipliers per usage type as follows: Residential (50%), Commercial (100%), Industrial (150%), Agricultural (100%). For purposes of these calculations, government, school, and utility were calculated at the commercial contents rate.

Table 3.4. Building Values/Exposure by Usage Type

Jurisdiction	Residential	Commercial	Industrial	Agricultural	Total
Kahoka	\$98,100	\$28,279	\$2,137	\$98	\$128,614
Wayland	\$20,079	\$195	\$0	\$56	\$20,330
Wyaconda	\$7,171	\$1,950	\$3,740	\$62	\$12,923
Alexandria	\$7,888	\$585	\$0	\$7	\$8,480
Luray	\$1,864	\$390	\$0	\$53	\$2,307
Revere	\$7,315	\$585	\$0	\$25	\$7,925
Unincorporated Clark County	\$230,622	\$11,701	\$2,004	\$12,698	\$257,025
Totals	\$373,039	\$43,685	\$7,881	\$12,999	\$437,604

Source: Missouri GIS Database, SEMA Mitigation Management Section

Table 3.5. Building Counts by Usage Type

Jurisdiction	Residential Counts	Commercial Counts	Industrial Counts	Agricultural Counts	Total
Kahoka	684	145	16	54	899
Wayland	140	1	0	31	172
Wyaconda	50	10	28	34	122
Alexandria	55	3	0	4	62
Luray	13	2	0	29	44
Revere	51	3	0	14	68
Unincorporated Clark County	1,608	60	15	6,993	8,676
Totals	2,601	224	59	7,159	10,043

Source: Missouri GIS Database, SEMA Mitigation Management Section; Public School Districts and Special Districts

Even though schools and special districts' total assets are included in the tables above, additional discussion is needed, based on the data that is available from the districts' completion of the Data

Collection Questionnaire and district-maintained websites. The number of enrolled students at the participating public-school districts is provided in **Table 3.6** below. Additional information includes the number of buildings, building values (building exposure) and contents value (contents exposure). These numbers will represent the total enrollment and building count for the public school districts regardless of the county in which they are located.

Table 3.6. Population and Building Exposure by Jurisdiction-Public School Districts

Public School District	Enrolment	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
Clark County R-1 School District	1,000	6	\$42,944,977	\$7,081,264	\$50,026,241

Source: [MCDS Portal | Missouri Department of Elementary and Secondary Education - MCDS \(mo.gov\)](https://mcds.mo.gov/)

3.2.2 Critical and Essential Facilities and Infrastructure

This section will include information from the Data Collection Questionnaire and other sources concerning the vulnerability of participating jurisdictions’ critical, essential, high potential loss, and transportation/lifeline facilities to identified hazards. Definitions of each of these types of facilities are provided below.

- Critical Facility: Those facilities essential in providing utility or direction either during the response to an emergency or during the recovery operation.
- Essential Facility: Those facilities that if damaged, would have devastating impacts on disaster response and/or recovery.
- High Potential Loss Facilities: Those facilities that would have a high loss or impact on the community.
- Transportation and lifeline facilities: Those facilities and infrastructure critical to transportation, communications, and necessary utilities.

Table 3.7 includes a summary of the inventory of critical and essential facilities and infrastructure in the planning area. The list was compiled from the Data Collection Questionnaire as well as the following sources:

- 2023 Missouri State Hazard Mitigation Plan and Hazard Mitigation Viewer <http://bit.ly/MoHazardMitigationPlanViewer2023>
- Northeast Missouri Regional Planning Commission list of critical facility inventory.
- Hazus contains an inventory of critical facilities that can be exported for each jurisdiction.

Table 3.7. Inventory of Critical/Essential Facilities and Infrastructure by Jurisdiction

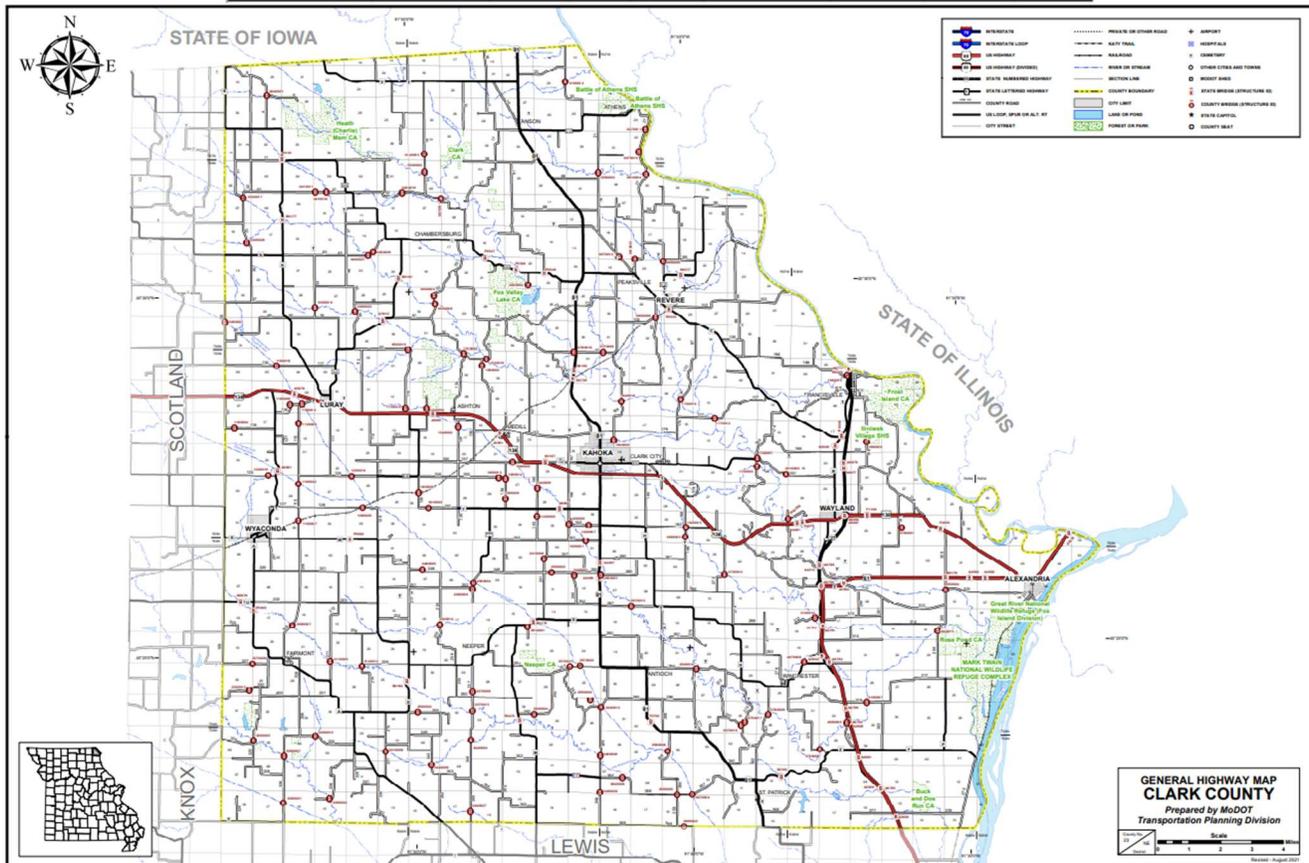
Jurisdiction	Airport Facility	Bus Facility	Childcare Facility	Communications Tower	Electric Power Facility	Emergency Operations	Fire Service	Government	Housing	Shelters	Highway Bridge	Hospital/Health Care	Military	Natural Gas Facility	Nursing Homes	Police Station	Potable Water Facility	Rail	Sanitary Pump Stations	School Facilities	Stormwater Pump Stations	Tier II Chemical Facility	Wastewater Facility	TOTAL
City of Kahoka	1	0	10	2	1	1	2	2	4	6	0	2	0	1	1	1	0	11	1	4	0	9	1	49
City of Wayland	0	0	2	2	0	0	1	1	2	1	2	0	0	0	0	0	1	0	1	0	0	4	1	18
City of Wyaconda	0	0	1	1	0	0	1	1	1	1	0	1	0	0	0	0	0	1	0	0	0	2	0	9
City of Alexandria	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	1	0	2	0	8
Village of Luray	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
City of Revere	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	4
Totals	1	0	15	9	1	1	6	5	7	9	3	3	0	1	1	2	1	14	2	5	0	17	2	90

Source: Missouri 2023 State Hazard Mitigation Plan and Hazard Mitigation Viewer; Data Collection Questionnaires; Hazus, etc.

Bridges: The term “scour critical” refers to one of the database elements in the National Bridge Inventory. This element is quantified using a “scour index”, which is a number indicating the vulnerability of a bridge to scour during a flood. Bridges with a scour index between 1 and 3 are considered “scour critical”, or a bridge with a foundation determined to be unstable for the observed or evaluated scour condition. The bridges in Clark County are shown in **Figure 3.1** below. **Figure 3.2** shows structurally deficient bridges in the planning area.

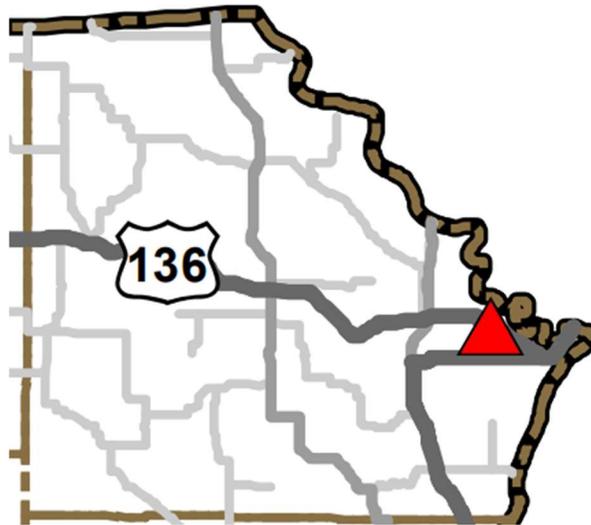
Figure 3.1. Clark County Bridges

County	Bridge Counts				Bridge Area (Square Meters)			
	All	Good	Fair	Poor	All	Good	Fair	Poor
Clark (045)	178	68	96	14	57,139	21,510	33,149	2,481



Source: <http://www.fhwa.dot.gov/bridge/nbi/no10/county.cfm>

Figure 3.2. Clark County Structurally Deficient Bridges



County	Feature	Route	Log Mile	Detour Length	Year Built	Lanes On	ADT	Length	Width
Clark	Drain Dtch	US 136 E	251.54	16.12	1968	2	2547	86.9	45.92

Source: <https://www.modot.org/Bridges> ,Structurally deficient bridges designated by a red triangle

3.2.3 Other Assets

Assessing the vulnerability of the planning area to disaster also requires data on the natural, historic, cultural, and economic assets of the area. This information is important for many reasons.

- These types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- Knowing about these resources in advance allows for consideration immediately following a hazard event, which is when the potential for damages is higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- The presence of natural resources can reduce the impacts of future natural hazards, such as wetlands and riparian habitats which help absorb floodwaters.
- Losses to economic assets like these (e.g., major employers or primary economic sectors) could have severe impacts on a community and its ability to recover from disaster.

Threatened and Endangered Species: **Table 3.8** shows Federally Threatened, Endangered, Proposed and Candidate Species in the county.

Table 3.8. Threatened and Endangered Species in Clark County

Common Name	Scientific Name	Status
Gray Bat	Myotis Grisescens	Endangered
Indiana Bat	Myotis Sodalis	Endangered
Northern Long-eared Bat	Myotis Septentrionalis	Threatened
Pallid Sturgeon	Scaphirhynchus Albus	Endangered
Higgins Eye(perlymussel)	Lampslis Higginsii	Endangered
Sheepnose Mussel	Plethobasus Cyphus	Endangered

Source: U.S. Fish and Wildlife Service, [Listed Species \(fws.gov\)](https://www.fws.gov/species); see also <https://ecos.fws.gov/ipac/>

Natural Resources: Missouri Department of Conservation (MDC) provides a database of lands the MDC owns, leases, or manages for public use. **Table 3.9** provides the names and locations of parks and conservation areas in the planning area.

Table 3.9. Parks in Clark County

Park / Conservation Area	Address	City
Nixon Branch Tract (Clark CA)	9 miles north of Kahoka on Hwy 81, then 1.5 miles west on gravel road 26	Kahoka
Bear Creek Tract (Clark CA)	3.5 miles south of Wyaconda on Route A, then 1.75 miles south on gravel road 230	Wyaconda
Fort Pike Access	In St. Francisville, take River Road one block east from Route B to access entrance.	St. Francisville
Fox Valley Lake CA	From Kahoka, take Hwy 81 north 4.75 miles, then Route NN west 2.5 miles to the area.	Kahoka
Frost Island CA	From Wayland, take Hwy 27 north 4 miles, then on gravel road 198 east 1 miles.	Wayland
Heath (Charlie) Mem. CA	From Kahoka, take Hwy 163 west, then Route K north 8 miles.	Kahoka
Neeper CA	From Kahoka, take Hwy 81 south 6 miles, then take gravel road 257 west 2 miles to the area.	Kahoka
Rose Pond CA	From Wayland, take Hwy 27/61 south 7 miles, then route F east 2.5 miles, then Route P north 2 miles, then on gravel road 317 west .25 miles, then	Wayland
William E. Crawford C.A.	From Hwy C near Revere, take County Road 102 north and follow it east. The road number will change to 103. Continue east. County Road 103 will	Revere
Omak A Hak Park	Corner of W. College St. and N. Cleveland St.	Kahoka
Kahoka City Square Park	Bounded by W. Commercial, N. Morgan, W. Main, and N. Washington St.	Kahoka
Luray City Park	Bounded by Washington St, Lusley St, Main St, and Quarles St.	Luray
Egley Park	Bounded by Taylor St, N. Main St, Henrietta St, and an alley on South end.	Wayland

Source: <http://mdc7.mdc.mo.gov/applications/moatlas/AreaList.aspx?txtUserID=guest&txtAreaNm=s>

Historic Resources: The National Register of Historic Places is the official list of registered cultural resources worthy of preservation. It was authorized under the National Historic Preservation Act of 1966 as part of a national program. The purpose of the program is to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. The National Register is administered by the National Park Service under the Secretary of the Interior. Properties listed in the National Register include districts, sites, buildings, structures and objects that are significant in American history, architecture, archeology, engineering, and culture. **Table 3.10** lists Clark County properties on the National Register of Historic Places.

Table 3.10. Clark County Properties on the National Register of Historic Places

Property	Address	City	Date Listed
Clark County Courthouse	101 E. Court St.	Kahoka	9/8/1983
Hiller, Colonel Hiram M., House	570 N. Washington	Kahoka	7/21/1986
Montgomery Opera House	201-209 W. Commercial St.	Kahoka	10/20/1988
Shrine of St. Patrick Church	Erin Circle	St. Patrick	2/27/2007
Sickles Tavern	NW of Wayland on MO B	Wayland	10/22/1979

Source: National Register of Historic Places – Spreadsheet of NRHP Listed Properties
<https://www.nps.gov/subjects/nationalregister/data-downloads.htm>

Economic Resources: **Table 3.11** provides major non-government employers in the planning area.

Table 3.11. Major Non-Government Employers in Clark County

Employer Name	Main Locations	Product or Service	Employees
KPF Foundry	809 E. Maple, Kahoka	Manufacturing	50
Gregory Container	1385 Industrial Dr, Kahoka	Manufacturing	50
Dadants	275 N Myrtle, Kahoka	Manufacturing	50
IMI	Hwy 136, Kahoka	Farm Implement	20
Ball Volvo	Hwy 136, Kahoka	Semi/Semi Service	30

Source: Data Collection Questionnaires; local Economic Development Commissions

Agriculture: Agriculture plays an important role in the Clark County economy, with row crops such as corn and soybeans and livestock farming driving the local employment and economic activity. The county’s fertile soil and rural landscape support a strong agricultural sector, which contributes to agribusiness, transportation, and related industries in the planning area. **Table 3.12** provides agriculture-related jobs in Clark County.

Table 3.12 Agriculture-Related Jobs in Clark County

Item	Clark
Hired farm labor farms	102
workers	185
\$1,000 payroll	2,995
Farms with-	
1 to 4 workers (see text) farms	98
workers	145
5 to 9 workers farms	1
workers	(D)
10 workers or more farms	3
workers	(D)
Workers by days worked:	
150 days or more farms	58
workers	90
Farms with-	
1 to 4 workers (see text) farms	54
workers	68
5 to 9 workers farms	4
workers	22
10 workers or more farms	-
workers	-
Less than 150 days farms	60
workers	95
Farms with-	
1 to 4 workers (see text) farms	57
workers	77
5 to 9 workers farms	3
workers	18
10 workers or more farms	-
workers	-
Reported only workers working	
150 days or more farms	42
workers	56
\$1,000 payroll	945
Reported only workers working	
less than 150 days farms	44
workers	59
\$1,000 payroll	425
Reported both - workers working	
150 days or more and workers	
working less than 150 days farms	16
150 days or more, workers	34
less than 150 days, workers	36
\$1,000 payroll	1,625
Total migrant workers farms	4
workers	25
Migrant farm labor on farms with hired labor farms	4
workers	25
Migrant farm labor on farms reporting only	
contract labor farms	-
workers	-
Unpaid workers farms	168
workers	348

Source: US Department of Agriculture, Census of Agriculture, 2022 Census, Volume 1, Chapter 2: County-Level Data
https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/Missouri/st29_2_007_007.p df

3.3 LAND USE AND DEVELOPMENT

3.3.1 Development Since Previous Plan Update

Population data can sometimes be used to determine the potential for future development. An increase in population will spur a need for additional housing and attract commercial development. Clark County has experienced a decrease in population as indicated by the information in **Table 3.13**. However, no development changes have affected any of the overall vulnerability of the jurisdictions below since the previous plan update.

Table 3.13 County Population Growth, 2010-2020

Jurisdiction	Total Population 2010	Total Population 2020	2010-2020 # Change	2000-2020 % Change
Clark County	7,139	6,634	-505	-7.61%
Kahoka	2,078	1,961	-117	-5.97%
Wayland	533	408	-125	-30.64%
Wyaconda	227	214	-13	-6.07%
Alexandria	159	105	-54	-51.43%
Luray	99	73	-26	-35.62%
Revere	79	76	-3	-3.95%

Source: U.S. Bureau of the Census, Decennial Census, Annual Population Estimates, American Community Survey 5-year Estimates; Population Statistics are for entire incorporated areas as reported by the Census bureau

Along with the overall population decrease, there has been a decline in the number of housing units. **Table 3.14** provides the change in numbers of housing units in the planning area from 2010 to 2020.

Table 3.14 Change in Housing Units, 2010-2020

Jurisdiction	Housing Units 2010	Housing Units 2020	2010-2020 # Change	2000-2020 % Change
Clark County	3,473	3,216	-257	-7.99%
Kahoka	1,001	939	-62	-6.60%
Wayland	249	219	-30	-13.70%
Wyaconda	140	121	-19	-15.70%
Alexandria	77	61	-16	-26.23%
Luray	39	36	-3	-8.33%
Revere	41	39	-2	-32.76

Source: U.S. Bureau of the Census, Decennial Census, American Community Survey 5-year Estimates; Population Statistics are for entire incorporated areas as reported by the U.S. Census Bureau

Population growth or decline is generally accompanied by an increase or decrease in the number of housing units. With the trend of population decline for the entire county there is little reason to expect increased development.

3.3.2 Future Land Use and Development

County Future Development

Clark County

The county indicated that Clark County has created a port authority, which could lead to the development of a port in the future.

Kahoka

No plans for future development were indicated.

Wayland

No plans for future development were indicated.

Wyaconda

No plans for future development were indicated.

Alexandria

The city indicated that Clark County has created a port authority, which could lead to the development of a port in the future.

Luray

No plans for future development were indicated.

Revere

No plans for future development were indicated.

School District's Future Development

Clark County R-1 School District

No plans for future development were indicated.

3.4 HAZARD PROFILES, VULNERABILITY, AND PROBLEM STATEMENTS

Each hazard will be analyzed individually in a hazard profile. The profile will consist of a general hazard description, location, strength/magnitude/extent, previous events, future probability, a discussion of risk variations between jurisdictions, and how anticipated development could impact risk. At the end of each hazard profile will be a vulnerability assessment, followed by a summary problem statement.

Hazard Profiles

Each hazard identified in Section **3.1.4** will be profiled individually in this section. The level of information presented in the profiles will vary by hazard based on the information available. With each update of this plan, new information will be incorporated to provide better evaluation and prioritization of the hazards that affect the planning area. Detailed profiles for each of the identified hazards and the impact of Climate Change” to Changing Future Conditions Considerations in all of the hazard profiles. Include information categorized as follows:

- **Hazard Description:** This section consists of a general description of the hazard and the types of impacts it may have on a community or school/special district.
- **Geographic Location:** This section describes the geographic areas in the planning area that are affected by the hazard. Where available, use maps to indicate the specific locations of the planning area that are vulnerable to the subject hazard. For some hazards, the entire planning area is at risk.
- **Strength/Magnitude/Extent:** This includes information about the strength, magnitude, and extent of a hazard. For some hazards, this is accomplished with description of a value on an established scientific scale or measurement system, such as an EF2 tornado on the Enhanced Fujita Scale. This section should also include information on the typical or expected strength/magnitude/extent of the hazard in the planning area. Strength, magnitude, and extent can also include the speed of onset and the duration of hazard events. Describing the strength/magnitude/extent of a hazard is not the same as describing its potential impacts on a community. Strength/magnitude/extent defines the characteristics of the hazard regardless of the people and property it affects.
- **Previous Occurrences:** This section includes available information on historic incidents and their impacts. Historic event records form a solid basis for probability calculations.
- **Probability of Future Occurrence:** The frequency of recorded past events is used to estimate the likelihood of future occurrences. Probability can be determined by dividing the number of recorded events by the number of years of available data and multiplying by 100. This gives the percent chance of the event happening in any given year. For events occurring more than once annually, the probability should be reported as 100% in any given year, with a statement of the average number of events annually. For hazards such as drought that may have gradual onset and extended duration, probability can be based on the number of months in drought in a given time-period and expressed as the probability for any given month to be in drought.
- **Changing Future Conditions Considerations:**
In addition to the probability of future occurrence, changing future conditions should also be considered, including the effects of long-term changes in weather patterns and climate on the identified hazards.

Vulnerability Assessments

Following the hazard profile for each hazard will be the vulnerability assessment. The vulnerability assessment further defines and quantifies populations, buildings, critical facilities, and other community assets at risk to damages from natural hazards. The vulnerability assessments should be based on the best available data. The vulnerability assessments can also be based on data that was collected for the 2023 State Hazard Mitigation Plan Update. With the 2023 Hazard Mitigation Plan Update, SEMA is pleased to provide online access to the risk assessment data and associated mapping for the 114 counties in the State, including the independent City of St. Louis. Through the web-based Missouri Hazard Mitigation Viewer, local planners or other interested parties can obtain all State Plan datasets. This effort removes from local mitigation planners a barrier to performing all the needed local risk assessments by providing the data developed during the 2023 State Plan Update.

The Missouri Hazard Mitigation Viewer includes a Map Viewer with a legend of clearly labeled features, a north arrow, a base map that is either aerial imagery or a street map, risk assessment data symbolized the same as in the 2023 State Plan for easy reference, search and query capabilities, ability to zoom to county level data and capability to download PDF format maps. The Missouri Hazard Mitigation Viewer can be found at this link: <http://bit.ly/MoHazardMitigationPlanViewer2023>.

The vulnerability assessments in the Clark County plan will also be based on:

- Written descriptions of assets and risks provided by participating jurisdictions;
- Existing plans and reports;
- Personal interviews with planning committee members and other stakeholders; and
- Other sources as cited.

Within the Vulnerability Assessment, the following sub-headings will be addressed:

- **Vulnerability Overview:**
This section consists of a general overview narrative of the planning area's vulnerability to the hazard. Within this section, the magnitude/severity of the hazard is discussed. The magnitude 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 affected by the resilience of the community, and the effectiveness of the emergency response and disaster recovery efforts.
- **Potential Losses to Existing Development:**
This section provides the potential losses existing to development.
- **Previous and Future Development:**
This section will include information on how changes in development have impacted the community's vulnerability to this hazard.
- **Hazard Summary by Jurisdiction:**
For hazard risks that vary by jurisdiction, this section will provide an overview of the variation and the factual basis for that variation.

Problem Statements

Each hazard analysis must conclude with a brief summary of the problems created by the hazard in the planning area, and possible ways to resolve those problems. Jurisdiction-specific information in those cases where the risk varies across the planning area is included.

3.4.1 Flooding (Riverine and Flash)

Hazard Profile

Hazard Description

A flood is partial or complete inundation of normally dry land areas. Riverine flooding is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt, or ice. There are several types of riverine floods, including headwater, backwater, interior drainage, and flash flooding. Riverine flooding is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt or ice melt. The areas adjacent to rivers and stream banks that carry excess floodwater during rapid runoff are called floodplains. A floodplain is defined as the lowland and relatively flat area adjoining a river or stream. The terms “base flood” and “100- year flood” refer to the area in the floodplain that is subject to a one percent or greater chance of flooding in any given year. Floodplains are part of a larger entity called a basin, which is defined as all the land drained by a river and its branches.

Flooding caused by dam and levee failure is discussed in Section 3.4.3 and Section 3.4.2 respectively. It will not be addressed in this section.

A flash flood occurs when water levels rise at an extremely fast rate as a result of intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Flash flooding can happen in Special Flood Hazard Areas (SFHAs) as delineated by the National Flood Insurance Program (NFIP) and can also happen in areas not associated with floodplains.

Ice jam flooding is a form of flash flooding that occurs when ice breaks up in moving waterways, and then stacks on itself where channels narrow. This creates a natural dam, often causing flooding within minutes of the dam formation.

In some cases, flooding may not be directly attributable to a river, stream, or lake overflowing its banks. Rather, it may simply be the combination of excessive rainfall or snowmelt, saturated ground, and inadequate drainage. With no place to go, the water will find the lowest elevations – areas that are often not in a floodplain. This type of flooding, often referred to as sheet flooding, is becoming increasingly prevalent as development outstrips the ability of the drainage infrastructure to properly carry and disburse the water flow.

Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area. Flash flooding is a dangerous form of flooding which can reach full peak in only a few minutes. Rapid onset allows little or no time for protective measures. Flash flood waters move at very fast speeds and can move boulders, tear out trees, scour channels, destroy buildings, and obliterate bridges. Flash flooding can result in higher loss of life, both human and animal, than slower developing river and stream flooding.

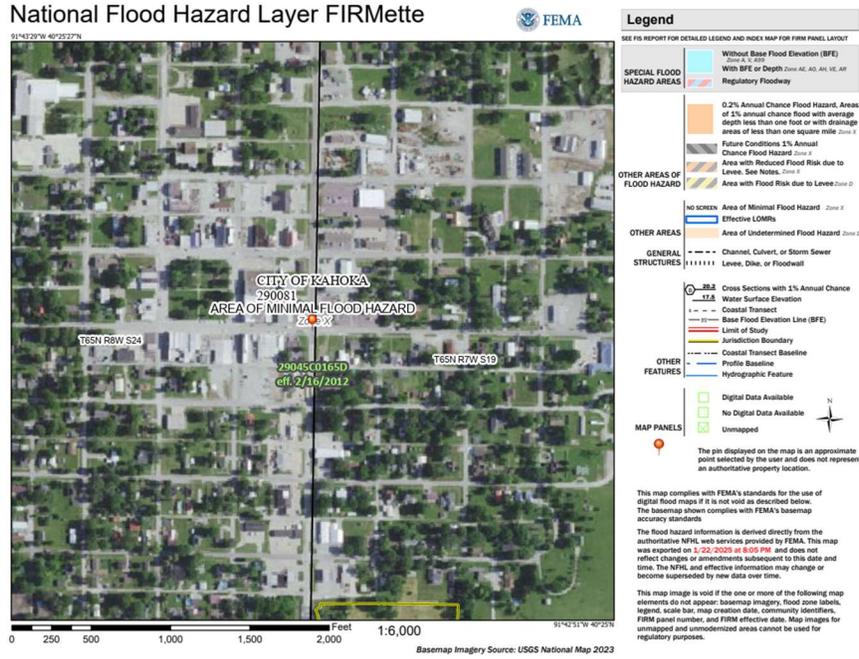
In certain areas, aging storm sewer systems are not designed to carry the capacity currently needed to handle the increased storm runoff. Typically, the result is water backing into basements, which damages mechanical systems and can create serious public health and safety concerns. This combined with rainfall trends and rainfall extremes all demonstrate the high probability, yet generally unpredictable nature of flash flooding in the planning area.

Although flash floods are somewhat unpredictable, there are factors that can point to the likelihood of flash floods occurring. Weather surveillance radar is being used to improve monitoring capabilities of intense rainfall. This, along with knowledge of the watershed characteristics, modeling techniques, monitoring, and advanced warning systems has increased the warning time for flash floods.

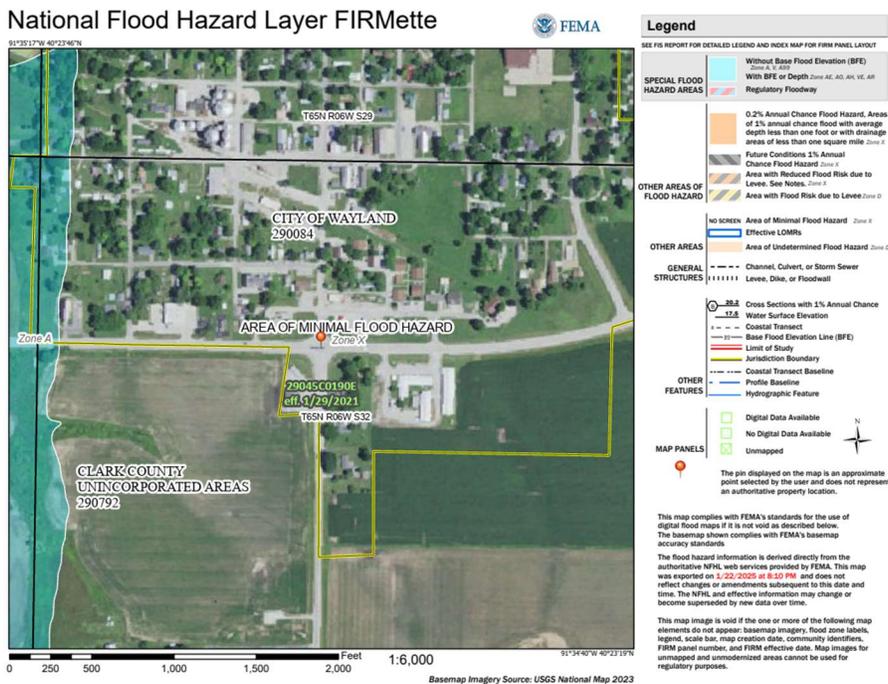
Geographic Location

Riverine flooding is most likely to occur in SFHAs. Below is a FIRM for participating municipalities within Clark County.

City of Kahoka



City of Wayland



City of Wyaconda

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) Zone A, B, AE, AH, AO, AR
- With BFE or Depth Zone AE, AD, AH, VE, AR
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS OF FLOOD HAZARD

- NO SCREEN: Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

OTHER AREAS

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

GENERAL STRUCTURES

- Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Coastal Transact
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transact Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

MAP PANELS

- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

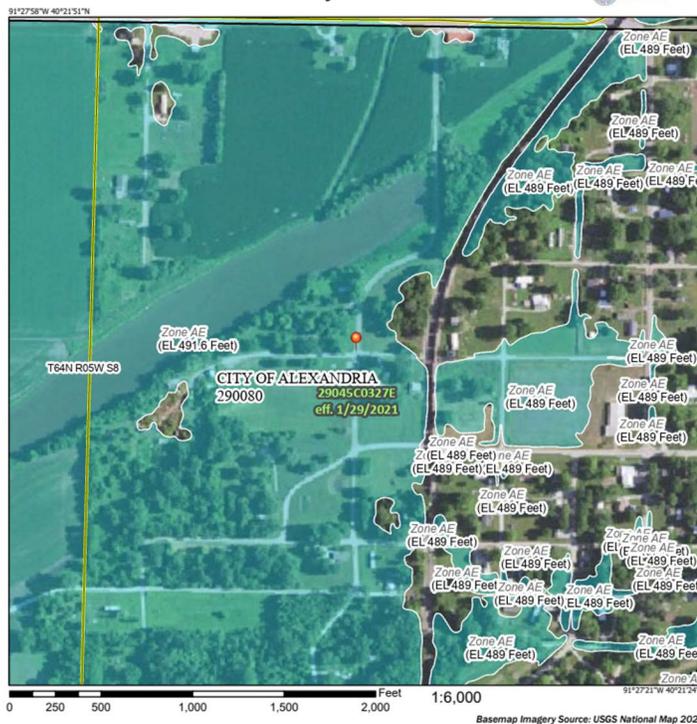
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/22/2025 at 8:10 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

City of Alexandria

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) Zone A, B, AE, AH, AO, AR
- With BFE or Depth Zone AE, AD, AH, VE, AR
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS OF FLOOD HAZARD

- NO SCREEN: Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

OTHER AREAS

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

GENERAL STRUCTURES

- Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Coastal Transact
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transact Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

MAP PANELS

- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/22/2025 at 8:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Village of Luray

National Flood Hazard Layer FIRMette



Legend

- SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, X, AE
 - With BFE or Depth Zone AE, AD, AH, VE, AR
 - Regulatory Floodway
 - OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D
 - OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - Cross Sections with 1% Annual Chance Water Surface Elevation**
 - 28.2
 - 17.8
 - OTHER FEATURES**
 - Coastal Transact
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transact Baseline
 - Profile Baseline
 - Hydrographic Feature
 - MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/22/2025 at 8:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

City of Revere

National Flood Hazard Layer FIRMette



Legend

- SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, X, AE
 - With BFE or Depth Zone AE, AD, AH, VE, AR
 - Regulatory Floodway
 - OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D
 - OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - Cross Sections with 1% Annual Chance Water Surface Elevation**
 - 28.2
 - 17.8
 - OTHER FEATURES**
 - Coastal Transact
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transact Baseline
 - Profile Baseline
 - Hydrographic Feature
 - MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/22/2025 at 8:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Clark County R-1 School District



Source: <https://msc.fema.gov/portal/home>

Table 3.15 shows Clark County flood event history. Note that NCEI data includes events for flooding and for flash flooding.

Table 3.15 Clark County NCEI Flood Events by Location, 2004-2024

Location	# of Events
Unincorporated Clark County	24
-Unincorporated County (Zone)- 3 flood events	
-Unincorporated County (St. Francisville)- 1 flood events	
-Unincorporated County (Gregory Landing)- 4 flood events	
-Unincorporated County (Anson)- 14 flood events	
-Unincorporated County (Dumas)- 1 flood events	
-Unincorporated County (Fox City)- 1 flood events	
Alexandria	7
Wayland	2
Revere	1

Source: National Centers for Environmental Information, January 22, 2025

Flash flooding occurs in SFHAs and those locations in the planning area that are low-lying. They also occur in areas without adequate drainage to carry away the amount of water that falls during intense rainfall events. NCEI data was used to determine which jurisdictions are most prone to flash flooding during the 20-year time period. **Table 3.16** provides the number of flash flood events by location recorded in NCEI for the 20-year period.

Table 3.16 Clark County NCEI Flash Flood Events by Location, 2004-2024

Location	# of Events
Unincorporated County	18
-Unincorporated County (Winchester)- 1 flood events	
-Unincorporated County (Anson)- 8 flood events	
-Unincorporated County (Clark City)- 1 flood events	
-Unincorporated County (Chambersburg)- 1 flood events	
-Unincorporated County (St. Patrick)- 1 flood events	
-Unincorporated County (Peaksville)- 2 flood events	
-Unincorporated County (Gregory Landing)- 1 flood events	
-Unincorporated County (St. Francisville)- 1 flood events	
-Unincorporated County (Medill)- 1 flood events	
-Unincorporated County (North Portion)- 1 flood events	
Kahoka	7
Wyaconda	3
Wayland	2
Revere	1
Luray	1

Source: National Centers for Environmental Information, January 22, 2025

Strength/Magnitude/Extent

Missouri has a long and active history of flooding over the past century, according to the 2023 State Hazard Mitigation Plan. Flooding along Missouri’s major rivers generally results in slow-moving disasters. River crest levels are forecast several days in advance, allowing communities downstream sufficient time to take protective measures, such as sandbagging and evacuations. Nevertheless, floods exact a heavy toll in terms of human suffering and losses to public and private property. By contrast, flash flood events in recent years have caused a higher number of deaths and major property damage in many areas of Missouri.

According to the U.S. Geological Survey, two critical factors affect flooding due to rainfall: rainfall duration and rainfall intensity – the rate at which it rains. These factors contribute to a flood’s height, water velocity and other properties that reveal its magnitude.

National Flood Insurance Program (NFIP) Participation

Clark County plus the cities of Alexandria, Kahoka, Revere, Wayland, and Wyaconda all participate in the NFIP. The Village of Luray does not participate. As described in **Table 3.17** all jurisdictions have an effective map date except for the City of Revere, City of Wyaconda, and Village of Luray. The jurisdictions will benefit from an updated map of their perspective area. To date a new map has not been requested. Flood prone areas will be monitored by the flood administration, and the community can assist by reporting flood activity to their local jurisdictions.

Flooding poses a significant hazard risk in Clark County with varying impacts across its jurisdictions due to differences in geography, topography, and infrastructure. Alexandria, located along the Mississippi River, is at the highest risk of river flooding, particularly during heavy rain events and spring snowmelt, which can cause inundation and road closures. Wayland, Kahoka, and Wyaconda, situated inland, face flash flooding risks where poor drainage and heavy rainfall can overwhelm smaller waterways and ditches. Luray and Revere, being in more rural and hilly areas, experience localized flooding along low-lying roads and creeks, which can affect transportation and access. The Clark County R-1 School District must plan for flood-related road closures, which could disrupt bus routes and emergency response times.

Table 3.17 outlines NFIP Participation in Clark County.

Table 3.17 NFIP Participation in Clark County- Mapping Information

Community ID #	Community Name	NFIP Participant (Y/N/Sanctioned)	Current Effective Map Date	Regular- Emergency Program Entry Date
290080B	City of Alexandria	Yes	01/29/2021	05/02/1977
290081#	City of Kahoka	Yes	02/16/2012 (M)	08/24/1984
290083#	City of Revere	Yes	NSFHA	08/04/1983
290084B	City of Wayland	Yes	01/29/2021 (M)	09/04/1986
290085#	City of Wyaconda	Yes	NSFHA	09/10/1984
290792B	Clark County	Yes	01/29/2021	02/01/1997
N/A	Village of Luray	No	-	-

Source: NFIP Community Status Book, [Date](#); PIVOT (information from STATE) [Community Status Book | FEMA.gov](#); M= No elevation determined – all Zone A, C, and X; NSFHA = No Special Flood Hazard Area; E=Emergency Program

Clark County (Unincorporated Areas):

- Adoption of Minimum Floodplain Regulation * by local regulation – February 1, 1997
- Adoption of Latest Effective FIRM: January 29, 2021
- Implementation and Enforcement: Presiding Commissioner
- NFIP Coordinator: Presiding Commissioner
 - Agency: Clark County
 - Title: Presiding Commissioner
 - Phone Number: (660) 727-8241
- Substantial Improvement/Substantial Damage Provisions: The county follows FEMA guidelines for assessing and regulating substantial improvements and substantial damage to structures within SFHAs.

City of Alexandria:

- Adoption of Minimum Floodplain Regulation * by local regulation – May 2, 1977.
- Adoption of Latest Effective FIRM: January 29, 2021
- Implementation and Enforcement: Colten Protsman
- NFIP Coordinator: Colten Protsman
 - Agency: City of Alexandria
 - Title: Floodplain Administrator
 - Phone Number: (319) 795-9005
- Substantial Improvement/Substantial Damage Provisions: The city adheres to FEMA's Substantial Damage Estimator guidelines to evaluate and manage substantial improvements or damages.

City of Kahoka:

- Adoption of Minimum Floodplain Regulation * by local regulation – August 24, 1984.
- Adoption of Latest Effective FIRM: February 16, 2012
- Implementation and Enforcement: City Clerk
- NFIP Coordinator: City Clerk
 - Agency: City of Kahoka
 - Title: Floodplain Administrator
 - Phone Number: (660) 727-3711
- Substantial Improvement/Substantial Damage Provisions: Kahoka follows FEMA's guidelines for managing substantial improvements and damages to properties within SFHAs.

City of Revere:

- Adoption of Minimum Floodplain Regulation * by local regulation – August 4, 1983.
- Adoption of Latest Effective FIRM: NSFHA
- Implementation and Enforcement: Josh Taylor

- NFIP Coordinator: Josh Taylor
 - Agency: City of Revere
 - Title: Floodplain Administrator
 - Phone Number: (319) 795-3082
- Substantial Improvement/Substantial Damage Provisions: Revere implements FEMA's Substantial Damage Estimator tool to assess and manage substantial improvements or damages.

City of Wayland:

- Adoption of Minimum Floodplain Regulation * by local regulation – September 4, 1986.
- Adoption of Latest Effective FIRM: NSFHA
- Implementation and Enforcement: City Clerk
- NFIP Coordinator: City Clerk
 - Agency: City of Wayland
 - Title: Floodplain Administrator
 - Phone Number: (660) 754-6132
- Substantial Improvement/Substantial Damage Provisions: Wayland follows FEMA's guidelines for evaluating and managing substantial improvements and damages to structures within SFHAs.

Table 3.18 outlines NFIP Policy and Claim Statistics as of January 22, 2025.

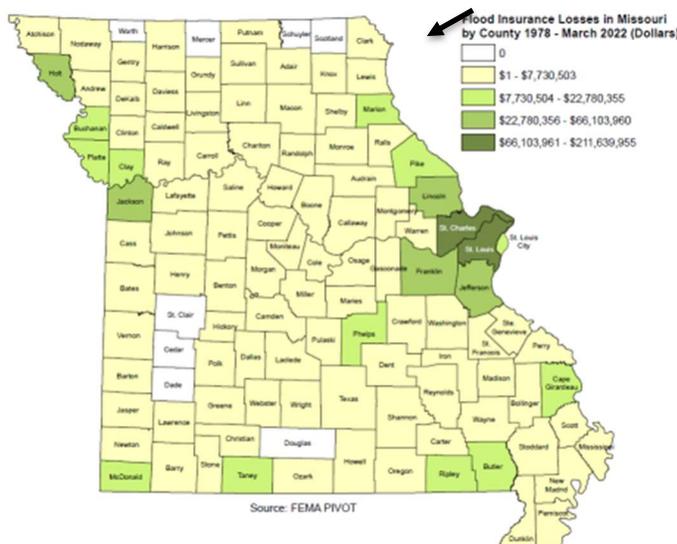
Table 3.18 NFIP Policy and Claim Statistics as of January 22, 2025

Community Name	Policies in Force	Insurance in Force	Closed Losses	Total Payments
City of Alexandria	38	5,691,000	45	1,503,878
City of Wayland	1	70,000	-	217

Source: NFIP Community Status Book, January 22, 2025; PIVOT (information from STATE), [Community Status Book | FEMA.gov](#) *Closed Losses are those flood insurance claims that resulted in payment. Loss statistics are for the period from 1978 to .

Figure 3.3 shows that during the period of 1978-March 2022, Clark County received between \$1 and \$7,730,503 in Flood Insurance.

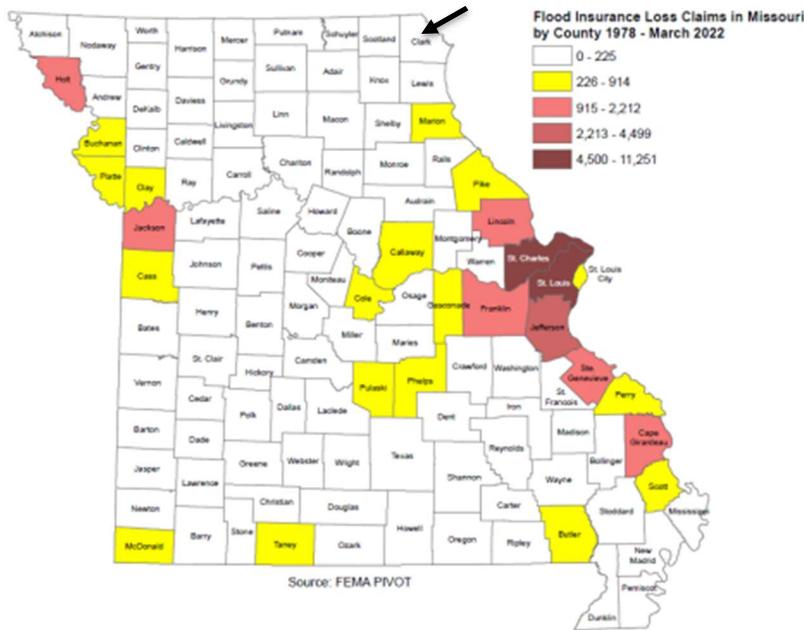
Figure 3.3. Map of Dollars Paid Historically for Flood Insurance Losses in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.4 demonstrates that between the period of 1978 through March 2022, Clark County had between 0-225 Flood Loss Claims.

Figure 3.4. Flood Loss Claims in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Repetitive Loss/Severe Repetitive Loss Properties

Repetitive Loss Properties are those properties with at least two flood insurance payments of \$1,000 or more in a 10-year period. According to the Flood Insurance Administration, jurisdictions included in the planning area have a combined total of 3 repetitive loss properties. As of 1/22/2025, zero properties have been mitigated, leaving 3 un-mitigated repetitive loss properties.

Table 3.19 provides a summary of the repetitive loss properties in the planning area. RL/SRL data is obtained by contacting SEMA.

Table 3.19 Clark County Repetitive Loss Properties

Jurisdiction	# of Properties	Type of Property	# Mitigated	Building Payments	Content Payments	Total Payments	Average Payment	# of Losses
Alexandria	1	Other Non-Res	0	\$6,871.17	0	\$6,871.17	\$3,435.59	2
Clark County (Unic.)	2	Other Non-Res	0	\$257,429.68	\$17,114.99	\$274,544.67	\$68,636.17	4

Source: Flood Insurance Administration as of January 22, 2025

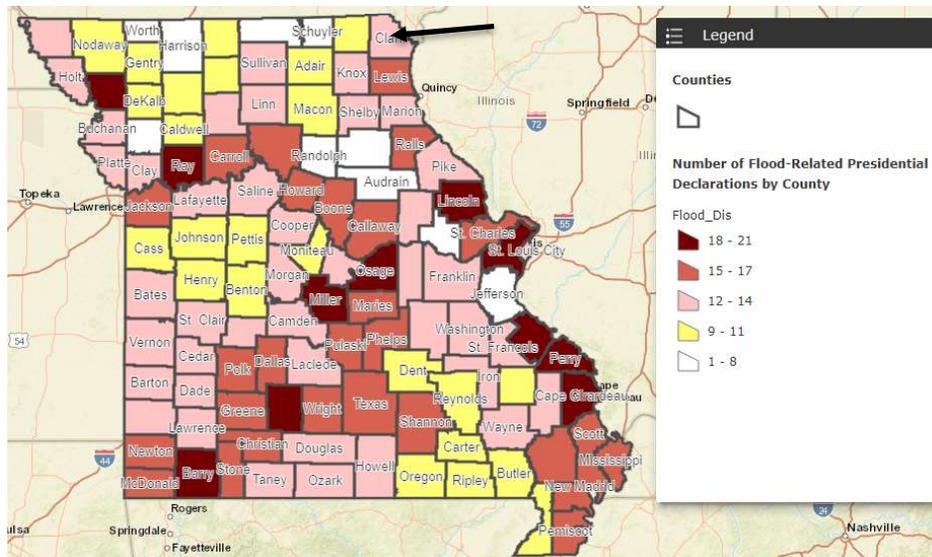
Severe Repetitive Loss (SRL): A SRL property is defined it as a single family property (consisting of one-to-four residences) that is covered under flood insurance by the NFIP; and has (1) incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage with the amount of each claim payment exceeding \$5,000 and with cumulative amounts of such claims payments exceeding \$20,000; or (2) for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

According to the 2023 Missouri State Hazard Mitigation Plan, there are no Severe Repetitive Loss properties in Clark County.

Previous Occurrences

Figure 3.5 shows the range of Flood-Related Presidential Declarations for Clark County.

Figure 3.5. Number of Flood-Related Presidential Declarations by County



Source: 2023 Missouri State Hazard Mitigation Plan

3374 (2016): In late December 2015, severe storms and heavy rainfall led to widespread flash flooding across Missouri. Clark County experienced significant impacts as floodwaters damaged infrastructure and homes. The severity of the situation prompted an emergency declaration in January 2016 to facilitate federal assistance for affected communities.

995 (1993): The Great Flood of 1993 was one of the most devastating natural disasters in U.S. history, severely affecting Missouri, including Clark County. Prolonged heavy rainfall led to unprecedented flooding, breaching levees and inundating vast areas. The disaster caused extensive property damage, agricultural losses, and displacement of residents, resulting in a major federal disaster declaration.

779 (1986): In October 1986, Missouri experienced severe storms and flooding, impacting multiple counties. Clark County faced significant challenges as floodwaters damaged roads, bridges, and farmlands, necessitating federal disaster relief to support local recovery initiatives.

439 (1974): In 1974, severe storms and flooding affected various regions in Missouri, including Clark County. The disaster led to widespread damage to infrastructure, homes, and agricultural lands, prompting federal assistance for recovery efforts.

Table 3.20 shares Flash Flood events over the past 20 years.

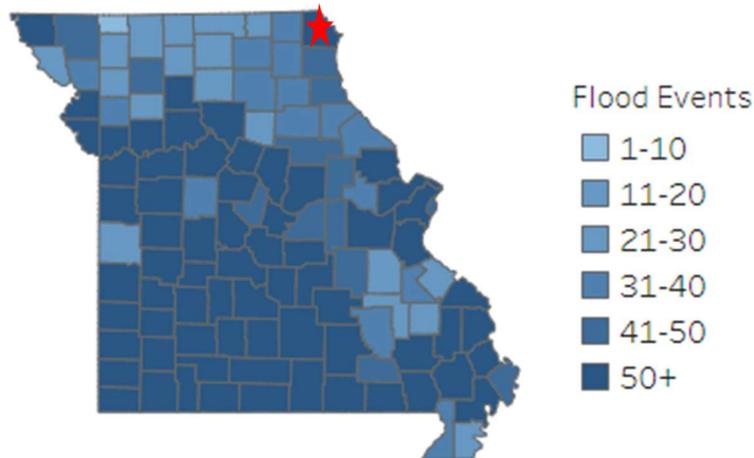
Table 3.20 NCEI Clark County Flash Flood Events Summary, 2004 to 2024

Year	# of Events	# of Deaths	# of Injuries	Property Damages	Crop Damages
2004	2	0	0	60.00K	8.00K
2007	1	0	0	0.00K	0.00K
2008	1	0	0	0.00K	0.00K
2009	3	0	0	0.00K	0.00K
2010	9	0	0	620.00K	0.00K
2011	4	0	0	30.00K	0.00K
2012	1	0	0	0.00K	0.00K
2015	2	0	0	0.00K	0.00K
2019	2	0	0	0.00K	0.00K
2020	3	0	0	0.00K	0.00K
2021	1	0	0	0.00K	0.00K
2023	3	0	0	0.00K	0.00K

Source: NCEI, data accessed January 22, 2025

The FEMA Data Visualization Tool as shown below in **Figure 3.6**, Clark County had 41-50 events of flood impact.

Figure 3.6. Historical Flood Impact



Source: <https://www.fema.gov/data-visualization-floods-data-visualization> *Red star shows Clark County

Table 3.21 shows Riverine Flood events over the past 20 years.

Table 3.21 NCEI Clark County Riverine Flood Events Summary, 2004 to 2024

Year	# of Events	# of Deaths	# of Injuries	Property Damages	Crop Damages
2004	3	0	0	0.00K	5.00K
2008	3	0	0	500.00K	500.00K
2010	13	0	0	2.750M	0.00K
2011	5	0	0	875.00K	0.00K
2013	4	0	0	0.00K	0.00K
2014	1	1	0	0.00K	0.00K
2019	5	0	0	0.00K	0.00K

Source: NCEI, January 23, 2025

Probability of Future Occurrence

With the history of flooding in the planning area, the probability is high that flooding of various levels will occur. The probability of flash flood events occurring in the planning area in any given year is 100% with the average amount of flash flooding events at 1.6. The probability of flood events happening in the planning area is also 100% with the average number of events per year at 1.7.

As used in this chapter, probabilities will be defined as low 0-20%, medium-low 21-40%, medium 41-60%, medium-high 61-80%, and high 81-100%, except where otherwise specifically defined.

Changing Future Conditions Considerations

According to the National Climate Assessment, extreme rainfall events and flooding have increased during the last century, and these trends are expected to continue. In Clark County, Missouri, this has led to repeated flood events impacting communities along the Fox River, the Mississippi River, and smaller tributaries. Low-lying areas, including portions of Alexandria and Wayland, have experienced road closures, infrastructure damage, and agricultural losses due to rising waters. Increased frequency of heavy rainfall has also contributed to flash flooding, eroding rural roads and culverts, straining local emergency response resources, and threatening crop yields in one of the county's key economic sectors.

Figure 3.6 illustrates the Annual Total Precipitation for Clark County compared to average.

Figure 3.6. U.S. Climate Resilience Toolkit- Annual Total Precipitation for Clark County



Source: US Climate Resilience Toolkit; <https://toolkit.climate.gov/tools/climate-explorer>

Vulnerability

Vulnerability Overview

Flooding presents a danger to life and property, often resulting in injuries, and in some cases, fatalities. Floodwaters themselves can interact with hazardous materials. Hazardous materials stored in large containers could break loose or puncture as a result of flood activity. Examples are bulk propane tanks. When this happens, evacuation of citizens is necessary.

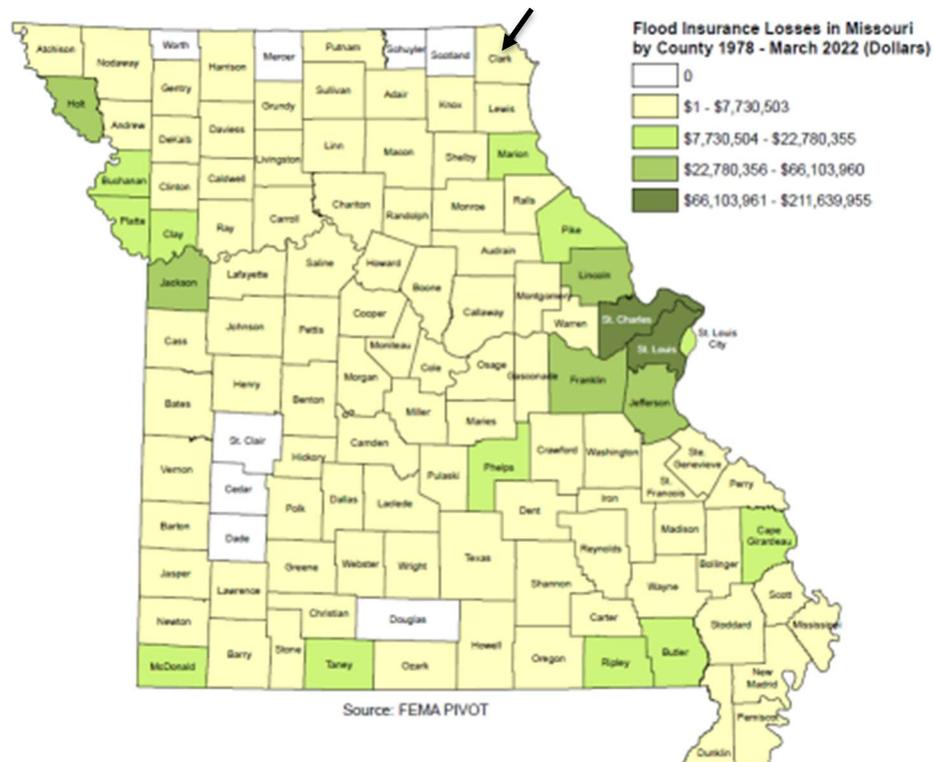
Public health concerns may result from flooding, requiring disease and injury surveillance.

Community sanitation to evaluate flood-affected food supplies may also be necessary. Private water and sewage sanitation could be impacted, and vector control (for mosquitoes and other entomology concerns) may be necessary.

When roads and bridges are inundated by water, damage can occur as the water scours materials around bridge abutments and gravel roads. Floodwaters can also cause erosion undermining road beds. In some instances, steep slopes that are saturated with water may cause mud or rock slides onto roadways. These damages can cause costly repairs for state, county, and city road and bridge maintenance departments. When sewer back-up occurs, this can result in costly clean-up for home and business owners as well as present a health hazard.

According to the 2023 Missouri State Hazard Mitigation Plan, Clark County ranged at the lower end of Flood Insurance Losses between \$1 - \$7,730,503. (See **Figure 3.7** below)

Figure 3.7. Map of Dollars Paid Historically of Flood Insurance Losses in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Potential Losses to Existing Development

Using data obtained from the Flood Insurance Administration, the City of Alexandria has a documented history of repetitive loss, making it the most vulnerable jurisdiction in Clark County, MO, to future flood events. Estimated losses from past flooding events have included damaged homes and businesses, infrastructure repairs, and economic disruption due to prolonged road closures, particularly along Highway 61 and local streets. Residential properties near the Mississippi River floodplain have suffered repeated flood damage, leading to significant financial burdens on property owners and increased insurance claims.

City of Alexandria: The most at-risk community due to its proximity to the Mississippi River. Critical facilities vulnerable to flooding include city government buildings, emergency response facilities, and a community center.

Wayland: Faces potential flooding along smaller tributaries and drainage systems, impacting local roadways and emergency response access routes.

Kahoka: While located farther inland, Kahoka is vulnerable to flash flooding, which can cause damage to roads, bridges, and stormwater drainage systems. Disruptions to local government buildings and emergency services could hinder disaster response efforts.

Wyaconda: Experiences periodic flooding near low-lying agricultural areas, impacting farming operations and rural transportation networks.

Luray & Revere: These smaller communities face risks associated with washed-out roads and culvert failures, which can isolate residents during heavy rainfall events.

Clark County R-1 School District: School buildings in Kahoka and other locations could be affected by stormwater drainage issues, posing potential risks to transportation routes, school access, and student safety during major rain events.

Impact of Previous and Future Development

Any future development in floodplains would increase risk in those areas. For the communities participating in the National Flood Insurance Program, enforcement of the floodplain management regulations will ensure mitigation of future construction in those areas. However, even if structures are mitigated, evacuation may be necessary due to rising waters. In addition, floods that exceed mitigated levels may still cause damages.

Clark County

Previous development impacts include agricultural modifications, such as drainage tiling and deforestation, which have reduced natural water absorption, increasing runoff and contributing to flash flooding. Some rural roads and low-water crossings are prone to washouts during heavy rain due to inadequate drainage infrastructure. Older bridge and culvert designs may not accommodate increased water flow during extreme events. Future development should consider how land-use changes could increase surface runoff. Infrastructure improvements should consider drainage capacity to mitigate flood risks.

Kahoka

Impacts by previous development include urbanization, which has led to an increase in impervious surfaces, increasing stormwater runoff and potential flash flooding in low-lying areas. Considerations for future development include any expansion of residential and commercial areas may require updated stormwater management systems to prevent worsening flash flooding risks.

Alexandria

Located near the Mississippi River, Alexandria has historically been vulnerable to riverine flooding. Some older buildings were constructed before modern floodplain regulations, making them more susceptible to flood damage. Previous floods may have weakened infrastructure, increasing the potential for future damage. Any new development must be carefully planned to avoid increasing flood risk. Levee improvements may be necessary to protect against future flood events.

Wayland

Increased runoff from impervious surfaces has contributed to flash flooding during heavy rains. For future development, improving drainage infrastructure would prevent worsening

flood conditions.

Wyaconda

Nearby agricultural land-use changes may have increased runoff. Any future development should consider proper stormwater drainage to prevent increased runoff. Roadway improvements, such as improved ditching and culvert enhancement, may improve drainage.

Luray

Nearby agricultural land-use changes may have increased runoff. Any future development should consider proper stormwater drainage to prevent increased runoff. Roadway improvements, such as improved ditching and culvert enhancement, may improve drainage.

Revere

Nearby agricultural land-use changes may have increased runoff. Small-scale development projects could increase flood risks if proper water management systems are not in place. Exploration of flood mitigation measures, such as improved ditching and culvert enhancements, may need to be considered for future development.

Clark County School District

An increase in impervious surfaces has increased stormwater runoff and potential flash flooding in low-lying areas. Future development should consider improved stormwater management to prevent water accumulation and potential damage. Emergency response plans should consider flood hazards to ensure student and staff safety.

Hazard Summary by Jurisdiction

Vulnerability to flooding varies by jurisdiction as each community has a different layout, as described above the City of Alexandria has a history of repetitive loss and would be more vulnerable to another loss in the future. The floodplain maps in the Geographic Location section depict the flood area in each jurisdiction. **Table 3.16** reflects the NCEI Flash Flood Events in Unincorporated Clark County at 18 events, Kahoka at 7, Wyaconda at 3, Wayland 2, and Luray and Revere at 1 event with a total of 32 events in the planning area.

Figure 3.8 highlights Low Water Crossings in Clark County that are impacted by flooding.

Figure 3.8. Low Water Crossings in Clark County



Source: https://www.google.com/maps/d/u/0/edit?mid=1D9tsENileFCyZnLDhc8sgT4D_StI45lw&ll=40.311624879266844%2C-91.64619281880834&z=14

Problem Statement

The county should consider buyouts of properties that are flood prone and have had repetitive losses to mitigate future disasters. Local governments should make a strong effort to further improve warning systems to ensure that future deaths and injuries do not occur. Local governments should consider making improvements to roads and low water crossings that consistently flood by placing them on a hazard mitigation projects list, and actively seek funding to successfully complete the projects.

3.4.2 Levee Failure

Hazard Profile

Hazard Description

Levees are earth embankments constructed along rivers and coastlines to protect adjacent lands from flooding. Floodwalls are concrete structures, often components of levee systems, designed for urban areas where there is insufficient room for earthen levees. When levees and floodwalls and their appurtenant structures are stressed beyond their capabilities to withstand floods, levee failure can result in injuries and loss of life, as well as damages to property, the environment, and the economy.

Levees can be small agricultural levees that protect farmland from high-frequency flooding. Levees can also be larger, designed to protect people and property in larger urban areas from less frequent flooding events such as the 100-year and 500-year flood levels. For purposes of this discussion, levee failure will refer to both overtopping and breach as defined in FEMA's Publication "So You Live Behind a Levee"

(<http://mrcc.isws.illinois.edu/1913Flood/awareness/materials/SoYouLiveBehindLevee.pdf>).

Following are the FEMA publication descriptions of different kinds of levee failure.

Overtopping: When a Flood Is Too Big

Overtopping occurs when floodwaters exceed the height of a levee and flow over its crown. As the water passes over the top, it may erode the levee, worsening the flooding and potentially causing an opening, or breach, in the levee.

Breaching: When a Levee Gives Way

A levee breach occurs when part of a levee gives way, creating an opening through which floodwaters may pass. A breach may occur gradually or suddenly. The most dangerous breaches happen quickly during periods of high water. The resulting torrent can quickly swamp a large area behind the failed levee with little or no warning.

Earthen levees can be damaged in several ways. For instance, strong river currents and waves can erode the surface. Debris and ice carried by floodwaters—and even large objects such as boats or barges—can collide with and gouge the levee. Trees growing on a levee can blow over, leaving a hole where the root wad and soil used to be. Burrowing animals can create holes that enable water to pass through a levee. If severe enough, any of these situations can lead to a zone of weakness that could cause a levee breach. In seismically active areas, earthquakes and ground shaking can cause a loss of soil strength, weakening a levee and possibly resulting in failure. Seismic activity can also cause levees to slide or slump, both of which can lead to failure.

Geographic Location

Missouri is a state with many levees. Currently, there is no single comprehensive inventory of levee systems in the state. Levees have been constructed across the state by public entities and private entities with varying levels of protection, inspection oversight, and maintenance. The lack of a comprehensive levee inventory is not unique to Missouri.

There are two concurrent nation-wide levee inventory development efforts, one led by the United State Army Corps of Engineers (USACE) and one led by Federal Emergency Management Agency (FEMA). The National Levee Database (NLD), developed by USACE, captures all USACE related levee projects, regardless of design levels of protection. The Midterm Levee Inventory (MLI), developed by FEMA, captures all levee data (USACE and non-USACE) but primarily focuses on levees that provide 1% annual-chance flood protection on FEMA Flood Insurance Rate Maps (FIRMs).

It is likely that agricultural levees and other non-regulated levees within the planning area exist that are not inventoried or inspected. These levees that are not designed to provide protection from the 1-percent annual chance flood would overtop or fail in the 1-percent annual chance flood scenario. Therefore, any associated losses would be taken into account in the loss estimates provided in the Flood Hazard Section.

For purposes of the levee failure profile and risk assessment, those levees indicated on the Preliminary DFIRM as providing protection from at least the 1-percent annual chance flood will be discussed and further analyzed. It is noted that increased discharges are being taken into account in revision of the flood maps as part of the RiskMap efforts. This may result in changes to the flood protection level that existing levees are certified as providing.

Figure 3.9 outlines the levees in Clark County.

Figure 3.9. Clark County Levees

County	System Name/Sponsor	Length (Miles)	Inspection Date	Leveed Area Type	Leveed Area Square Miles
Clark	Des Moines and Mississippi Levee District No 1	31.67	12/09/2020	Agricultural/Community	17.88
Clark	Des Moines River 1	3.43	-	Agricultural	1.70
Clark	Gregory Drainage & Levee District	23.59	09/22/2020	Agricultural	14.27
Clark	Mississippi-Fox D&LD No. 2 (Lower Middle Unit [Southwest])	2.42	11/04/2016	Agricultural	.63
Clark	Mississippi-Fox D&LD No. 2 (Lower Middle Unit [Southeast])	19.28	11/04/2016	Agricultural	6.48
Clark	Mississippi-Fox D&LD No. 2 (Lower Middle Unit [West])	6.65	09/20/2021	Agricultural	2.67
Clark	Mississippi-Fox D&LD No. 2 (Lower Middle Unit [North])	9.18	-	Agricultural	3.91

Source: <https://levees.sec.usace.army.mil>

Flood Levee Maps for Clark County, MO

Clark County has designated floodplain areas mapped by the Federal Emergency Management Agency (FEMA) to assess flood risks. These maps identify areas prone to flooding and show the locations of levees designed to provide flood protection. The levees in Clark County are primarily constructed along key waterways, such as the Des Moines River and Fox River, to reduce flood risks to nearby communities. However, while levees offer protection, they do not eliminate the risk entirely. During extreme flood events, overtopping or levee failure could still result in significant flooding.

Levee Impact on Jurisdictions

The levees in Clark County impact several jurisdictions differently based on their location and proximity to flood-prone areas:

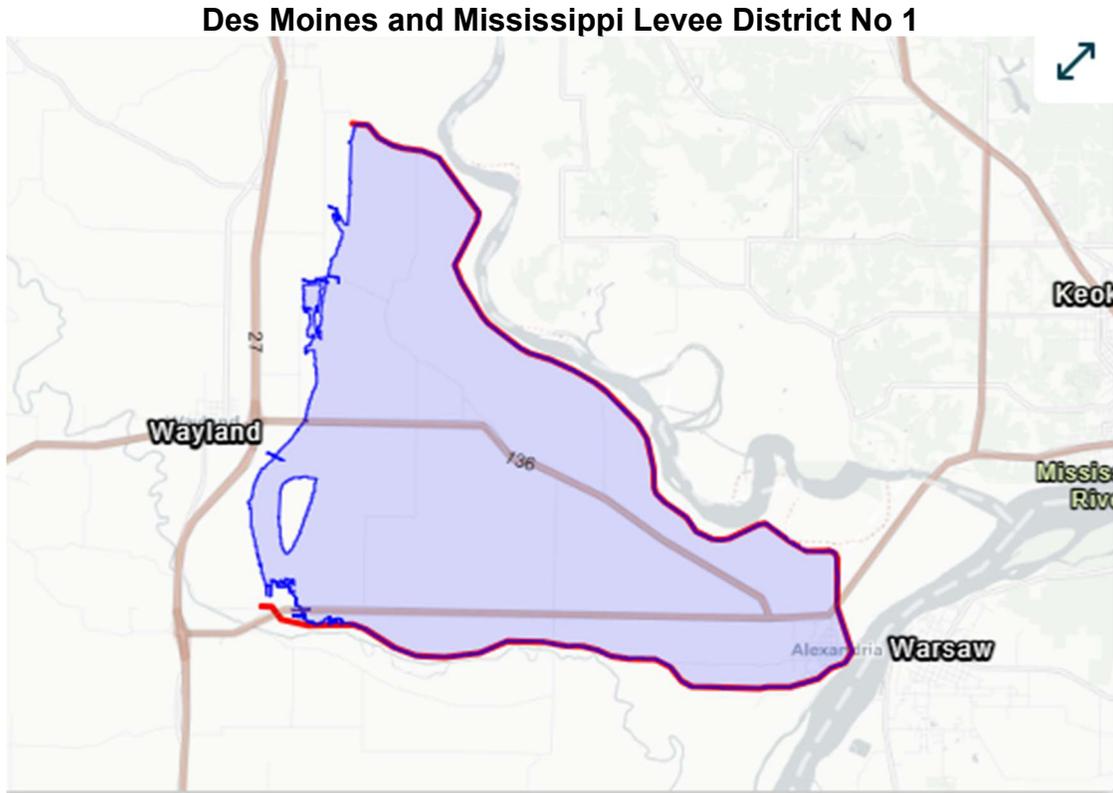
- **Alexandria:** Protected in part by levees along the Des Moines River, but still at significant risk of flooding if waters exceed the levee capacity or a breach occurs.
- **Kahoka & Other Inland Communities:** These towns are less directly affected by levees, as they are located further from major rivers. However, flooding from smaller tributaries and poor drainage can still pose risks.
- **Rural Areas:** Farmland near the levees can experience both benefits and risks, as levees help prevent routine flooding but may also create unexpected water flow patterns during extreme events.

Clark County School District & Flood Levees

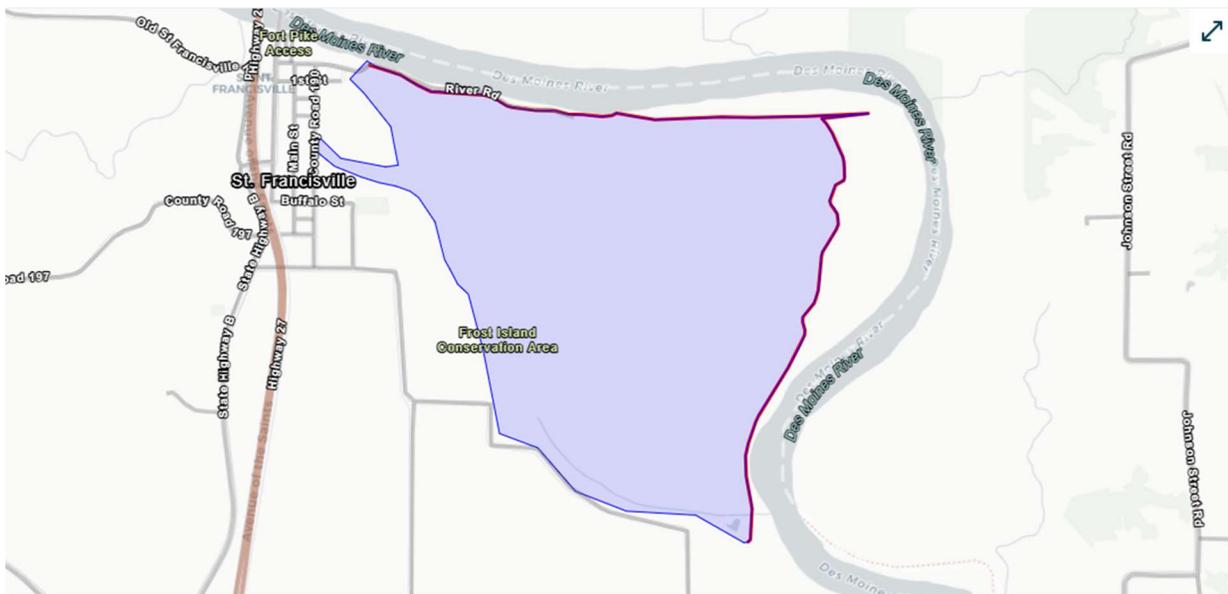
The **Clark County School District**, including its main school buildings, is not located within the primary levee-protected areas. However, it remains vulnerable to flooding caused by heavy rainfall and water overflow from nearby creeks. If floodwaters exceed local drainage capacity, access to school buildings and transportation routes could be impacted, necessitating emergency response planning.

Figure 3.10 illustrates Clark County Levees shown on DFIRMs as providing protection from the 1-percent annual flood chance.

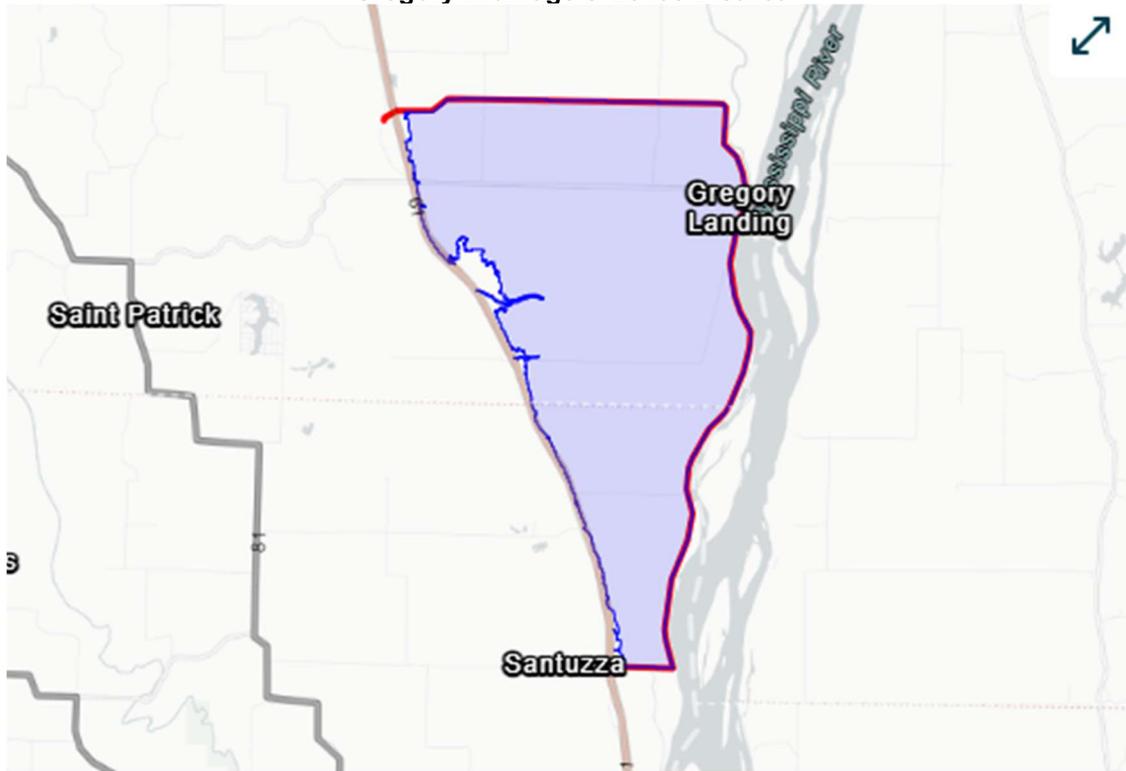
Figure 3.10. County Levees Shown on DFIRM as Providing Protection from the 1-Percent Annual Chance Flood



Des Moines River 1



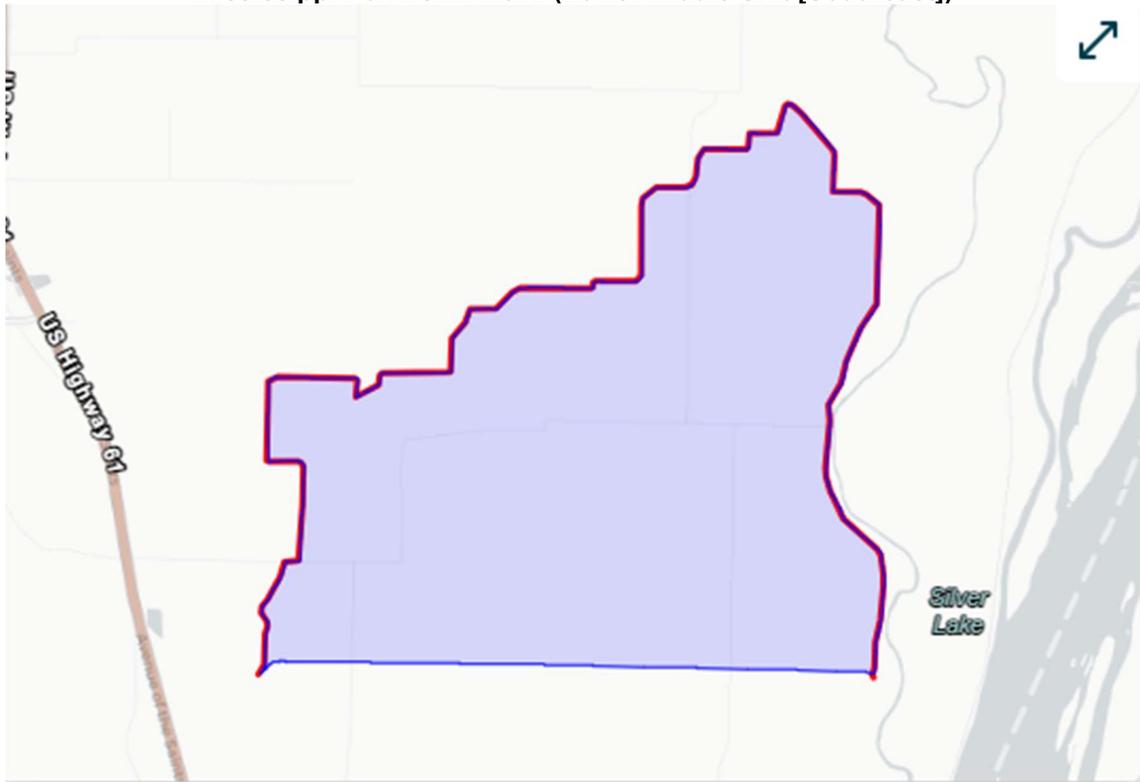
Gregory Drainage & Levee District



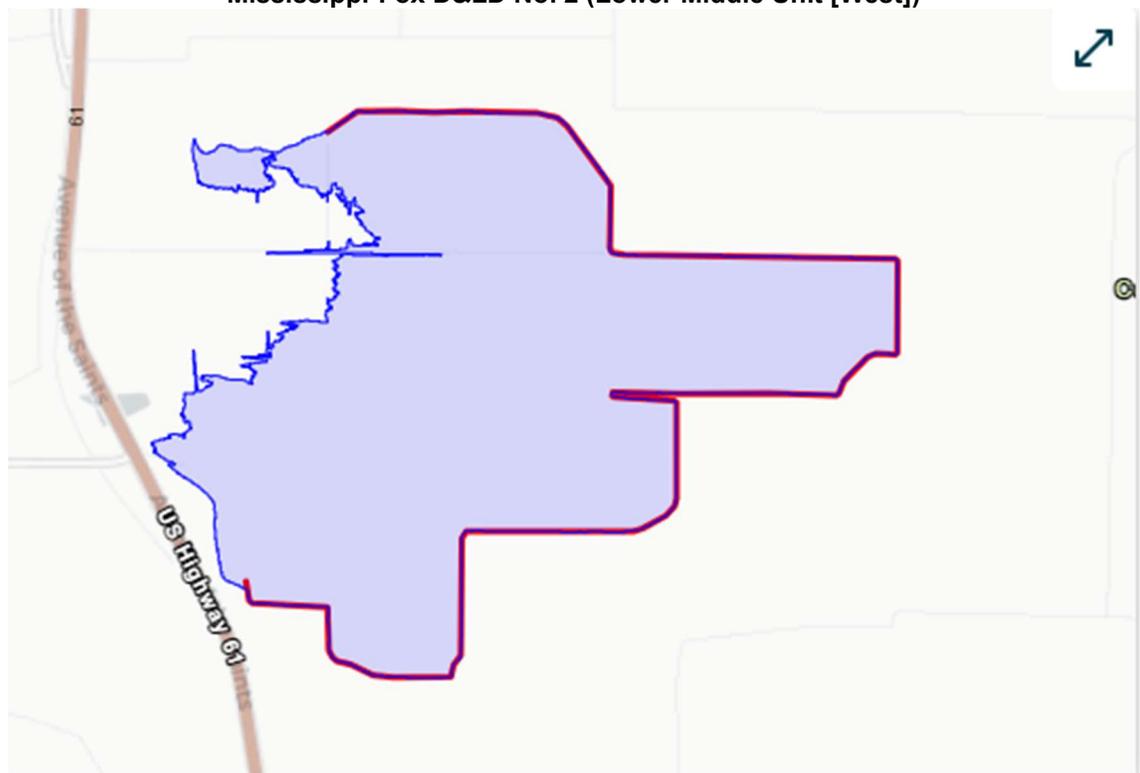
Mississippi-Fox D&LD No. 2 (Lower Middle Unit [Southwest])



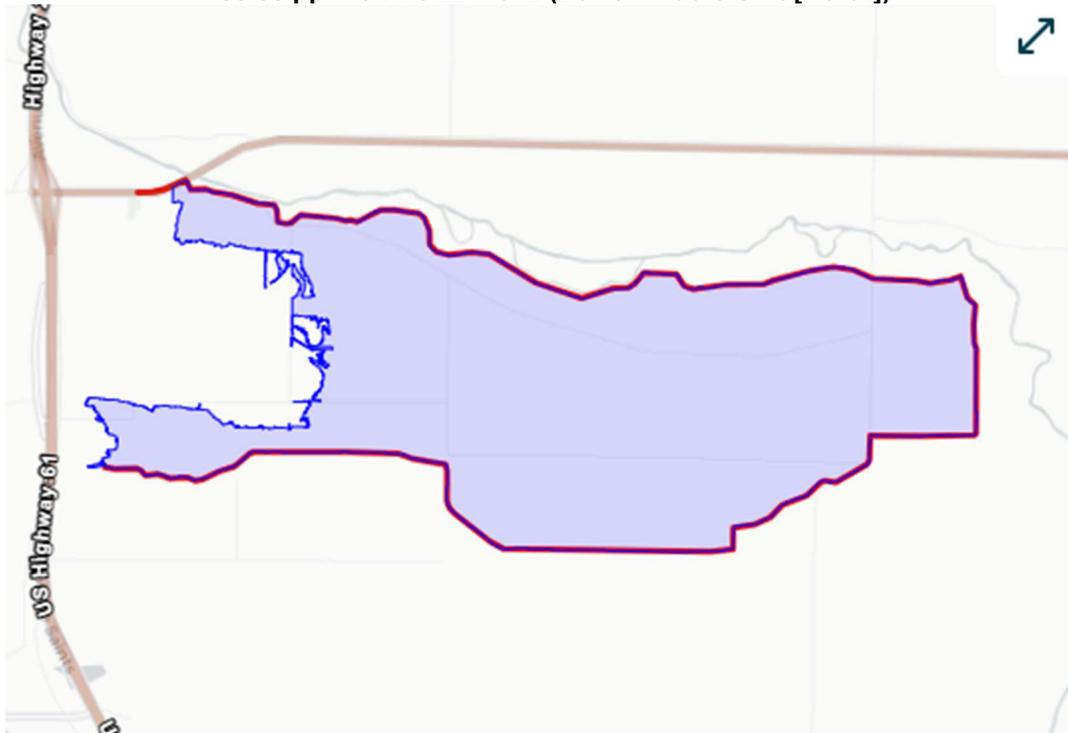
Mississippi-Fox D&LD No. 2 (Lower Middle Unit [Southeast])



Mississippi-Fox D&LD No. 2 (Lower Middle Unit [West])



Mississippi-Fox D&LD No. 2 (Lower Middle Unit [North])



Source: <https://levees.sec.usace.army.mil/levees/1705990643>, January 28, 2025

Strength/Magnitude/Extent

Levee failure is typically an additional or secondary impact of another disaster such as flooding or earthquake. The main difference between levee failure and losses associated with riverine flooding is magnitude. Levee failure often occurs during a flood event, causing destruction in addition to what would have been caused by flooding alone. In addition, there would be an increased potential for loss of life due to the speed of onset and greater depth, extent, and velocity of flooding due to levee breach.

As previously mentioned, agricultural levees and levees that are not designed to provide flood protection from at least the 1-percent annual chance flood likely do exist in the planning area. However, none of these levees are shown on the Preliminary DFIRM, nor are they enrolled in the USACE Levee Safety Program. As a result, an inventory of these types of levees is not available for analysis. Additionally, since these types of levees do not provide protection from the 1-percent annual chance flood, losses associated with overtopping or failure are captured in the Flood Section of this plan.

Previous Occurrences

1993 Flooding:

- **Des Moines and Mississippi Levee District No. 1:** As a result of the 1993 flood event, the levee system was overtopped and breached in three locations, sustained loss of section and erosion damages, and pump station building and pump damages. The breaches were repaired using fill from a dredged sand stockpile and hydraulic sand fill from the Mississippi

River and the loss of section and erosion damages were repaired using fill from dredged sand stockpiles. The pump station buildings and pumps were rebuilt, replaced, and reconditioned as needed, with the 2 buildings located at the landside levee toe rebuilt, the 2 pumps in the westerly building removed and replaced with 1 pump, and the 1 pump in the easterly building reconditioned.

- **Gregory Drainage & Levee District:** The Gregory Levee and Drainage District incurred significant damage from the summer floods of 1993. Repairs of extensive breaches and overtopped clay and sand levee reaches involved replacing clay and sand fill embankment 3 42 material with all sand fill. Modifications and repairs to the pump station also occurred, including reconditioning and replacement of pumps, piping, valves, fittings, right angle gear drives, electrical equipment, and other ancillary equipment associated with the pump station. • **Mississippi-Fox D&LD No. 2:** The levee system at Mississippi-Fox Drainage & Levee District No. 2 was overtopped on July 1, 1993. The water level exceeded the top of the levee by more than 10 feet. No repairs were required in this section.

2001 Flooding:

- **Gregory Drainage & Levee District:** The Gregory Levee and Drainage District incurred significant foreshore erosion from the flooding events of April through June 2001. Repairs included foreshore reconstruction and riprap replacement. PL 84-99 repairs for the flood of 2001 were completed by January 2002.
- **Mississippi-Fox D&LD No. 2:** A high snowfall in Minnesota and Wisconsin, combined with a rapid spring melt, caused flooding along the Mississippi River. The gage at Gregory Landing (RM 352.9) crested on May 15, 2001 at 24.04 feet (496.74 NGVD); flood stage is 15.0 feet. On May 12, flow from Honey Creek started to overtop a reach in the Upper Levee with Mississippi River stages at approximately 22.6 feet at the Gregory Landing gage. Sandbags were used to raise the levee along reaches of the Upper, Upper Middle, and Lower Levees. On May 14, overtopping of the sandbags resumed in these areas. During that night, heavy rainfall occurred in the Fox River watershed, causing flash flooding, and on May 15 Honey Creek overtopped a reach of the Upper Levee, Upper Middle Levee, and Lower Levee. The overtopping was significant and caused the levee system to breach in three areas. Breaching of the levee system was caused by high stages on the tributaries, which were aggravated by high stages on Mississippi River. The frequency of the flood was approximately 100 years. The Mississippi River exceeded flood stage for approximately 8 weeks (April to June 2001). The selected repair alternative included all work necessary to protect the Levee District from further damage and to restore land for crops to pre-disaster or equivalent condition. This was accomplished by returning the levee system to its pre-flood alignment, grade, and cross-section. The work involved filling and reshaping the areas damaged by wave action / overtopping and repairing two impellers, 10 bearings, and two shafts at the pump station in the Lower Levee. All repair work maintained the original alignment of the levee.

2008 Flooding:

- **Gregory Drainage & Levee District:** Eight levee breaches occurred during the Flood of 2008, comprising a total length of approximately 5110 feet. The upper three breaches were created by incoming flows towards the interior of the levee district as evidenced by the large scour holes that were measured to be as much as 17 to 22 feet deep and extended several hundred feet landward of the levee centerline. One of the upper breaches occurred at the railroad closure which is located at the downstream end of the Fox River reach. The sponsor reported that immediately prior to this area breaching; the levee materials were observed to be washing through rock that had previously been placed by the Railroad to support their track structure after a similar breach occurred in 1993. At the time that the 2008 damage survey was conducted, the Railroad had again built up a rock section to support a 200 ft section of track that was washed out during the 2008 breach. Overtopping

due to the exit of floodwaters, caused the remaining five breaches and other moderate damage, extending approximately 1 to 4 feet into the clay core. This damage was documented at several locations along downstream sections of the levee near Station 465+00. By contrast, the scour holes in these downstream breach areas were less than 3 to 5 feet deep, and sand materials from the levee and push-up were washed toward the river. The “push-up” consisted of using embankment material from the landside of the levee and/or berms to raise the height of the levee at 3 43 the crown to prevent overtopping. During the flood fight, push-up had been placed along the entire Main Stem and Fox River sections of the levee system. As a result, none of the landside seepage berms identified in the O&M manual could be discerned and the vulnerable landside levee slopes had experienced varying degrees of wave wash along the entire length of both reaches. As part of the 2008 flood recovery efforts, the railroad closure structure was relocated. This work included constructing a set-back levee on a new alignment, and building a new panel closure.

Probability of Future Occurrence

According to the USACE, there have been 3 levee breaches in the last 20 years. This information was utilized to determine the annual average percent probability of levee failure. The probability of levee failure in Clark County per year is low at 15% (3 events/20 years x 100 = 15%).

Changing Future Conditions Considerations

The impact of changing future conditions on levee failure will most likely be related to changes in precipitation and flood likelihood. Climate Change projections suggest that precipitation may increase and occur in more extreme events, which may increase risk of flooding, putting stress on levees and increasing likelihood of levee failure. Furthermore, aging levee infrastructure and a lack of regular maintenance (including checking for seepage and removing trees, roots and other vegetation that can weaken a levee) coupled with more extreme weather events may increase risk of future levee failure. Refer to **Figure 3.6**. (US Climate Resiliency)

Vulnerability

Vulnerability Overview

The USACE regularly inspects levees within its Levee Safety Program to monitor their overall condition, identify deficiencies, verify that maintenance is taking place, determine eligibility for federal rehabilitation assistance (in accordance with P.L. 84-99), and provide information about the levees on which the public relies. Inspection information also contributes to effective risk assessments and supports levee accreditation decisions for the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA).

The USACE now conducts two types of levee inspections. Routine Inspection is a visual inspection to verify and rate levee system operation and maintenance. It is typically conducted each year for all levees in the USACE Levee Safety Program. Periodic Inspection is a comprehensive inspection led by a professional engineer and conducted by a USACE multidisciplinary team that includes the levee sponsor. The USACE typically conducts this inspection every five years on the federally authorized levees in the USACE Levee Safety Program.

Both Routine and Periodic Inspections result in a rating for operation and maintenance. Each levee segment receives an overall segment inspection rating of Acceptable, Minimally Acceptable, or Unacceptable. **Figure 3.11** below defines the three ratings.

Figure 3.11. Definitions of the Three Levee System Ratings

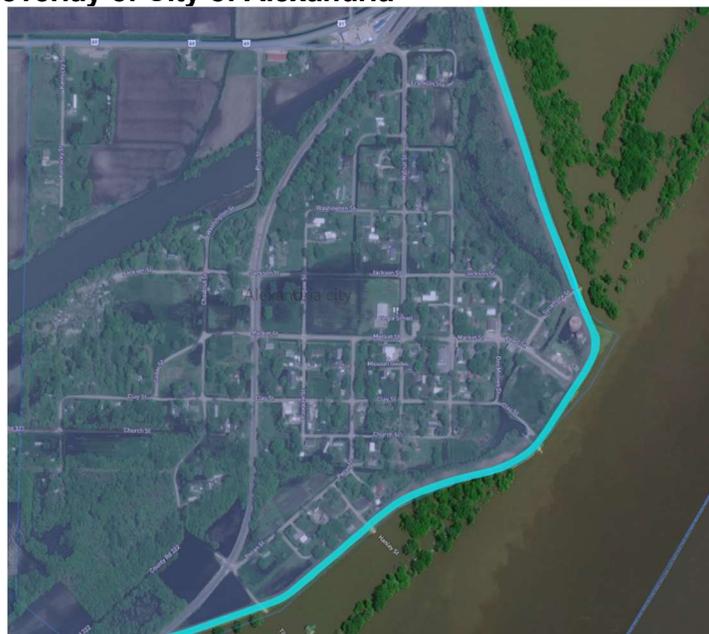
Levee System Inspection Ratings	
Acceptable	All inspection items are rated as Acceptable.
Minimally Acceptable	One or more levee segment inspection items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable inspection items would not prevent the segment/system from performing as intended during the next flood event.
Unacceptable	One or more levee segment inspection items are rated as Unacceptable and would prevent the segment/system from performing as intended, or a serious deficiency noted in past inspections (previous Unacceptable items in a Minimally Acceptable overall rating) has not been corrected within the established timeframe, not to exceed two years.

According to the USACE, no levees in the planning area received a rating of unacceptable.

Potential Losses to Existing Development

The City of Alexandria is protected by the Des Moines and Mississippi Levee District No. 1. Total structures that are protected by this levee are estimated at 156 with a property value estimated at \$28 million. It is also estimated that 222 people are at risk in this levee district zone. As seen in **Figure 3.12** the entire City of Alexandria falls in the 1% annual chance of flood hazard zone. Alexandria is the only development that falls in the 1% annual chance of flood zone with the 6 other levees protecting agricultural ground and minimal structures.

Figure 3.12 DFIRM overlay of City of Alexandria



Source: <https://levees.sec.usace.army.mil/#/levees/system>

Impact of Previous and Future Development

Future development in leveed areas would increase the vulnerability for potential losses. Therefore, development in these areas should be avoided.

Future development in leveed areas would increase vulnerability for potential losses by placing more structures, infrastructure, and residents in areas that rely on levees for flood protection. While levees are designed to reduce flood risks, they do not eliminate them entirely, and any failure, overtopping, or breach could result in catastrophic damage to newly developed properties. Increased development also adds pressure to the levee system by altering natural drainage patterns, reducing water absorption, and increasing runoff, which can strain the levee's capacity and potentially accelerate erosion or weaken structural integrity.

Historically, development in leveed areas has sometimes led to unintended consequences for previous developments. As new buildings, roads, and impervious surfaces are constructed, water that would have naturally dispersed may be redirected, causing flooding in adjacent or downstream areas that were previously considered lower risk. Additionally, in areas where levees have been overtopped or breached, past developments have suffered significant damage, leading to costly repairs, displacement of residents, and economic disruptions. These past events highlight the dangers of relying solely on levees for flood protection, reinforcing the need to avoid future development in these high-risk zones. Kahoka and Luray are not at risk of impacts from levee failure due to their geographic locations outside of levee-protected or downstream inundation areas.

Hazard Summary by Jurisdiction

The City of Alexandria falls within a levee protected area with 9 critical facilities that could become inundated with flooding. The facilities include Fire Service, a Community Center, a Pump House, a Communications Tower, Government Building, Highway Bridge, Rail, and two Tier 2 Chemical Facilities. There are no critical facilities for Clark County, Kahoka, Wayland, Wyaconda, Luray, Revere, or the Clark County R-1 School District located in the 1% annual chance of flood zone.

Problem Statement

The risk of levee failure is usually a secondary effect of flooding or some other natural disaster. The Eastern portion of the county is directly affected by flooding of the Mississippi River and consequential levee failures. Cropland production is decreased, transportation systems effected, and the economy as a whole suffers. There is a lack of participation in hazard mitigation planning by property owners, businesses, and occupants of flood-prone areas, and outreach could be improved so they better understand the consequences of living in these areas. Historically, transportation systems along highway 136 are highly susceptible to flooding due to levee failure, and were typically closed when an event occurs. Highway 136 was raised through Alexandria during 2024 in an attempt to alleviate being closed during flooding. During the event of levee failure, potential loss would be similar to that of flooding.

3.4.3 Dam Failure

Hazard Profile

Hazard Description

A dam is defined as a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water. Dams are typically constructed of earth, rock, concrete, or mine tailings. Dam failure is the uncontrolled release of impounded water resulting in downstream flooding, affecting both life and property. Dam failure can be caused by any of the following:

1. Overtopping: Inadequate spillway design, debris blockage of spillways or settlement of the dam crest.
2. Piping: Internal erosion caused by embankment leakage, foundation leakage and deterioration of pertinent structures appended to the dam.
3. Erosion: Inadequate spillway capacity causing overtopping of the dam, flow erosion, and inadequate slope protection.
4. Structural Failure: Caused by an earthquake, slope instability or faulty construction.

Data from dams in Clark County has been collected from two sources; a listing by the Missouri Department of Natural Resources (MoDNR) and the National Inventory of Dams (NID). Each has its own system of classifying dams. For the purpose of planning, the NID information was used. Neither the MoDNR nor the NID hazard potential classification references the condition of the dam. **Table 3.22** shows MoDNR Dam Hazard Classification Definitions, and **Table 3.23** shows NID Dam hazard Classification Definitions.

Table 3.22 MoDNR Dam Hazard Classification Definitions

Hazard Class	Definition
Class I	Contains 10 or more permanent dwellings or any public building
Class II	Contains 1 to 9 permanent dwellings or 1 or more campgrounds with permanent water, sewer, and electrical services or 1 or more industrial buildings
Class III	Everything else

Source: Missouri Department of Natural Resources, <https://dnr.mo.gov/document-search/frequently-asked-dam-reservoir-questions-pub1351/pub1351>

Table 3.23 NID Dam Hazard Classification Definitions

Hazard Class	Definition
Low Hazard	A dam located in an area where failure could damage only farm or other uninhabited buildings, agricultural or undeveloped land including hiking trails, or traffic on low volume roads that meet the requirements for low hazard dams.
Significant Hazard	A dam located in an area where failure could endanger a few lives, damage an isolated home, damage traffic on moderate volume roads that meet certain requirements, damage low-volume railroad tracks, interrupt the use or service of a utility serving a small number of customers, or inundate recreation facilities, including campground areas intermittently used for sleeping and serving a relatively small number of persons.
High Hazard	A dam located in an area where failure could result in any of the following: extensive loss of life damage to more than one home, damage to industrial or commercial facilities, interruption of a public utility serving a large number of customers, damage to traffic on high-volume roads that meet the requirements for hazard class C dams or a high-volume railroad line, inundation of a frequently used recreation facility serving a relatively large number of persons, or two or more individual hazards described for significant hazard dams

Source: National Inventory of Dams

Geographic Location

Dams Located Within the Planning Area

There are 64 dams located inside the boundaries of Clark County, with 4 dams rated as high hazard dams, 2 rated as significant hazard dams, and 58 rated as low hazard dams. There are no dams owned and operated by the United States Army Corps of Engineers (USACE).

Table 3.24 provides the names, locations, and other pertinent information for all high hazard dams in the planning area.

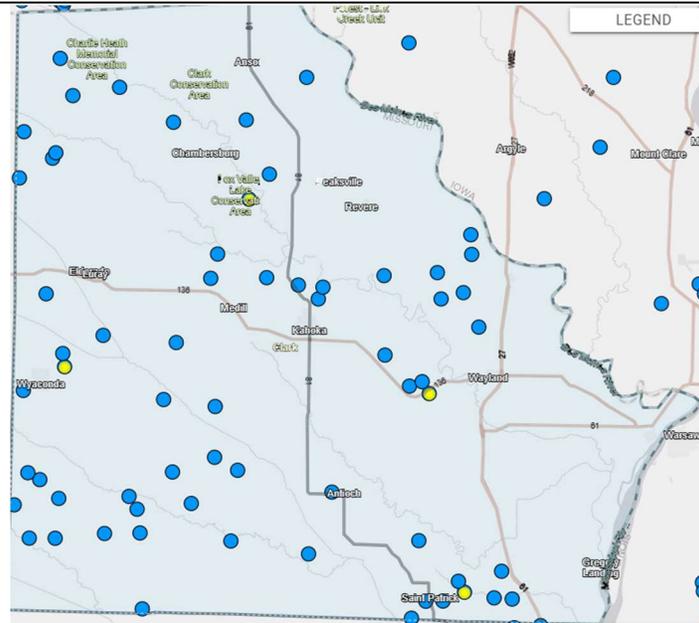
Table 3.24 High Hazard Dams in the Clark County Planning Area

Dam Name	Emergency Action Plan (EAP/AP)	Dam Height (Ft)	Normal Storage (Acre-Ft)	Last Inspection Date	River	Nearest Downstream City	Distance To Nearest City (Miles)	Dam Owner
Fox Valley Dam	Yes	52	4,347	8/25/2021	Fox Creek	Revere	4	Mo Dept. of Conservation
Lake of the Oaks Dam	-	34.4	2,141	8/13/1990	TR-Buck Run Cr	St. Patrick	1.4	Ben Knapp
Wyaconda City Dam	-	32	120	10/5/1978	TR-South Wyaconda River	Wyaconda	.5	City of Wyaconda
Ludwick Lake Dam	-	25	67	-	TR-Fox River	Wayland	1.5	WC Ludwick

Sources: Missouri Department of Natural Resources GIS, <https://gis-modnr.opendata.arcgis.com/pages/dnr-missouri-geological-survey> and National Inventory of Dams, <https://nid.sec.usace.army.mil/#/>. Contact the MoDNR Dam and Reservoir Safety Program at 800-361-4827 to request the inundation maps for your county to show geographic locations at risk, extent of failure and to perform GIS analysis of those assets at risk to dam failure.

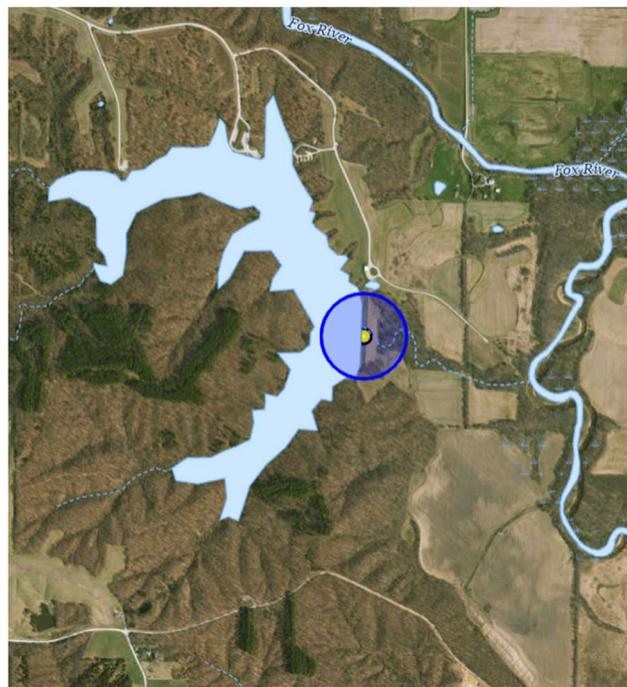
Figure 3.13 shows the location of dams and high hazard dams in Clark County.

Figure 3.13. High Hazard Dam Locations in Clark County and Areas Impacted in the Event of Breach.

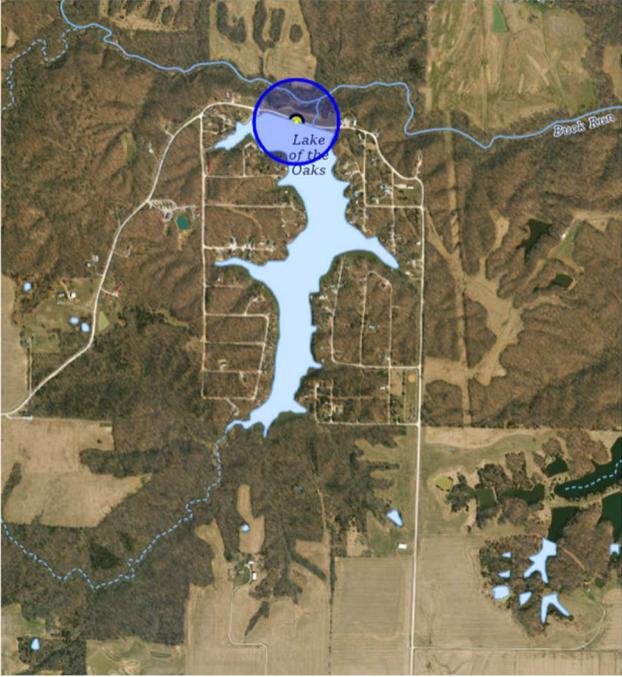


Source: [National Inventory of Dams](#), Blue dots represent dams, Yellow dots represent High Hazard Dams

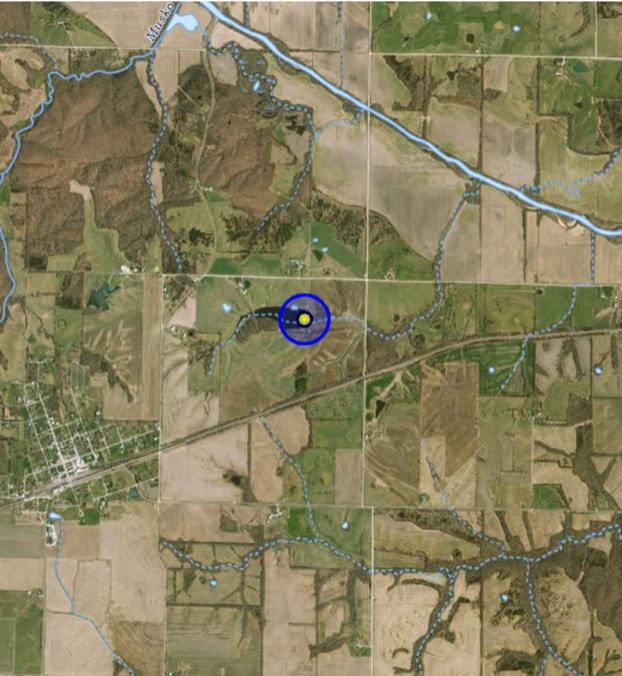
Fox Valley Dam



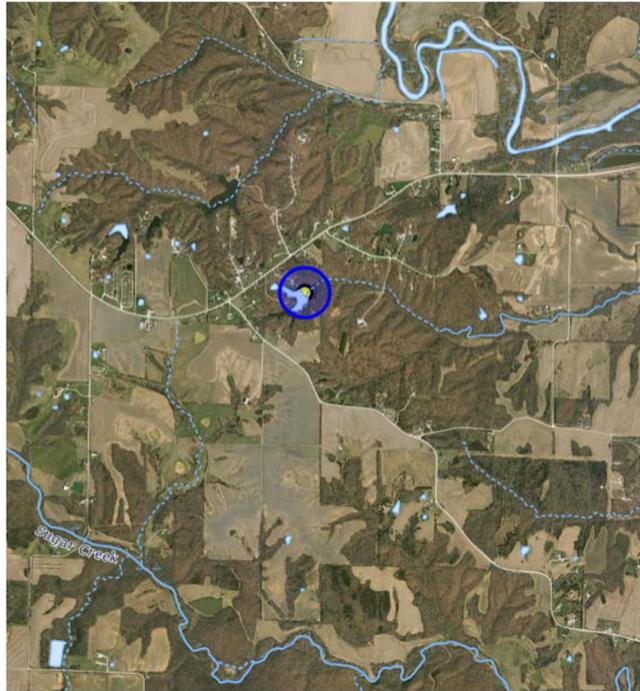
Lake of The Oaks Dam



Wyaconda City Dam



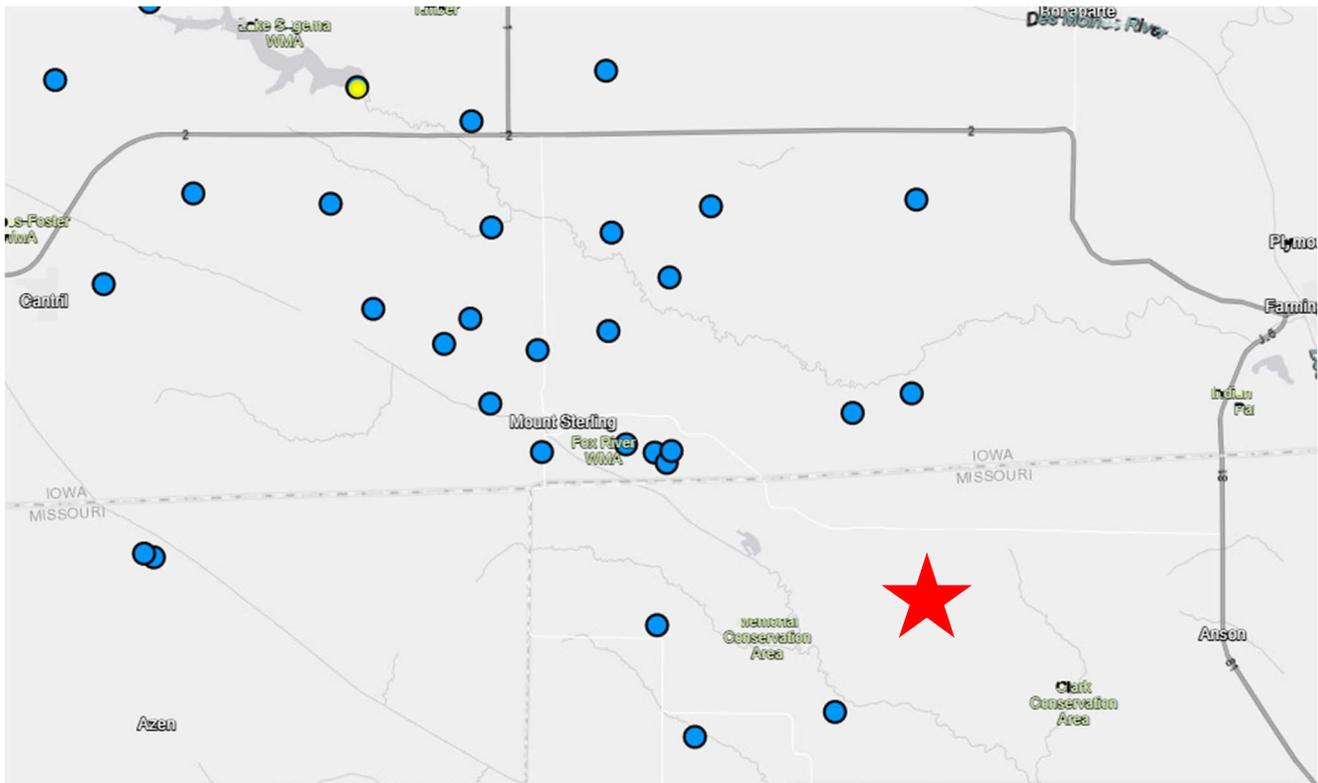
Ludwick Lake Dam



Upstream Dams Outside the Planning Area

According to the Missouri Department of Natural Resources, Missouri Geological Survey, Water Resources Center, there are no regulated high hazard dams that would flow into Clark County from surrounding counties during a failure event. However, there are many dams upstream with the closest High Hazard Dam being within 6 miles of the Clark County line. **Figure 3.14** shows all dams near the planning area and highlights the High Hazard Dam.

Figure 3.14. Upstream Dams Outside Clark County



Source: [National Inventory of Dams](#). Red star denotes Clark County, Yellow dot denotes the High Hazard Dam.

Strength/Magnitude/Extent

The strength/magnitude of dam failure would be similar in some cases to flood events (see the flood hazard vulnerability analysis and discussion). The strength/magnitude/extent of dam failure is related to the volume of water behind the dam as well as the potential speed of onset, depth, and velocity. Note that for this reason, dam failures could flood areas outside of mapped flood hazards.

Previous Occurrences

To determine previous occurrences of dam failure within the planning area, the Clark County Hazard Mitigation Plan was consulted, the 2023 Missouri State Hazard Mitigation Plan, and the Stanford University's National Performance of Dams Program (<http://npdp.stanford.edu>). No record of dam failure within Clark County boundaries was found.

Probability of Future Occurrence

Since it is unknown which dams, if any, might fail at any given time, determining the probability of future occurrence is not possible. In addition, dam failure within the county has not occurred according to available data. Dam failure probability is listed as no data available (NDA) and occurrence is a low probability.

High-hazard dams in Clark County that are not being regulated by the Missouri Department of Natural Resources creates a lack of oversight that can significantly impact the probability of failure, even if precise predictions remain unavailable. Without proper inspections, maintenance, and

enforcement of safety standards, the structural integrity of these dams may degrade over time, increasing the risk of failure due to undetected issues such as seepage, erosion, or structural weaknesses.

The designation of "no data available (NDA)" for dam failure probability does not necessarily mean the risk is low; rather, it reflects the absence of sufficient monitoring and historical failure data. Unregulated high-hazard dams, which are classified as such due to the potential for loss of life and significant property damage in the event of failure, may pose a greater risk than what is currently documented.

In the absence of regulatory oversight, responsibility for dam safety falls on the owners, who may or may not have the technical expertise or resources to conduct regular inspections and necessary repairs. This uncertainty increases the challenge of assessing potential future failures and could leave downstream communities vulnerable to sudden and severe flood events. Therefore, while no historical failures have been recorded, the lack of regulation introduces an unquantifiable but potentially significant risk factor.

Changing Future Conditions Considerations

The impact of changing future conditions on dam failure will most likely be related to changes in precipitation and flood likelihood. Climate Change projections suggest that precipitation may increase and occur in more extreme events, which may increase risk of flooding, putting stress on dams and increasing likelihood of dam failure. Furthermore, aging dam infrastructure and a lack of regular maintenance coupled with more extreme weather events may increase risk of future dam failure.

Vulnerability

Vulnerability Overview

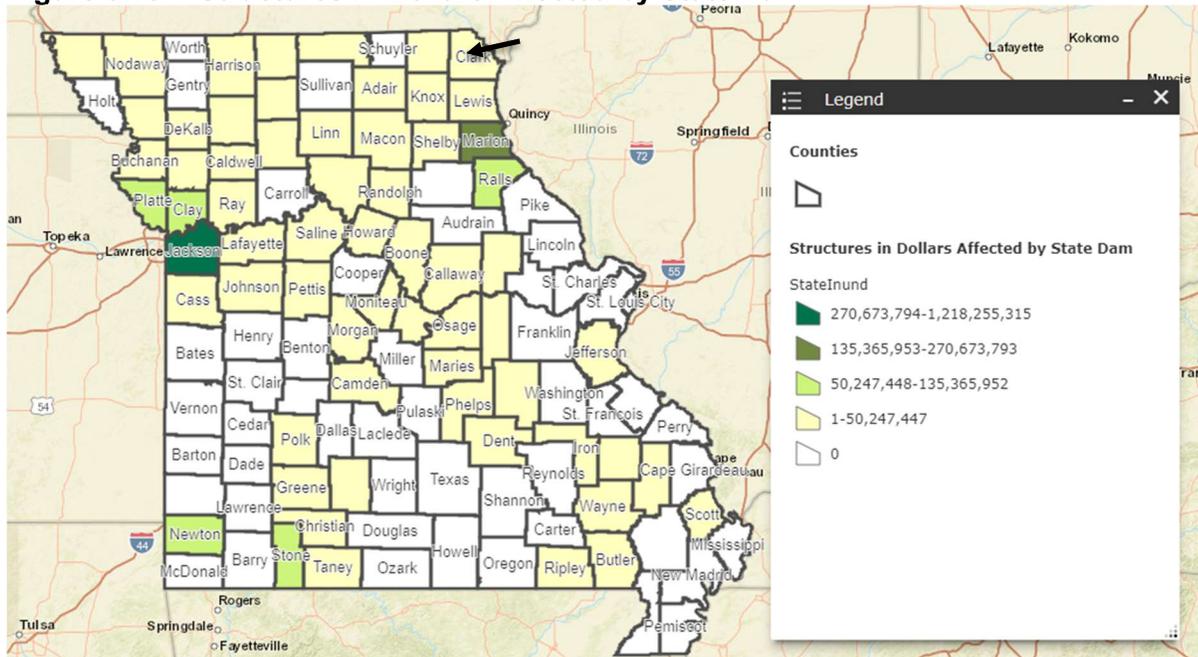
Data was obtained from the 2023 Missouri State Hazard Mitigation Plan for the vulnerability analysis of dam failure for Clark County. There are, however, data limitations regarding dams unregulated by the State of Missouri due to height requirements. These limitations hinder vulnerability analysis; nonetheless, failure potential still exists.

Potential Losses to Existing Development: (including types and numbers, of buildings, critical facilities, etc.)

The worst-case dam failure at any high hazard dam in the county could lead to serious loss to road infrastructure, commercial and residential structures, and human life. However, all high hazard dams located within the Clark County planning area are rural in nature.

Figure 3.15 shows the structures in dollars affected by a state dam in Clark County.

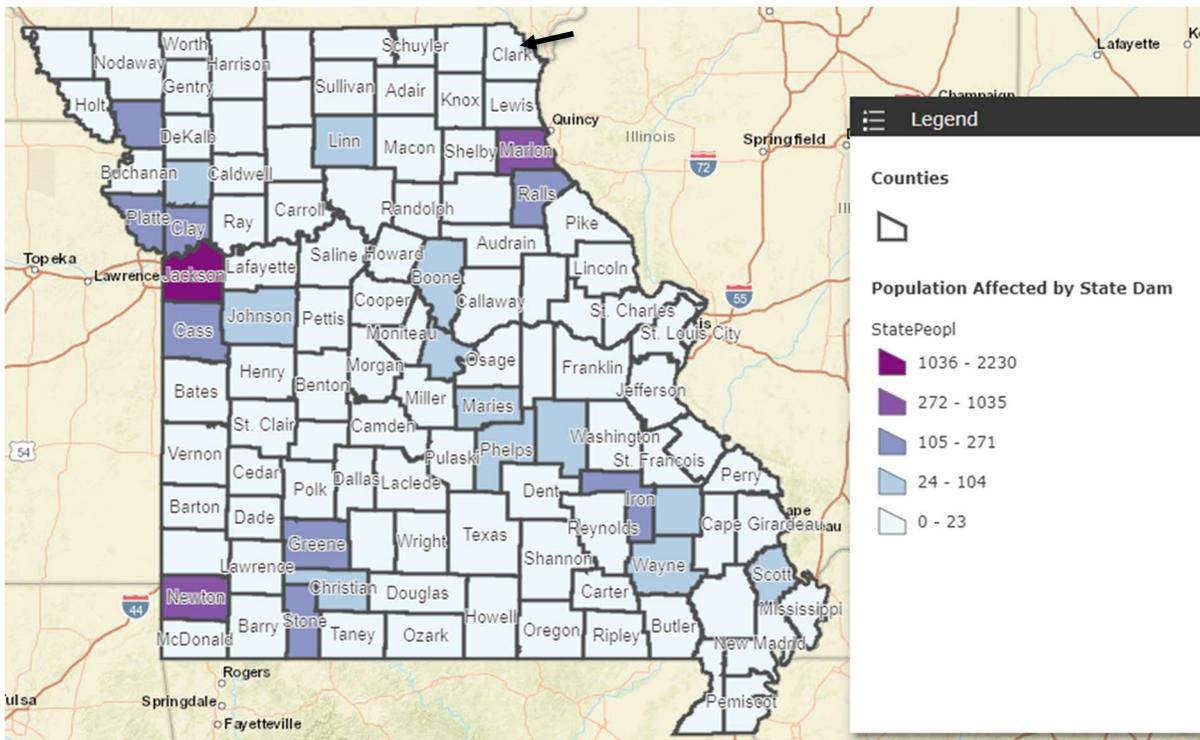
Figure 3.15. Structures in Dollars Affected by State Dam



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.16 shows the population affected by a state dam in Clark County.

Figure 3.16. Population Affected by State Dam



Source: 2023 Missouri State Hazard Mitigation Plan

Impact of Previous and Future Development

Future development within the county that has potential to be influenced by dam failure includes any areas downstream of dams within the 100-year floodplain encompassing regions adjacent to major waterways such as the Fox River and its tributaries. Low-lying areas near these water bodies are susceptible to flooding due to dam failure. Introducing new development into these areas without adequate flood mitigation measures can exacerbate the risk to both new and existing structures. All four high hazard dams located in Clark County are located in rural areas ranging from 3 to 9 miles from incorporated areas.

Historically, development within these floodplains has faced challenges due to natural flooding events. The Fox River, for instance, has exhibited significant flood events, with 100-year flood flows estimated at approximately 20,400 cubic feet per second. Such substantial water volumes can inundate adjacent lands, impacting existing structures and infrastructure.

Hazard Summary by Jurisdiction

Vulnerability to dam failure and flooding varies across Clark County based on several key factors, including topography, proximity to water bodies, infrastructure, and population distribution. While some areas have significant exposure to potential flooding, others remain largely unaffected due to their elevation and distance from high-risk zones.

Areas directly downstream of dams face the highest vulnerability. The three state-regulated dams in Clark County have a total building loss exposure of \$1,255,361 but not estimated population exposure.

Clark County: Rural farmland, while less densely populated, could suffer significant financial losses if floods destroy crops, erode soil, or damage equipment.

Kahoka and Wayland: More developed areas, such as Kahoka and Wayland, may experience greater economic impacts if dam failures cause flood damage to infrastructure, businesses, or residences.

Alexandria and Wayland: Low-lying areas near rivers, such as portions of Alexandria and Wayland, remain at higher risk, particularly if drainage infrastructure is inadequate.

Revere and Luray: Communities at higher elevations, such as Revere and Luray, have lower vulnerability to flood-related disasters, including dam failures.

Clark County School District: The District does not have assets located within dam breach inundation areas, reducing their direct vulnerability to dam-related flooding. However, indirect impacts such as road closures, power outages, and disruption of emergency services could still affect school operations.

Problem Statement

In summary, the hazard risk for dam failure in Clark County ranges between high (where failure could result in loss of life and significant damage to infrastructure, often located near populated areas or critical infrastructure) and low (Dams with minimal downstream development, where failure would primarily impact agricultural land, open space, or minor roadways, with little to no direct threat to human life), depending upon the dam. If a dam does fail, the expected impacts could vary from negligible (Minor flooding affecting undeveloped land, farmland, or secondary roads, with little or no financial loss or disruption to daily life) to critical (Major infrastructure failure, significant damage to residential and commercial buildings, loss of utilities, road closures, displacement of residents, and potential loss of life), and could potentially affect road infrastructure, residential structures, commercial buildings, public structures, and human life. It is recommended to encourage land use management practices such as offering training programs for private dam owners on routine inspection and maintenance and promoting voluntary compliance with dam safety regulations to decrease the potential for damage from a dam collapse, including the discouragement of development in areas with the potential for sustaining damage from a dam failure. Installation of educational programs to inform the public of dam safety measures and preparedness activities would be beneficial. In addition, the availability of training programs to encourage landowners to properly inspect their dams and develop emergency action plans would be advantageous.

3.4.4 Earthquakes

Hazard Profile

Hazard Description

An earthquake is a sudden motion or trembling that is caused by a release of energy accumulated within or along the edge of the earth's tectonic plates. Earthquakes occur primarily along fault zones and tears in the earth's crust. Along these faults and tears in the crust, stresses can build until one side of the fault slips, generating compressive and shear energy that produces the shaking and damage to the built environment. Heaviest damage generally occurs nearest the earthquake epicenter, which is that point on the earth's surface directly above the point of fault movement. The composition of geologic materials between these points is a major factor in transmitting the energy to buildings and other structures on the earth's surface.

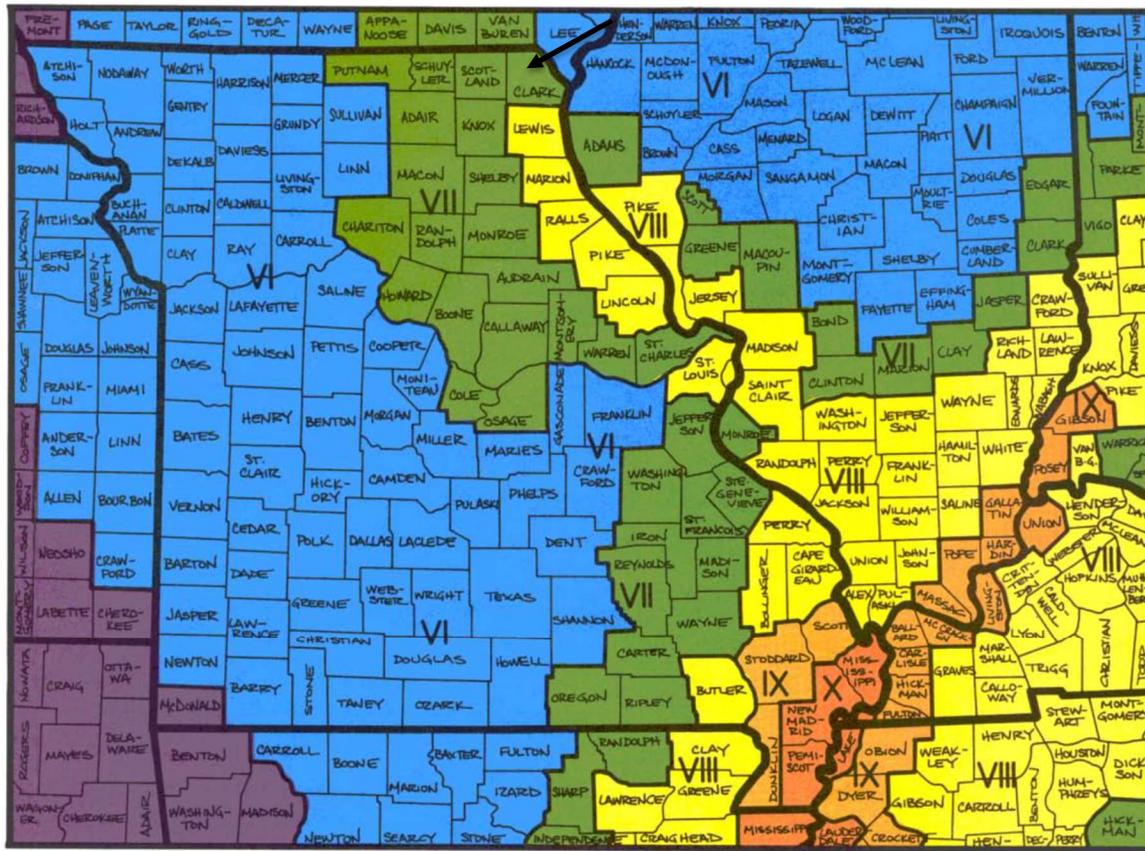
Some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern United States. The most seismically active area in the Midwest is the New Madrid Seismic Zone. The possibility of the occurrence of a catastrophic earthquake in the central and Eastern United States is real as evidenced by history. The impacts of significant earthquakes affect large areas, terminating public services and systems needed to aid the suffering and displaced. As with hurricanes, mass relocation may be necessary, but the residents who are suffering from the earthquake can neither leave the heavily impacted areas nor receive aid or even communication in the aftermath of a significant event.

Geographic Location

Seismic activity on the New Madrid Seismic Zone of Southeastern Missouri is very significant both historically and at present. On December 16, 1811 and January 23 and February 7 of 1812, three earthquakes struck the central U.S. with magnitudes estimated to be 7.5-8.0. These earthquakes caused violent ground cracking and volcano-like eruptions of sediment (sand blows) over an areas of >10,500 km², and uplift of a 50 km by 23 km zone (the Lake County uplift). The shaking was felt over a total area of over 10 million km² (the largest felt area of any historical earthquake). Of all the historical earthquakes that have occurred in the U.S., an 1811-style event would do the most damage if it reoccurred today. If an 1811 earthquake occurred in Clark County the earthquake intensity would not vary within the county. Damage would be to buildings of good design and construction, slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures and some chimneys broken.

The following SEMA map **Figure 3.17** shows the highest projected Modified Mercalli intensities by county from a potential magnitude 7.6 earthquake whose epicenter could be anywhere along the length of the New Madrid Seismic Zone. Clark County is shown in the green area, which is defined in **Figure 3.18**. The secondary maps in **Figure 3.17** also show the same regional intensities for 6.7 and 8.6 earthquake, respectively.

Figure 3.17. Impact Zones for Earthquake Along the New Madrid Fault

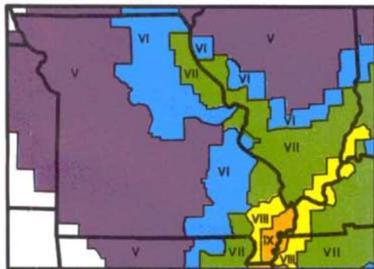


This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 7.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

6.7

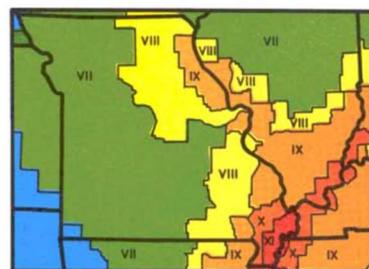
7.6

8.6



This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 6.7 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 8.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.



Source: https://sema.dps.mo.gov/docs/EQ_Map.pdf

Figure 3.18. Projected Earthquake Intensities

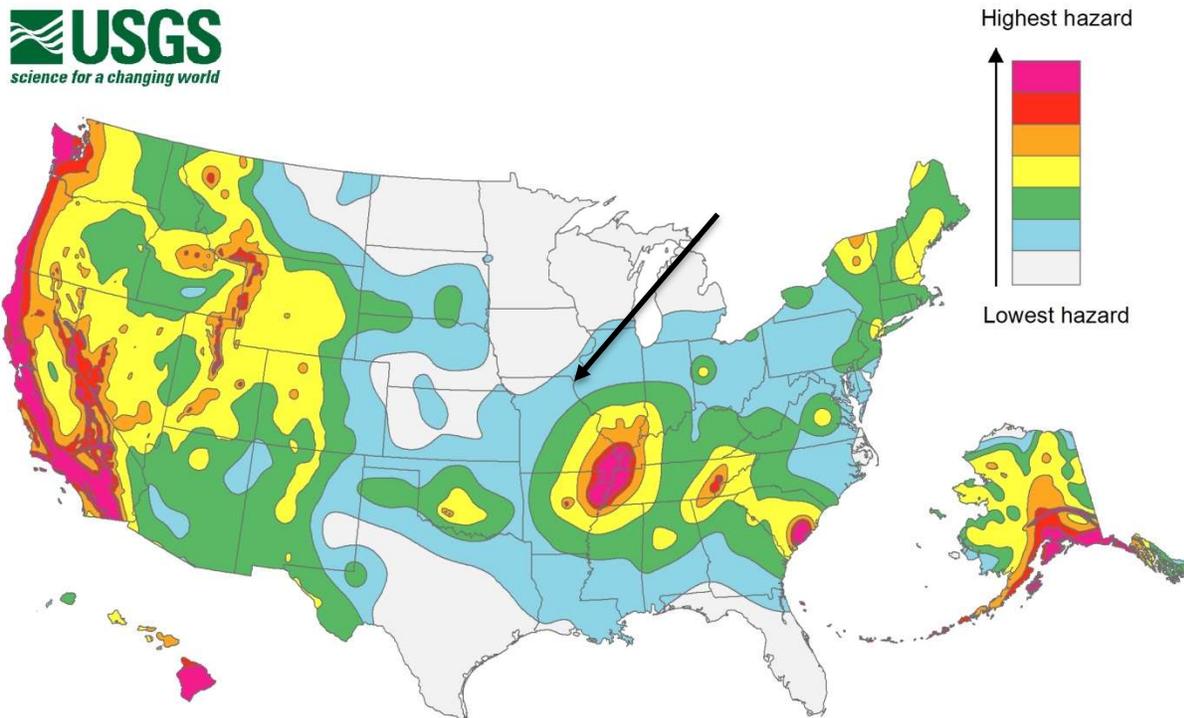
MODIFIED MERCALLI INTENSITY SCALE

- I People do not feel any Earth movement.
- II A few people might notice movement.
- III Many people indoors feel movement. Hanging objects swing.
- IV Most people indoors feel movement. Dishes, windows, and doors rattle. Walls and frames of structures creak. Liquids in open vessels are slightly disturbed. Parked cars rock.
- V Almost everyone feels movement. Most people are awakened. Doors swing open or closed. Dishes are broken. Pictures on the wall move. Windows crack in some cases. Small objects move or are turned over. Liquids might spill out of open containers.
- VI Everyone feels movement. Poorly built buildings are damaged slightly. Considerable quantities of dishes and glassware, and some windows are broken. People have trouble walking. Pictures fall off walls. Objects fall from shelves. Plaster in walls might crack. Some furniture is overturned. Small bells in churches, chapels and schools ring.
- VII People have difficulty standing. Considerable damage in poorly built or badly designed buildings, adobe houses, old walls, spires and others. Damage is slight to moderate in well-built buildings. Numerous windows are broken. Weak chimneys break at roof lines. Cornices from towers and high buildings fall. Loose bricks fall from buildings. Heavy furniture is overturned and damaged. Some sand and gravel stream banks cave in.
- VIII Drivers have trouble steering. Poorly built structures suffer severe damage. Ordinary substantial buildings partially collapse. Damage slight in structures especially built to withstand earthquakes. Tree branches break. Houses not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Temporary or permanent changes in springs and wells. Sand and mud is ejected in small amounts.
- IX Most buildings suffer damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks conspicuously. Reservoirs suffer severe damage.
- X Well-built wooden structures are severely damaged and some destroyed. Most masonry and frame structures are destroyed, including their foundations. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, and lakes. Railroad tracks are bent slightly. Cracks are opened in cement pavements and asphalt road surfaces.
- XI Few if any masonry structures remain standing. Large, well-built bridges are destroyed. Wood frame structures are severely damaged, especially near epicenters. Buried pipelines are rendered completely useless. Railroad tracks are badly bent. Water mixed with sand, and mud is ejected in large amounts.
- XII Damage is total, and nearly all works of construction are damaged greatly or destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move. Lakes are dammed, waterfalls formed and rivers are deflected.

Intensity is a numerical index describing the effects of an earthquake on the surface of the Earth, on man, and on structures built by man. The intensities shown in these maps are the highest likely under the most adverse geologic conditions. There will actually be a range in intensities within any small area such as a town or county, with the highest intensity generally occurring at only a few sites. Earthquakes of all three magnitudes represented in these maps occurred during the 1811 - 1812 "New Madrid earthquakes." The isoseismal patterns shown here, however, were simulated based on actual patterns of somewhat smaller but damaging earthquakes that occurred in the New Madrid seismic zone in 1843 and 1895.

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THE MISSOURI STATE
EMERGENCY MANAGEMENT AGENCY
P.O. BOX 116
JEFFERSON CITY, MO 65102
Telephone: 573-526-9100

Figure 3.19. United States Seismic Hazard Map



Source: United States Geological Survey at <https://www.usgs.gov/programs/earthquake-hazards/hazards>

Strength/Magnitude/Extent

The extent or severity of earthquakes is generally measured in two ways: 1) the Richter Magnitude Scale is a measure of earthquake magnitude; and 2) the Modified Mercalli Intensity Scale is a measure of earthquake severity. The two scales are defined as follows.

Richter Magnitude Scale

The Richter Magnitude Scale was developed in 1935 as a device to compare the size of earthquakes. The magnitude of an earthquake is measured using a logarithm of the maximum extent of waves recorded by seismographs. Adjustments are made to reflect the variation in the distance between the various seismographs and the epicenter of the earthquakes. On the Richter Scale, magnitude is expressed in whole numbers and decimal fractions. For example, comparing a 5.3 and a 6.3 earthquake shows that the 6.3 quake is ten times bigger in magnitude. Each whole number increase in magnitude represents a tenfold increase in measured amplitude because of the logarithm. Each whole number step in the magnitude scale represents a release of approximately 31 times more energy.

Modified Mercalli Intensity Scale

The intensity of an earthquake is measured by the effect of the earthquake on the earth's surface. The intensity scale is based on the responses to the quake, such as people awakening, movement of furniture, damage to chimneys, etc. The intensity scale currently used in the United States is the

Modified Mercalli (MM) Intensity Scale. It was developed in 1931 and is composed of 12 increasing levels of intensity. They range from imperceptible shaking to catastrophic destruction, and each of the twelve levels is denoted by a Roman numeral. The scale does not have a mathematical basis, but is based on observed effects. Its use gives the laymen a more meaningful idea of the severity.

Previous Occurrences

There have been 0 earthquakes reported in Clark County since 1931.

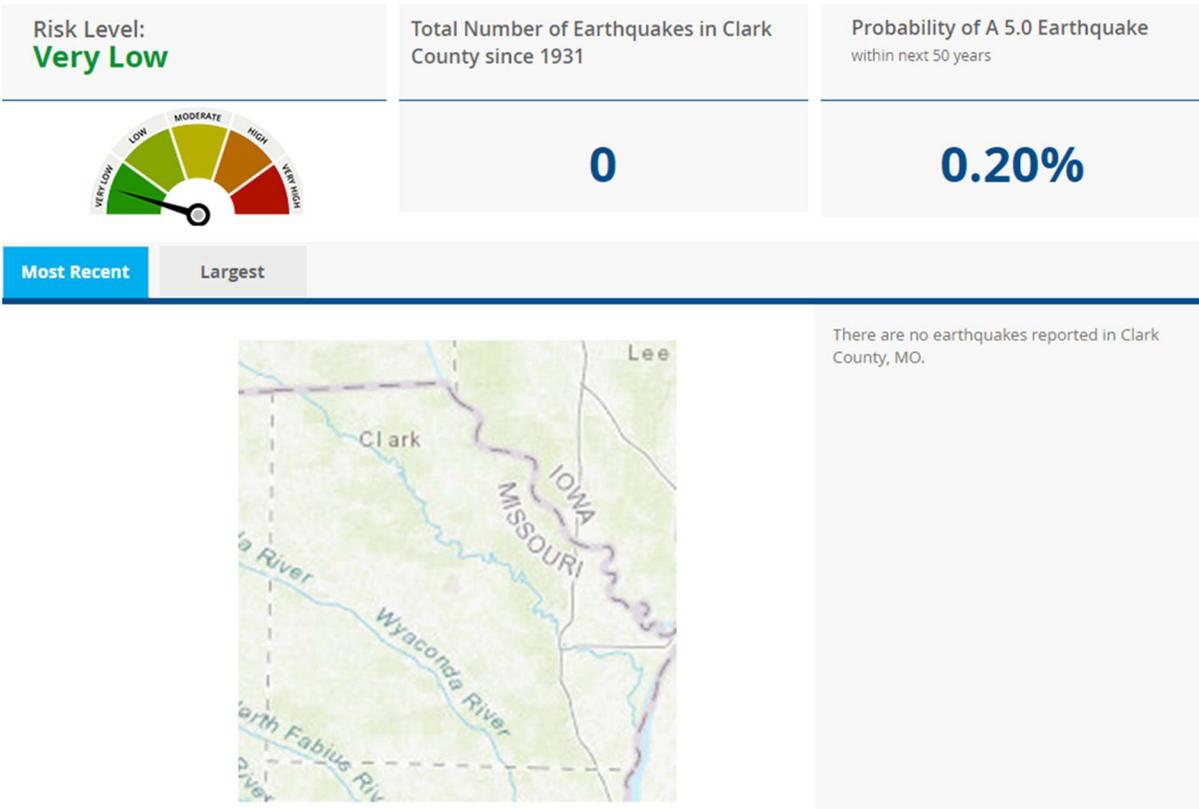
Probability of Future Occurrence

As described in **Figure 3.20**, Clark County, MO has a low earthquake risk, with a total of 0 earthquakes since 1931. The USGS database shows that there is a .20% chance of a major earthquake within 50 km of Clark County, MO in the next 50 years.

Figure 3.20. Probability of Earthquake in Clark County

Earthquake Information for Clark County, Missouri

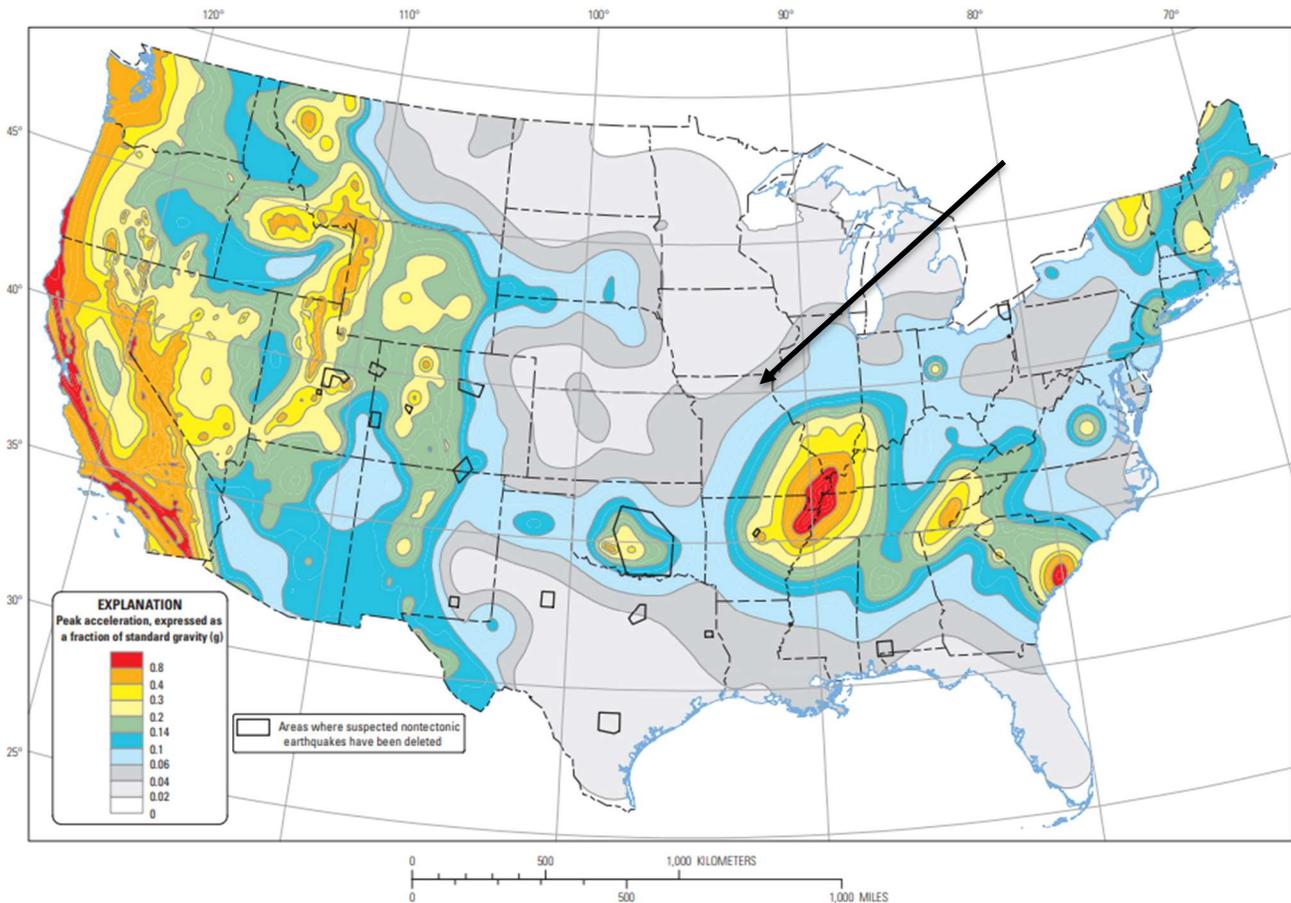
Clark County, MO has a very low earthquake risk, with a total of 0 earthquakes since 1931. The USGS database shows that there is a 0.20% chance of a major earthquake within 50km of Clark County, MO within the next 50 years.



Source: <https://www.homefacts.com/earthquakes/Missouri/Clark-County.html>

Figure 3.21 illustrates the two-percent probability of exceedance in 50 years map of peak ground acceleration.

Figure 3.21. Two-Percent Probability of Exceedance in 50 Years Map of Peak Ground Acceleration



Source: <https://earthquake.usgs.gov/static/lfs/nshm/conterminous/2014/2014pga2pct.pdf>

Changing Future Conditions Considerations

Scientists are beginning to believe there may be a connection between changing climate conditions and earthquakes. Changing ice caps and sea-level redistribute weight over fault lines, which could potentially have an influence on earthquake occurrences. However, currently no studies quantify the relationship to a high level of detail, so recent earthquakes should not be linked with climate change. While not conclusive, early research suggests that more intense earthquakes and tsunamis may eventually be added to the adverse consequences that are caused by changing future conditions.

Vulnerability

Vulnerability Overview

Based on the 2023 State Plan, Clark County, Missouri, has been classified with a very low earthquake risk rating. This rating is based on the likelihood of significant earthquake events occurring in the area, with the 0-10% risk range indicating minimal threat compared to regions more prone to seismic activity.

However, while the overall earthquake risk in Clark County is considered low, vulnerabilities can still exist in various jurisdictions within the county. These vulnerabilities primarily depend on the type of construction, proximity to fault lines, building age and materials, and the local population's preparedness.

According to the State of Earthquake Coverage Report, the average premium for earthquake coverage in Clark County for 2023 is \$78 for earthquake coverage and \$61 for \$140K-\$249K coverage. These premiums reflect the low earthquake risk in the planning area, and homeowners typically pay less for earthquake insurance due to the minimal probability of significant seismic events.

Kahoka: As the county seat and most developed city in Clark County, Kahoka has a higher density of buildings and infrastructure that could potentially be affected by an earthquake. Most structures are relatively modern, but some older buildings could be more vulnerable to seismic events. Strengthening public buildings and critical infrastructure in the event of an earthquake could reduce vulnerability.

Alexandria: Alexandria is a smaller town, but it is still subject to the same low earthquake risk as the rest of the county. However, any older structures or buildings not constructed with earthquake resilience in mind could face more damage in a rare earthquake. Educating local residents about seismic risks and the importance of retrofitting older buildings to withstand seismic events could help mitigate potential damage.

Wayland: Wayland, being a smaller rural area, has fewer large structures at risk of earthquake damage. However, the risk remains for smaller residential buildings or poorly constructed structures. Encouraging home and building owners to consider earthquake-resistant retrofitting and ensuring that new construction follows up-to-date seismic safety standards.

Wyaconda: Wyaconda, similar to Wayland, has fewer high-risk buildings due to its smaller population and relatively simple infrastructure. However, the risk remains for smaller residential buildings or poorly constructed structures. Encouraging home and building owners to consider earthquake-resistant retrofitting and ensuring that new construction follows up-to-date seismic safety standards.

Luray: Luray is a rural community with minimal development. Like other small towns, the vulnerability comes primarily from older residential structures. Encourage property owners to retroactively upgrade foundations and support structures to minimize potential damage.

Revere: Revere, as a small rural area, has fewer buildings that could be significantly affected by an earthquake. However, any older or unreinforced buildings might be at risk, particularly if they are situated near any potential ground movements, though seismic risk is still low. Encourage property owners to retroactively upgrade foundations and support structures to minimize potential damage.

Clark County R-1 School District: Educational facilities are generally more vulnerable to earthquakes because they house many students in one location. Although earthquake risk is very low, older school buildings may not have been designed to withstand seismic events. The district could implement earthquake preparedness drills, inspect existing buildings for structural integrity, and retroactively retrofit older buildings with seismic reinforcements if necessary.

Potential Losses to Existing Development

The Hazus building inventory counts are based on the 2010 census data adjusted to 2014 numbers using the Duns & Bradstreet Business Population Report. Inventory values reflect 2014 valuations, based on RSMeans (a supplier of construction cost information) replacement costs. Population counts are 2010 estimates from the U.S. Census Bureau.

The date in **Figure 3.22** below is from the 2023 Missouri State Hazard Mitigation Plan Table A.10.

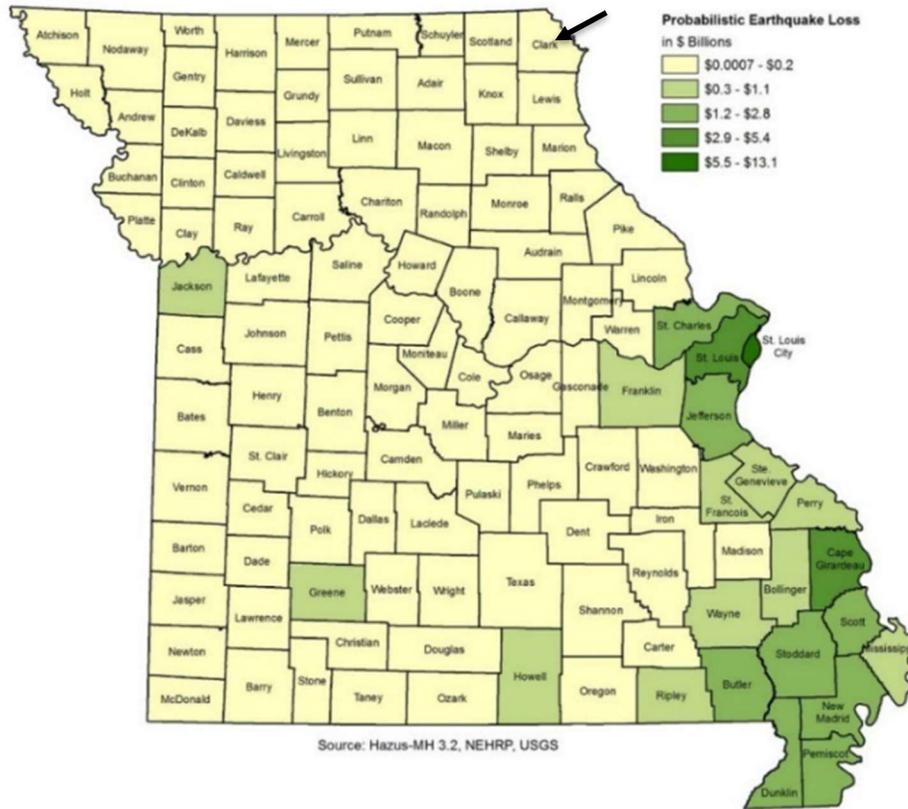
Figure 3.22. Hazus Earthquake Loss Estimation: Annualized Loss Scenario

County	Annualized Frequency	Expected Annual Loss Buildings (in \$ Thousands)	Expected Annual Loss - Fatalities	Expected Annual Loss - Population Equivalence	Expected Annual Loss - Total	Expected Annual Loss Rating
Clark	0.00035	\$8	0.00007	\$520	\$8,862	Very Low

Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.23 identifies earthquake total building exposure with the planning area in the \$0.0007-\$0.2 Billion range.

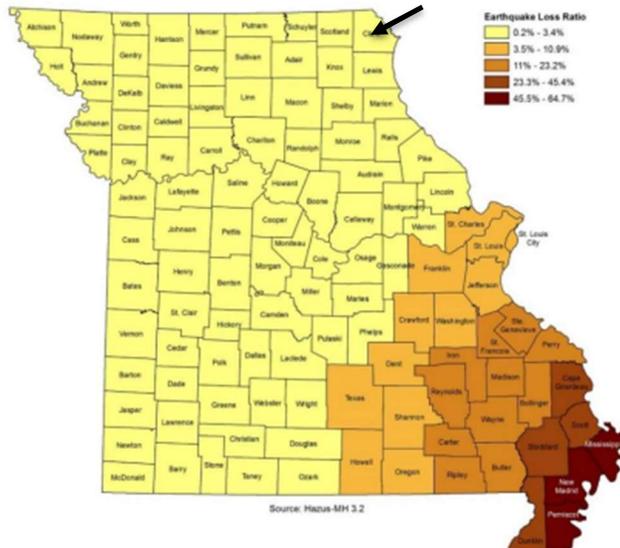
Figure 3.23. Hazus Earthquake Loss Estimation with a 2% Probability of Exceedance in 50 Years Scenario – Total Building Loss



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.24 identifies total property loss ratio in the 0.2%-3.4% range.

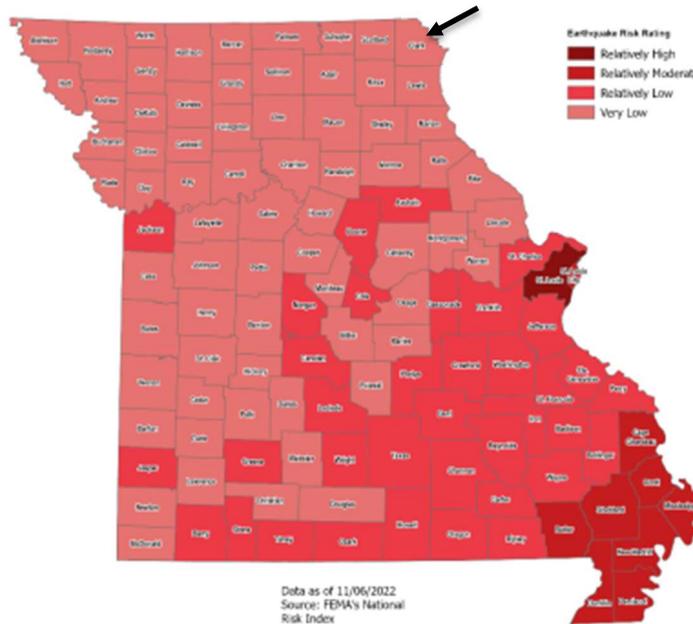
Figure 3.24. Hazus Earthquake Loss Estimation with a 2% Probability of Exceedance in 50 Years Scenario – Loss Ratio



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.25 identifies that Clark County has a very low earthquake risk rating according to FEMA's National Risk Index.

Figure 3.25. FEMA's National Risk Index – Earthquake Risk Rating



Source: 2023 Missouri State Hazard Mitigation Plan

Impact of Previous and Future Development

Future development is not expected to increase the risk other than contributing to the overall exposure of what could become damaged as a result of an event.

Hazard Summary by Jurisdiction

Since the earthquake intensity is not likely to vary greatly throughout the planning area, the risk will be the same throughout. However, damages could differ if there are structural variations in the planning area-built environment. For example, if one community has a higher percentage of residences built prior to 1939 than the other participants, that community is likely to experience higher damages.

Problem Statement

Although Clark County is not located in an area that will likely see catastrophic damage from an earthquake, the County will be impacted by the loss of communications, transportation, the disruption of roads, rail and pipelines, water transportation, and the area will see a significant amount of refugees fleeing from Southern Missouri if a quake hits that area. Education is minimal for earthquakes do to the low likely hood of impact. There is one Emergency Management Director for the County that knows where all the generators and emergency buildings are. Not all citizens utilize social media and texting. An emergency plan for earthquakes needs to be made available to all residents and stated what would happen in the event of an earthquake with details for communications and transportation. Downtown building owners need to know plan in case damage is done to their building. Residents need to be made aware of where the generators and emergency buildings are located. Utilization of social media and texting needs to be encouraged.

3.4.5 Land Subsidence/Sinkholes

Hazard Profile

Hazard Description

Sinkholes are common where the rock below the land surface is limestone, carbonate rock, salt beds, or rocks that naturally can be dissolved by ground water circulating through them. As the rock dissolves, spaces and caverns develop underground. The sudden collapse of the land surface above them can be dramatic and range in size from broad, regional lowering of the land surface to localized collapse. However, the primary causes of most subsidence are human activities: underground mining of coal, groundwater or petroleum withdrawal, and drainage of organic soils. In addition, sinkholes can develop as a result of subsurface void spaces created over time due to the erosion of subsurface limestone (karst).

Land subsidence occurs slowly and continuously over time, as a general rule. On occasion, it can occur abruptly, as in the sudden formation of sinkholes. Sinkhole formation can be aggravated by flooding.

In the case of sinkholes, the rock below the surface is rock that has been dissolving by circulating groundwater. As the rock dissolves, spaces and caverns form, and ultimately the land above the spaces collapse. In Missouri, sinkhole problems are usually a result of surface materials above openings into bedrock caves eroding and collapsing into the cave opening. These collapses are called “cover collapses” and geologic information can be applied to predict the general regions where collapse will occur. Sinkholes range in size from several square yards to hundreds of acres and may be quite shallow or hundreds of feet deep.

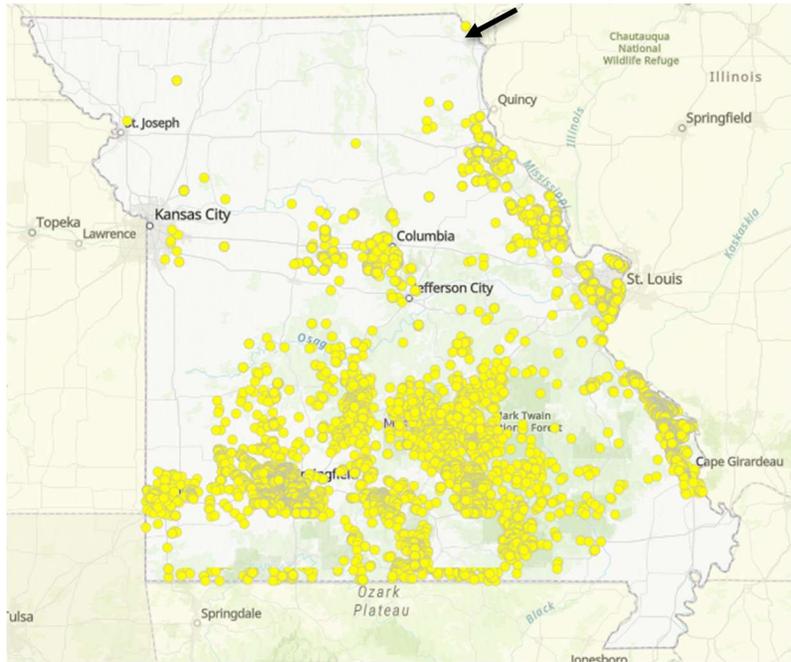
According to the U.S. Geological Survey (USGS), the most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. Fifty-nine percent of Missouri is underlain by thick, carbonate rock that makes Missouri vulnerable to sinkholes. Sinkholes occur in Missouri on a fairly frequent basis. Most of Missouri’s sinkholes occur naturally in the State’s karst regions (areas with soluble bedrock). They are a common geologic hazard in southern Missouri, but also occur in the central and northeastern parts of the State. Missouri sinkholes have varied from a few feet to hundreds of acres and from less than one to more than 100 feet deep. The largest known sinkhole in Missouri encompasses about 700 acres in western Boone County southeast of where Interstate 70 crosses the Missouri River. Sinkholes can also vary in shape like shallow bowls or saucers whereas other have vertical walls. Some hold water and form natural ponds.

According to the 2023 Missouri State Hazard Mitigation Plan, there are 43 mines, 2 sinkholes, and 0 caves in Clark County.

Geographic Location

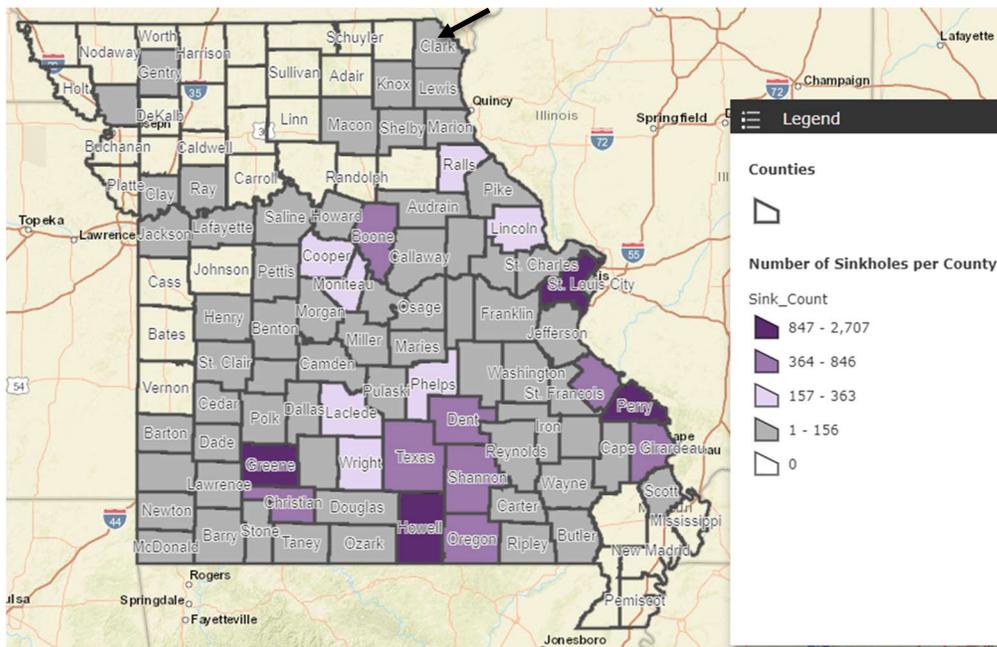
The geographic location of Sinkholes, Mines, and Karsts in the planning area are illustrated in Figures 3.26 through 3.29.

Figure 3.26. Sinkholes in Missouri



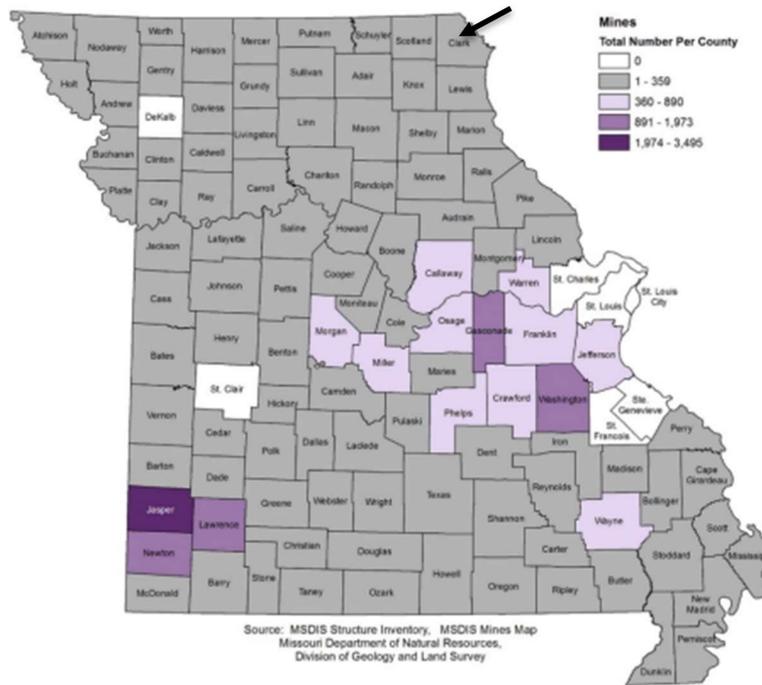
Source: <https://modnr.arcgis.com>

Figure 3.27. Sinkhole Counts per county



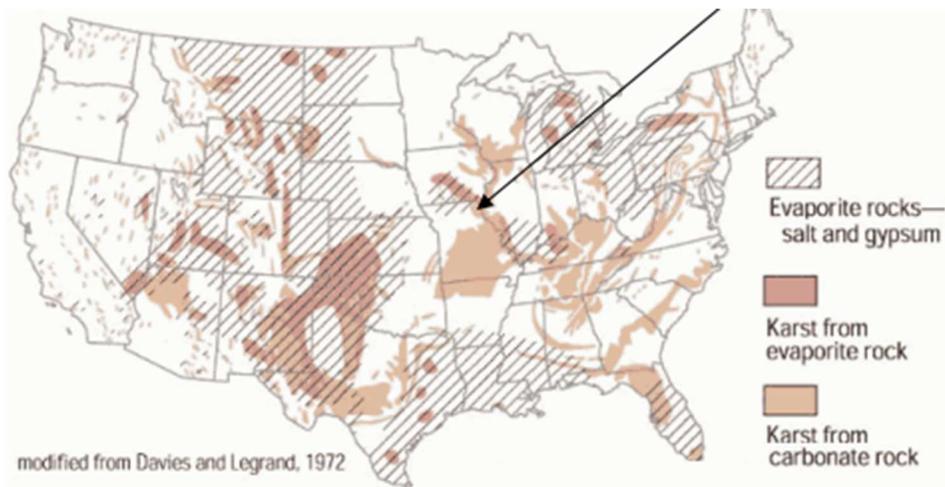
Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.28. Mine Counts per county



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.29. Karst in Missouri



Source: <http://strangesounds.org/2013/07/us-sinkhole-map-these-maps-show-that-around-40-of-the-u-s-lies-in-areas-prone-to-sinkholes.html>

Strength/Magnitude/Extent

Sinkholes vary in size and location, and these variances will determine the impact of the hazard. A sinkhole could result in the loss of a personal vehicle, a building collapse, or damage to infrastructure such as roads, water, or sewer lines. Groundwater contamination is also possible from a sinkhole. Because of the relationship of sinkholes to groundwater, pollutants captured or dumped in sinkholes could affect a community’s groundwater system. Sinkhole collapse could be triggered by large earthquakes. Sinkholes located in floodplains can absorb floodwaters but make detailed flood hazard studies difficult to model.

Previous Occurrences

As noted in the 2023 State Plan, sinkholes are a regular occurrence in Missouri, but rarely are the events of any significance. Clark County has 2 sinkholes and the likeliness of a future occurrence would be considered low.

Probability of Future Occurrence

The likelihood of a sinkhole of any significance occurring in the planning area is low, as defined in this chapter, based on the past history of the sinkholes recorded. Due to data limitations precluding probability calculation, such as the lack of a centralized database for sinkhole occurrences in the state, this cannot be quantitatively defined, therefore it has been deemed low. According to most research, the chance of a catastrophic sinkhole occurring at any given time is around a “one in one hundred” chance per year, meaning the percentage is roughly 1%.

Figure 3.30 demonstrates sinkhole rating values according to the 2023 Missouri State Hazard Mitigation Plan.

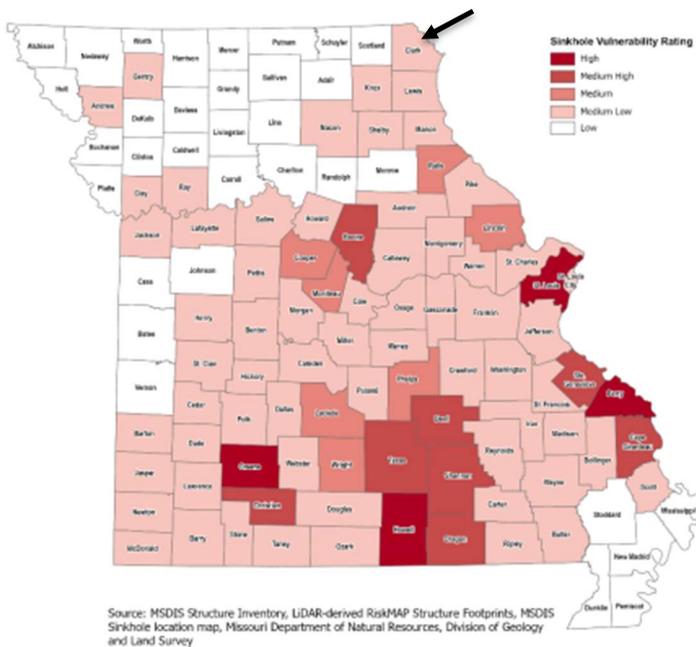
Figure 3.30. Sinkhole Rating Values

Factor	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Sinkholes per county	0	1 – 156	157-363	364-846	847-2,707

Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.31 illustrates sinkhole rating value by county according to the 2023 Missouri State hazard Mitigation Plan, identifying Clark County as a medium low risk.

Figure 3.31. Sinkhole Rating Value By County



Source: 2023 Missouri State Hazard Mitigation Plan

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, direct effects from changing climate conditions such as an increase in droughts could contribute to an increase in sinkholes. These changes raise the likelihood of extreme weather, meaning the torrential rain and flooding conditions which often lead to the exposure of sinkholes are likely to become increasingly common. Certain events such as a heavy precipitation following a period of drought can trigger a sinkhole due to low levels of groundwater combined with a heavy influx of rain.

Vulnerability

Vulnerability Overview

Sinkholes in the planning area are not common due to the composition of the land. While some sinkholes may be considered a slow changing nuisance; other more sudden, catastrophic collapses can destroy property, delay construction projects and contaminate ground water resources. The Missouri Department of Natural Resources shows 2 sinkholes for the planning area.

Potential Losses to Existing Development

The potential impact of sinkholes on existing structures is difficult to determine due to the lack of data on historic damages caused by sinkholes and the mapping of potential sinkholes is difficult if not impossible to predict where a sinkhole will collapse and how significant the collapse will be. Because sinkhole collapse is not predictable and previous events have occurred in the rural area there is not significant data to estimate the future losses due to a sinkhole.

Impact of Previous and Future Development

As more unmapped rural areas are developed, the vulnerability to sinkholes will increase due to factors such as altered water drainage patterns and increased ground pressure and soil disturbance.

Some older buildings and infrastructure may have been unknowingly built over weak ground. While sinkholes have been rare, past construction might still be at risk if underground conditions change. Historic drainage systems in rural areas may have redirected water flow in ways that weakened underground limestone over time. Roads and bridges built without modern geological assessments could be more vulnerable to sudden collapses if sinkholes form underneath. Utility lines running through rural areas may face greater risk of damage if the ground shifts unexpectedly. Farming practices such as irrigation, tilling, and pond construction can affect subsurface water flow, potentially increasing the risk of sinkholes forming beneath fields or near structures.

Hazard Summary by Jurisdiction

The risk for development is uniform throughout the planning area, as the presence of karst geology and the potential for sinkhole formation exist across all jurisdictions in Clark County, Missouri. However, the level of impact may vary based on land use, infrastructure, and development density within each jurisdiction:

Clark County: Agricultural lands and rural properties may experience sinkhole formation due to natural erosion and drainage modifications, especially in areas with subsurface limestone layers. Property owners may be less aware of geological risks due to lack of mapped data in remote areas.

Kahoka: As the most developed area in Clark County, Kahoka has a greater concentration of buildings, roads, and underground utilities, increasing the potential impact of sinkholes. Paved surfaces and stormwater drainage systems could alter groundwater flow, which may contribute to ground instability over time.

Alexandria: Located near the Mississippi River, Alexandria may face additional challenges due to fluctuating groundwater levels and soil erosion, which can influence the formation of sinkholes.

Wayland: With moderate development, Wayland's risk primarily stems from expanding infrastructure and agricultural activities that could alter subsurface conditions.

Wyaconda, Luray, and Revere: These smaller rural communities have limited urban development, reducing direct risk to infrastructure. However, farming practices, irrigation, and natural water drainage changes could still contribute to sinkhole formation over time.

Clark County R-1 School District: While no current sinkhole risks have been identified within school district properties, future construction or expansions should consider geological assessments to prevent potential ground instability.

Problem Statement

Sinkholes can occur at any time and without warning and vary by size. There can be a disruption of transportation services and not residents in the dangerous areas are not educated on what to do if a sinkhole occurs. Education needs to occur on the danger areas of a sinkhole occurring and what to do if a sinkhole does occur.

3.4.6 Drought

Hazard Profile

Hazard Description

Drought is generally defined as a condition of moisture levels significantly below normal for an extended period of time over a large area that adversely affects plants, animal life, and humans. A drought period can last for months, years, or even decades. There are four types of drought conditions relevant to Missouri, according to the State Plan, which are as follows.

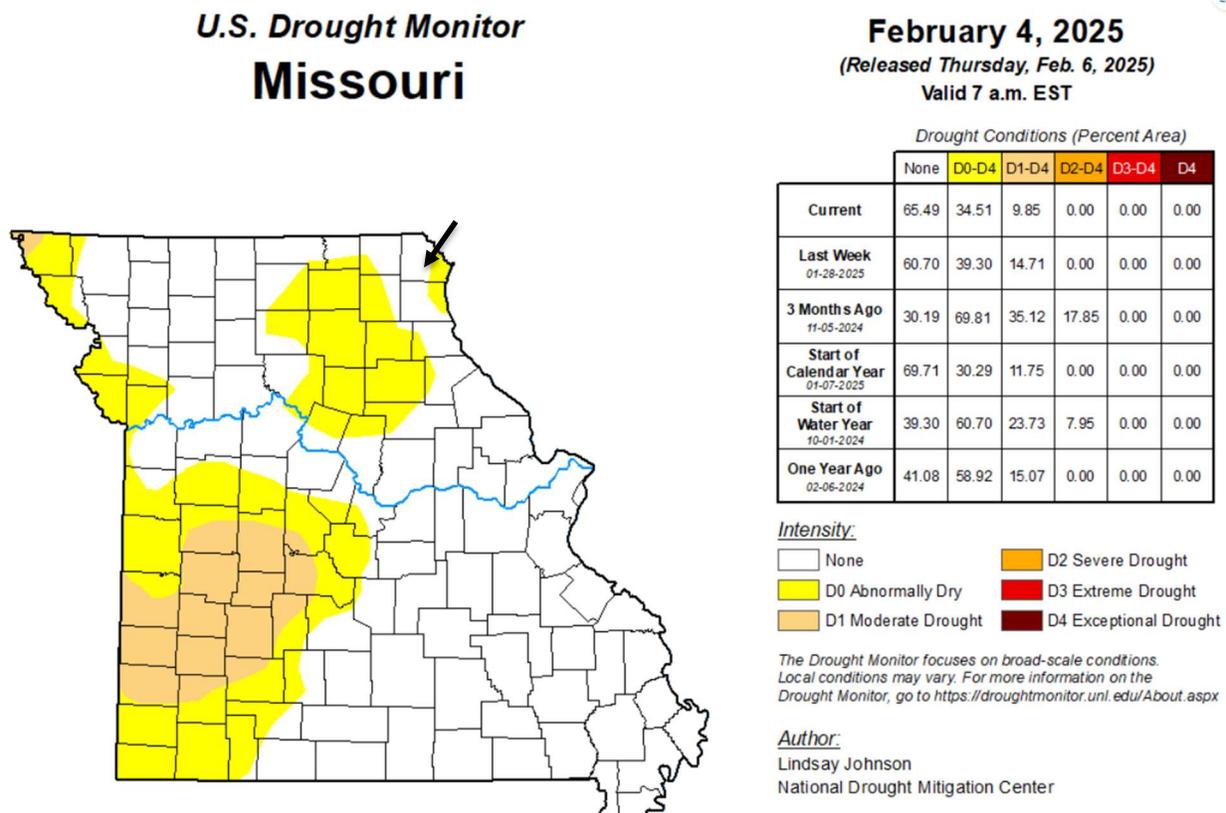
- Meteorological drought is defined in terms of the basis of the degree of dryness (in comparison to some “normal” or average amount) and the duration of the dry period. A meteorological drought must be considered as region-specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region.
- Hydrological drought is associated with the effects of periods of precipitation (including snowfall) shortfalls on surface or subsurface water supply (e.g., streamflow, reservoir and lake levels, ground water). The frequency and severity of hydrological drought is often defined on a watershed or river basin scale. Although all droughts originate with a deficiency of precipitation, hydrologists are more concerned with how this deficiency plays out through the hydrologic system. Hydrological droughts are usually out of phase with or lag the occurrence of meteorological and agricultural droughts. It takes longer for precipitation deficiencies to show up in components of the hydrological system such as soil moisture, streamflow, and ground water and reservoir levels. As a result, these impacts also are out of phase with impacts in other economic sectors.
- Agricultural drought focus is on soil moisture deficiencies, differences between actual and potential evaporation, reduced ground water or reservoir levels, etc. Plant demand for water depends on prevailing weather conditions, biological characteristics of the specific plant, its stage of growth, and the physical and biological properties of the soil.
- Socioeconomic drought refers to when physical water shortage begins to affect people.

Geographic Location

Droughts are regional in nature. All areas of the United States are vulnerable to the risk of drought and extreme heat. Droughts can be widespread or localized events. The extent of the droughts varies both in terms of the extent of the heat and range of precipitation. The severity of a drought depends on locations, duration, and geographical extent. Additionally, drought severity depends on the water supply, usage demands made by human activities, vegetation and agricultural operations. Drought brings several different problems that must be addressed. The quality and quantity of crops, livestock and other agricultural assets will be affected during a drought. Drought can adversely impact forested areas leading to an increased potential for extremely destructive forest and woodland fires that could threaten residential, commercial, and recreational structures. According to the 2022 Census of Agriculture, Clark County consisted of 215,798 acres of farm land, Crop sales generate 72% while livestock generates 28% of market value of products sold. A drought would directly impact livestock production and the agriculture economy in Clark County.

Figure 3.32.

U.S. Drought Monitor Map of Missouri on February 4, 2025



Source: U.S. Drought Monitor, <https://droughtmonitor.unl.edu/Maps/MapArchive.aspx>

Strength/Magnitude/Extent

The Palmer Drought Indices measure dryness based on recent precipitation and temperature. The indices are based on a “supply-and-demand model” of soil moisture. Calculation of supply is relatively straightforward, using temperature and the amount of moisture in the soil. However, demand is more complicated as it depends on a variety of factors, such as evapotranspiration and recharge rates. These rates are harder to calculate. Palmer tried to overcome these difficulties by developing an algorithm that approximated these rates and based the algorithm on the most readily available data — precipitation and temperature.

The Palmer Index has proven most effective in identifying long-term drought of more than several months. However, the Palmer Index has been less effective in determining conditions over a matter of weeks. It uses a “0” as normal, and drought is shown in terms of negative numbers; for example, negative 2 is moderate drought, negative 3 is severe drought, and negative 4 is extreme drought. Palmer’s algorithm also is used to describe wet spells, using corresponding positive numbers.

Palmer also developed a formula for standardizing drought calculations for each individual location based on the variability of precipitation and temperature at that location. The Palmer index can therefore be applied to any site for which sufficient precipitation and temperature data is available.

The full range of the Palmer Index applies to the planning area when a drought event occurs.

Previous Occurrences

Drought occurs periodically in Missouri with the most severe and costly in historical times occurring in

2013. Although droughts are not the spectacular weather events that floods, blizzards or tornadoes can be, historically they produce more economic damage to the State than all other weather events combined.

Table 3.25, below, outlines insured crop loss payments in Clark County as a result of drought.

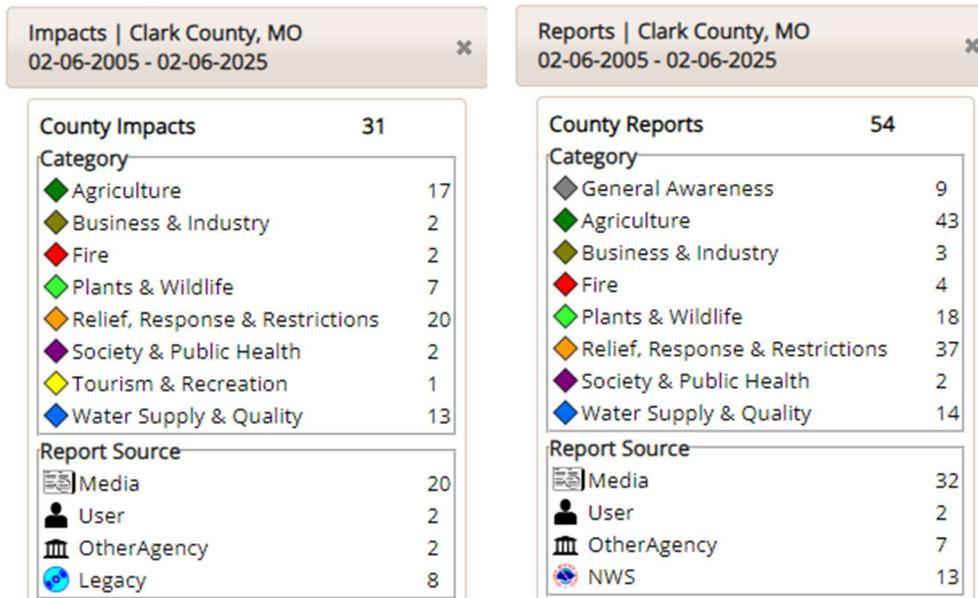
Table 3.25. Insured Crop Loss Payments in Clark County as a Result of Drought

Year	Total Payments
2024	\$970,934.00
2023	\$587,274.50
2022	\$692,571.70
2021	\$964,646.50
2020	\$824,659.00
2019	\$1,932,365.00
2018	\$2,127,358.05
2017	\$389,664.30
2016	\$43,258.00
2015	\$0.00
2014	\$3,733.00
2013	\$3,200,551.00

Source: USDA's Risk Management Agency

According to the National Drought Mitigation Center's Drought Impact Reporter, during the 20-year period from February 2005 to February 2025, Clark County had 31 drought impacts and 54 reports as shown in **Figure 3.33**.

Figure 3.33. Drought Impact and Reports for Clark County



Source: <https://droughtreporter.unl.edu/map/>

Probability of Future Occurrence

According to the 2023 State Plan, Clark County has a Medium-High total rating for drought. Medium-High is defined in **Table 3.27** below. Clark County has a medium probability, as defined in this chapter, of experiencing droughts in the future with a 50% chance of a severe drought.

Table 3.26 demonstrates the vulnerability of Clark County to drought.

Table 3.26. Vulnerability of Clark County to Drought

County	SOVI Index Rating	USDA RMA Total Drought Crop Claims	Average Annualized Crop Claims	USDA Claims Rating	2017 Crop Exposure	Crop Exposure Rating	Likelihood of Severe Drought	Drought Occurrence Rating	Total Rating	Total Rating (Text) Drought
Clark	2	\$48,824,566	\$4,882,457	4	\$76,825,000	3	0.50	2	11	Medium

Source: 2023 Missouri State Hazard Mitigation Plan

Table 3.27. Ranges for Drought Vulnerability Factor Ratings

Factors Considered	Low (1)	Low-medium (2)	Medium (3)	Medium-high-4	High (5)
Social Vulnerability Index	1	2	3	4	5
Crop Exposure Ratio Rating	\$886,000 - \$10,669,000	\$10,669,001 - \$33,252,000	\$33,252,001 - \$73,277,000	\$73,277,001 - \$155,369,000	\$155,369,001 - \$256,080,000
Annualized USDA Crop Claims Paid	< \$340,000	\$670,000-\$669,999	\$670,000-\$999,999	\$1M-\$1,299,999	> \$1,300,000
Likelihood of Occurrence of severe or extreme drought	1-1.9%	2-3.9%	4-5.9%	6-8.9%	9-10.72%
Total Drought Vulnerability Rating	7-8	9-10	11-12	13-14	15-17

Source: 2023 Missouri State Hazard Mitigation Plan

Changing Future Conditions Considerations

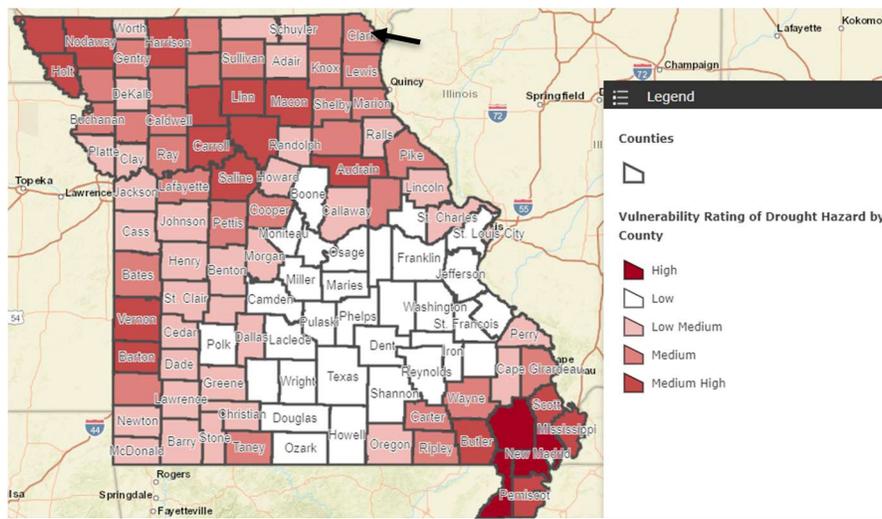
The number of heavy rainfall events is predicted to increase, yet researchers currently expect little change in total rainfall amounts, indicating that the periods between heavy rainfalls will be marked by an increasing number of dry days. Higher temperatures and increased evapotranspiration increase the likelihood of a drought. This could lead to agricultural drought and suppressed crop yields.

Vulnerability

Vulnerability Overview

According to the 2023 Missouri State Hazard Mitigation Plan Update, Clark County is a Medium-High vulnerability for drought (**Figure 3.34**).

Figure 3.34 Missouri Drought Vulnerability by County



Source: 2023 Missouri State Hazard Mitigation Plan Update

Clark County:

Agricultural Reliance: Drought can cause significant crop failures (corn, soybeans, hay) and reduced pasture quality, leading to higher feed costs for livestock farmers.

Livestock Water Shortages: Farm ponds and wells may dry up, forcing farmers to find alternative water sources.

Soil Degradation: Drought weakens soil structure, increasing the risk of erosion and dust storms when high winds occur.

Economic Impact: Loss of crops and increased expenses for water and feed may hurt local farmers, reducing overall economic stability in the county.

Kahoka:

Dependence on Municipal Water Supply: Drought can strain the city's water system, leading to potential water restrictions or increased costs for residents.

Economic Impact: Businesses, particularly those reliant on water (e.g., restaurants, car washes), may experience financial strain.

Urban Heat Island Effect: Lack of precipitation can exacerbate heat waves, increasing public health risks, especially for the elderly and low-income populations.

Alexandria:

Mississippi River Impact: Drought can lower river levels, potentially affecting water availability and quality for the community.

Agricultural and Fishing Industry Effects: Farmers and local businesses relying on river access for irrigation or transport may see economic losses.

Floodplain Changes: Extended drought periods can cause soil shrinkage and cracking, leading to unstable ground that may increase flood risks when rain returns.

Wayland:

Residential Well Vulnerability: Some households may rely on private wells, which can run dry during prolonged droughts.

Fire Hazards: Dry conditions increase the risk of wildfires, which could threaten homes and infrastructure.

Wyaconda, Luray, and Revere:

Residential Well Vulnerability: Some households may rely on private wells, which can run dry during prolonged droughts.

Higher Dependence on Agriculture: Since agriculture is a key industry, drought can significantly reduce crop yields, increase livestock stress, and lower local income.

Clark County R-1 School District:

Increased Cooling Costs: Schools may need to spend more on air conditioning due to excessive heat during drought periods.

Potential Losses to Existing Development

The National Drought Monitor Center at the University of Nebraska at Lincoln summarized the potential impacts of drought as follows: Drought can create economic impacts on agriculture and related sectors, including forestry and fisheries, because of the reliance of these sectors on surface and subsurface water supplies. In addition to losses in yields in crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also bring increased problems with insects and disease to forests and reduce growth. The incidence of forest and range fires increases substantially during extended droughts, which in turn place both human and wildlife populations at higher levels of risk. Income loss is another indicator used in assessing the impacts of drought because so many sectors are affected. Finally, while drought is rarely a direct cause of death, the associated heat, dust and stress can all contribute to increased mortality.

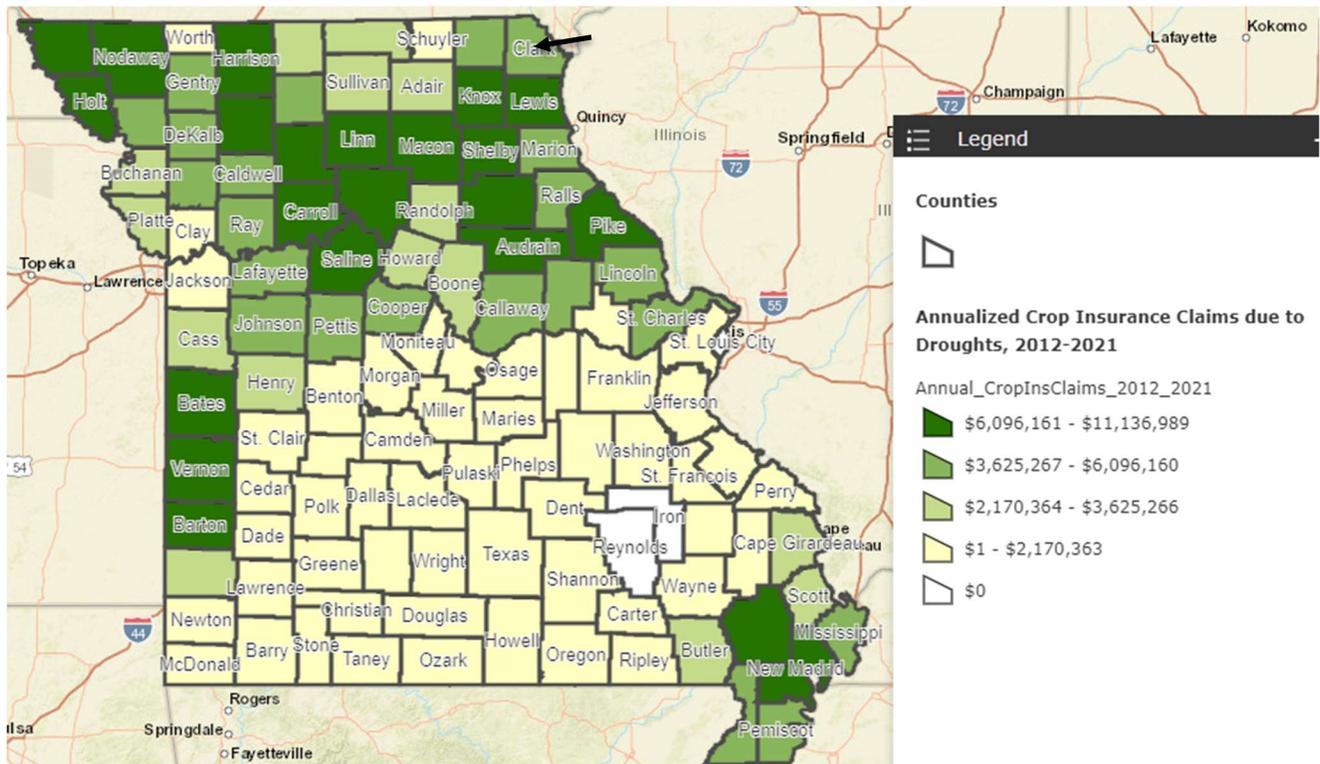
To determine the anticipated potential losses the historical losses were annualized to determine potential future losses for Clark County to be \$978,085 in any given year.

Impact of Previous and Future Development

Future development will remain vulnerable to drought. Typically, some urban and rural areas are more susceptible than others. For example, urban areas are subject to water shortages during periods of drought. Excessive demands of the populated area place a limit on water resources. In rural areas, crops and livestock may suffer from extended periods of heat and drought. As the size of farms increase more crops will be exposed to drought-related agricultural losses. Dry conditions can lead to the ignition of wildfires that could threaten residential, commercial and recreational areas.

Figure 3.35 shows the annualized drought crop insurance claims paid from 2012-2021.

Figure 3.35. Annualized Drought Crop Insurance Claims Paid from 2012-2021



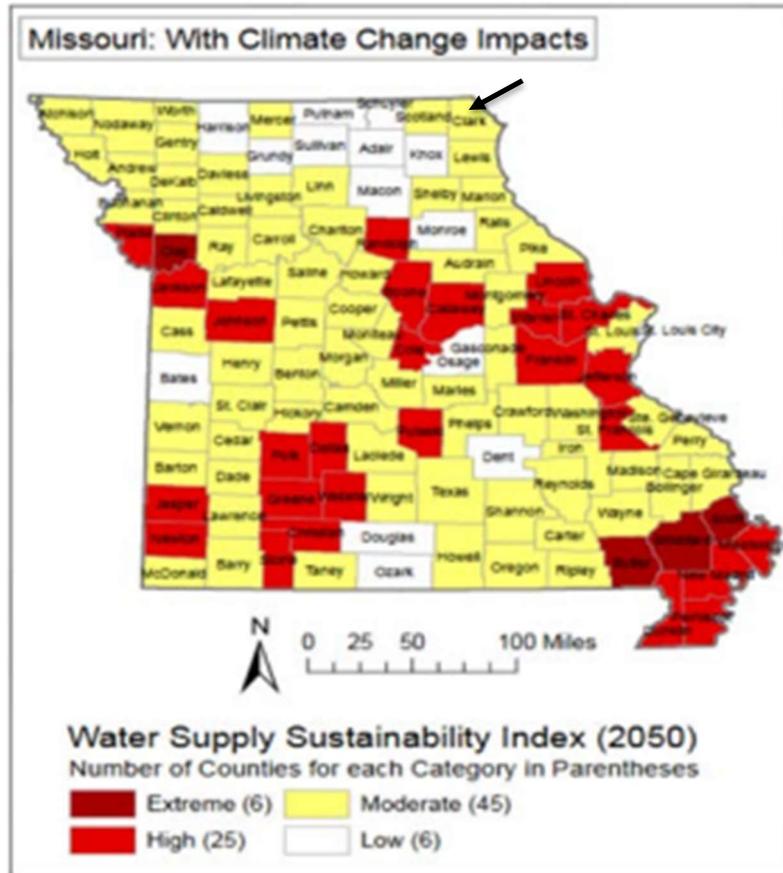
Source: 2023 Missouri State Hazard Mitigation Plan Update

Changing Future Conditions Considerations

A new analysis, performed for the Natural Resources Defense Council, examined the effects of climate change on water supply and demand in the contiguous United States. The study found that more than 1,100 counties will face higher risks of water shortages by mid-century as a result of climate change. Two of the principal reasons for the projected water constraints are shifts in precipitation and potential evapotranspiration (PET). Climate models project decreases in precipitation in many regions of the U.S., including areas that may currently be described as experiencing water shortages of some degree.

Figure 3.36 shows Clark County ranked as Moderate on the Water Supply Sustainability Index.

Figure 3.36. Missouri Water Supply Sustainability Index (2050)



Source: <http://www.nrdc.org/globalWarming/watersustainability/>

Hazard Summary by Jurisdiction

The entire planning area will be affected by drought to some degree. The unincorporated agricultural areas of Clark County are the most vulnerable to drought while the drought conditions will also affect the cities except the magnitude would be less severe with only lawns and local gardens to be impacted. In addition, damage to crops, produce, livestock, soils and building foundations could be weakened due to the shrinking and expanding soil.

Problem Statement

Clark County is at a Medium-High risk for severe drought which is an extra strain on the water supply system. Possible solutions include the development of agreements with neighboring communities for a secondary water source and review of local ordinance/regulation for inclusion of water-use restrictions during periods of drought.

3.4.7 Extreme Temperatures

Hazard Profile

Hazard Description

Extreme temperature events, both hot and cold, can impact human health and mortality, natural ecosystems, agriculture and other economic sectors. According to information provided by FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Ambient air temperature is one component of heat conditions, with relative humidity being the other. The relationship of these factors creates what is known as the apparent temperature. The Heat Index chart shown in **Figure 3.37** uses both of these factors to produce a guide for the apparent temperature or relative intensity of heat conditions.

Extreme cold often accompanies severe winter storms and can lead to hypothermia and frostbite in people without adequate clothing protection. Cold can cause fuel to congeal in storage tanks and supply lines, stopping electric generators. Cold temperatures can also overpower a building's heating system and cause water and sewer pipes to freeze and rupture. Extreme cold also increases the likelihood for ice jams on flat rivers or streams. When combined with high winds from winter storms, extreme cold becomes extreme wind chill, which is hazardous to health and safety.

The National Institute on Aging estimates that more than 2.5 million Americans are elderly and especially vulnerable to hypothermia, with the isolated elders being most at risk. About 10 percent of people over the age of 65 have some kind of bodily temperature-regulating defect, and 3-4 percent of all hospital patients over 65 are hypothermic.

Also at risk, are those without shelter, those who are stranded, or who live in a home that is poorly insulated or without heat. Other impacts of extreme cold include asphyxiation (unconsciousness or death from a lack of oxygen) from toxic fumes from emergency heaters; household fires, which can be caused by fireplaces and emergency heaters; and frozen/burst pipes.

Geographic Location

The entire planning area is subject to extreme temperatures and all participating jurisdictions are affected.

Extreme heat presents a significant risk to public health and safety to the whole county. The National Weather Service (NWS) Heat Index Scale (**Figure 3.37**), which categorizes the intensity of heat based on temperature and humidity, will be referenced. The scale includes the following levels:

- Caution (80°F - 89°F): When the heat index is in this range, individuals are at increased risk of heat exhaustion and other heat-related illnesses.
- Extreme Caution (90°F - 104°F): Prolonged exposure to heat in this range may result in heat exhaustion, and individuals should take precautions to stay cool.
- Danger (105°F - 129°F): Heat-related illnesses such as heat stroke can occur, particularly for vulnerable populations. Outdoor activity should be minimized, and cooling measures should be implemented.
- Extreme Danger (130°F and above): This is a life-threatening situation. Heat stroke is imminent, and exposure to extreme heat should be avoided at all costs.

According to the National Centers for Environmental Information (NCEI), two significant heat-related incidents were recorded in the area. These events were characterized by heat indices reaching the Danger category, affecting both public health and agriculture for the planning area.

Extreme cold poses a serious threat to the health and safety of all residents throughout the county. The NWS Wind Chill Temperature (WCT) Index (Figure 3.38) provides a scientific model for understanding the risks of extreme cold in combination with wind. The WCT index is a useful tool that reflects the actual “feels-like” temperature, accounting for both air temperature and wind speed. As wind increases, the body loses heat more quickly, leading to faster reductions in skin and internal body temperature. The WCT index defines the following categories of cold risk:

- Caution (30°F to 39°F): Wind chill temperatures in this range pose a moderate risk to exposed skin. Hypothermia can develop with prolonged exposure.
- Extreme Caution (20°F to 29°F): Exposed skin may be at risk of frostbite in 30 minutes or less. Protective clothing and limiting exposure are necessary.
- Danger (10°F to 19°F): Frostbite can occur in as little as 15 minutes. Anyone outdoors should seek shelter, and outdoor activity should be minimized.
- Extreme Danger (Below 10°F): Exposed skin can freeze in less than 10 minutes. Prolonged outdoor exposure is life-threatening, and immediate protective measures must be taken.

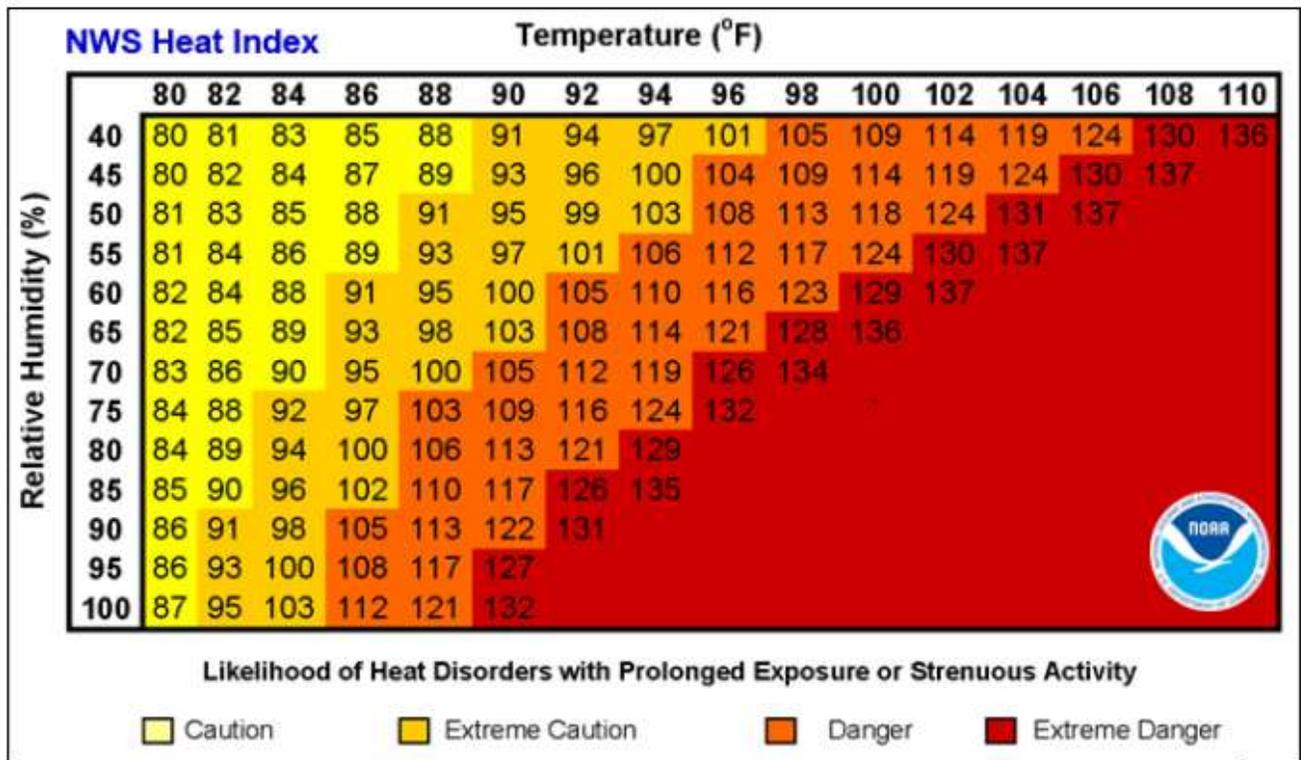
Clark County has experienced five extreme cold events during the past 20 years, with significant incidents recorded in the NCEI database. These cold waves have typically been associated with dangerous wind chill temperatures, particularly during winter months. Based on the available data, Clark County has witnessed extreme cold events with wind chill values reaching Danger and Extreme Danger categories, similar to broader regional trends in Northeast Missouri.

Strength/Magnitude/Extent

The National Weather Service (NWS) has an alert system in place (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 for two or more consecutive days: (1) when the maximum daytime Heat Index is expected to equal or exceed 105 degrees Fahrenheit (°F); and the night time minimum Heat Index is 80°F or above. A heat advisory is issued when temperatures reach 105 degrees and a warning is issued at 115 degrees.

The NWS Heat Index Chart shown in **Figure 3.37** helps residents, emergency responders, and local officials in the planning area assess heat risk levels and take precautionary measures to prevent heat-related illnesses, especially during high temperatures.

Figure 3.37. Heat Index (HI) Chart



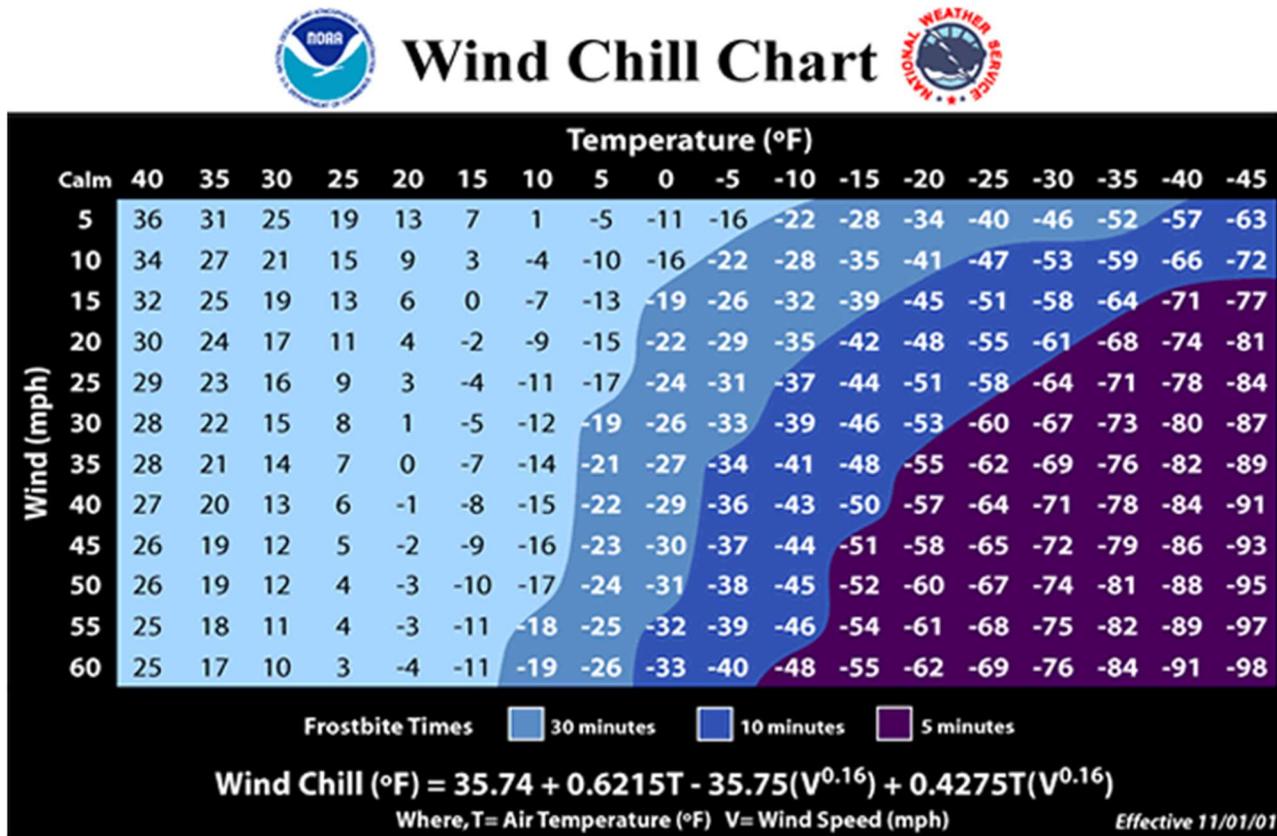
Source: National Weather Service (NWS); <https://www.weather.gov/safety/heat-index>

Note: Exposure to direct sun can increase Heat Index values by as much as 15°F. The shaded zone above 105°F corresponds to a HI that may cause increasingly severe heat disorders with continued exposure and/or physical activity.

The NWS Wind Chill Temperature (WCT) index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from winter winds and freezing temperatures. The figure below presents wind chill temperatures which are based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature.

The NWS Wind Chill Temperature index show in **Figure 3.38** helps residents, schools, and emergency responders understand the combined effect of cold temperatures and wind speed, allowing them to take precautions against frostbite, hyperthermia, and other cold-related health risks during winter weather events.

Figure 3.38. Wind Chill Chart



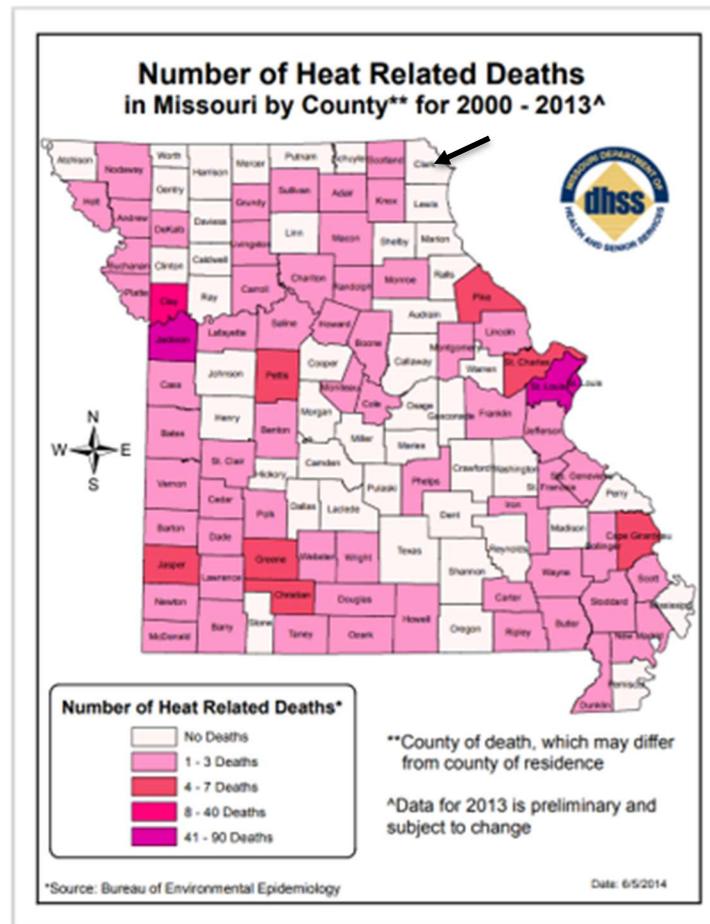
Source: <https://www.weather.gov/safety/cold-wind-chill-chart>

Previous Occurrences

The recorded events in the National Centers for Environmental Information (NCEI) there has been 1 recorded extreme heat event with 0 deaths from 2004-2024. Additional research was conducted through Google and Yahoo and no deaths were revealed. The NCEI database showed record of 5 events of extreme cold/wind chill from 2004-2024, with 0 deaths or injuries associated with these events. Below in Figure 3.13 the Bureau of Environmental Epidemiology states that Clark County has had between 1-6 deaths from excessive heat between 1980 and 2016. Those numbers could not be corroborated with the NOAA database or further internet searches.

Figure 3.39 shows heat related deaths in Missouri from 2000 to 2013.

Figure 3.39. Heat Related Deaths in Missouri 2000 - 2013



Source: <https://health.mo.gov/living/healthcondiseases/hyperthermia/pdf/stat-report.pdf>

Extreme heat can cause stress to crops and animals. According to USDA Risk Management Agency, losses to insurable crops during the 10-year time period from 2014 to 2024 were \$15.2 million. Extreme temperatures can also strain electricity delivery infrastructure overloaded during peak use of heating and air conditioning during extreme temperature events. Another type of infrastructure damage from extreme temperatures is road damage. When asphalt is exposed to prolonged extreme temperatures, it can cause buckling of asphalt-paved roads, driveways, and parking lots.

From 1988-2011, there were 3,496 fatalities in the U.S. attributed to summer heat. This translates to an annual national average of 146 deaths. During the same period, 0 deaths were recorded in the planning area, according to NCEI data. The National Weather Service stated that among natural hazards, no other natural disaster—not lightning, hurricanes, tornadoes, floods, or earthquakes—causes more deaths.

Probability of Future Occurrence

NCEI, dating back to 2004 indicated 1 event of extreme heat in the 20-year period. Based on the historical data there is a 5%, or low, chance extreme heat can occur any given year in the Clark County Planning area. The probability was determined by taking the number of years with an extreme

heat event (1) and divided by the number of years (20) data was obtained for. During the same 20-year period there were 5 events of extreme cold/wind chill. Based on the historical data there is a 25%, or medium-low, chance extreme cold/wind chill can occur in any given year. The probability was determined by taking the number of years with extreme cold/wind chill event (5) divided by the number of years (20) data was obtained.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, average annual temperatures are projected to most likely exceed historical record levels by the middle of the 21st century. The impacts of extreme heat events are experienced most acutely by the elderly and other vulnerable populations. High temperatures are exacerbated in urban environments, a phenomenon known as the urban heat island effect, which in turn tend to have higher concentrations of vulnerable populations. Higher demand for electricity as people attempts to keep cool amplifies stress on power systems and may lead to an increase in the number of power outages. Atmospheric concentrations of ozone occur at higher air temperatures, resulting in poorer air quality, while harmful algal blooms flourish in warmer water temperatures, resulting in poorer water quality.

Extreme cold events are projected to continue posing risks to public health, infrastructure, and local economies. The elderly, low-income individuals, and those without adequate heating are particularly vulnerable to hypothermia and frostbite during prolonged cold spells. Cold temperatures can also weaken infrastructure, causing burst pipes, road damage, and increased maintenance costs. The energy demand for heating spikes, placing strain on power grids and increasing the risk of blackouts, especially during severe winter storms. Additionally, prolonged cold periods can disrupt agriculture, delaying planting seasons and harming overwintering crops, while icy conditions increase the likelihood of transportation accidents and supply chain disruptions.

Vulnerability

Vulnerability Overview

Those at greatest risk for heat-related illness include infants and children up to five years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications. 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 3.28 lists typical symptoms and health impacts due to exposure to extreme heat.

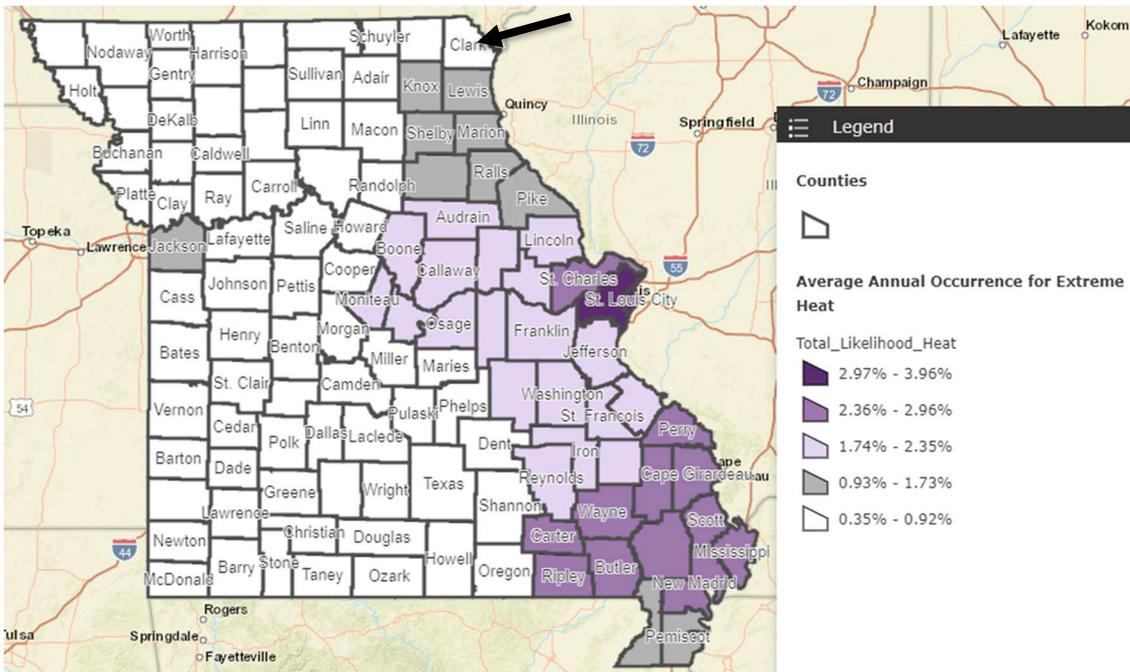
Table 3.28. Typical Health Impacts of Extreme Heat

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)	Heatstroke/sunstroke highly likely with continued exposure

Source: National Weather Service Heat Index Program, www.weather.gov/os/heat/index.shtml

Figure 3.40 shows the average annual occurrence for extreme heat in Clark County.

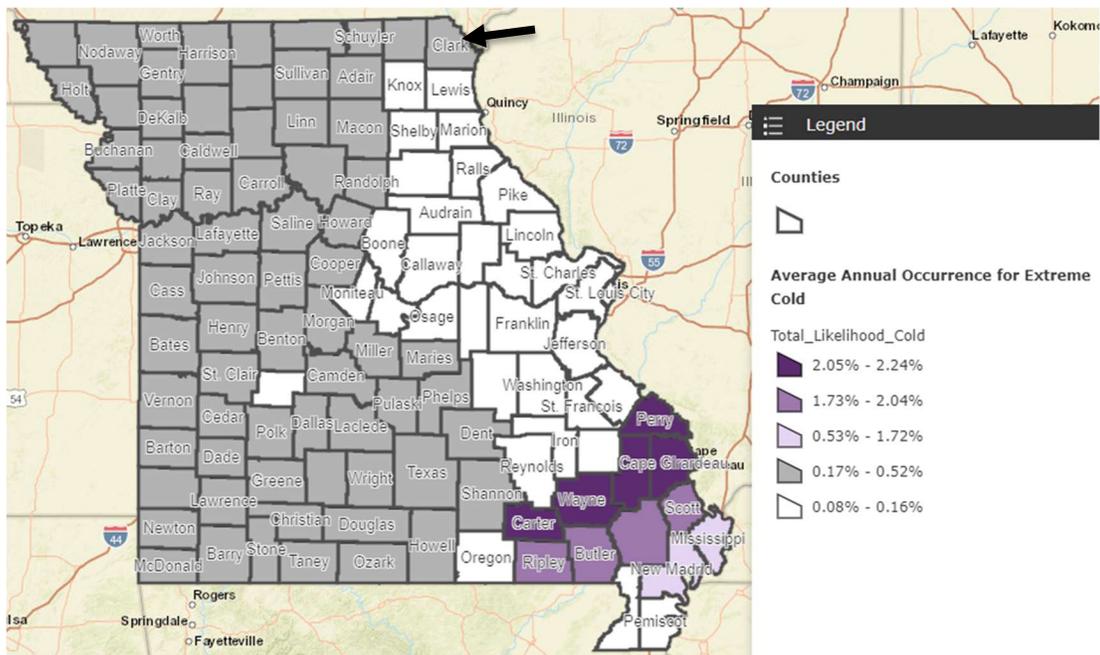
Figure 3.40. Average Annual Occurrence for Extreme Heat



Source: 2023 Missouri State Hazard Mitigation Plan Update

Figure 3.41 shows the average annual occurrence for extreme cold in Clark County.

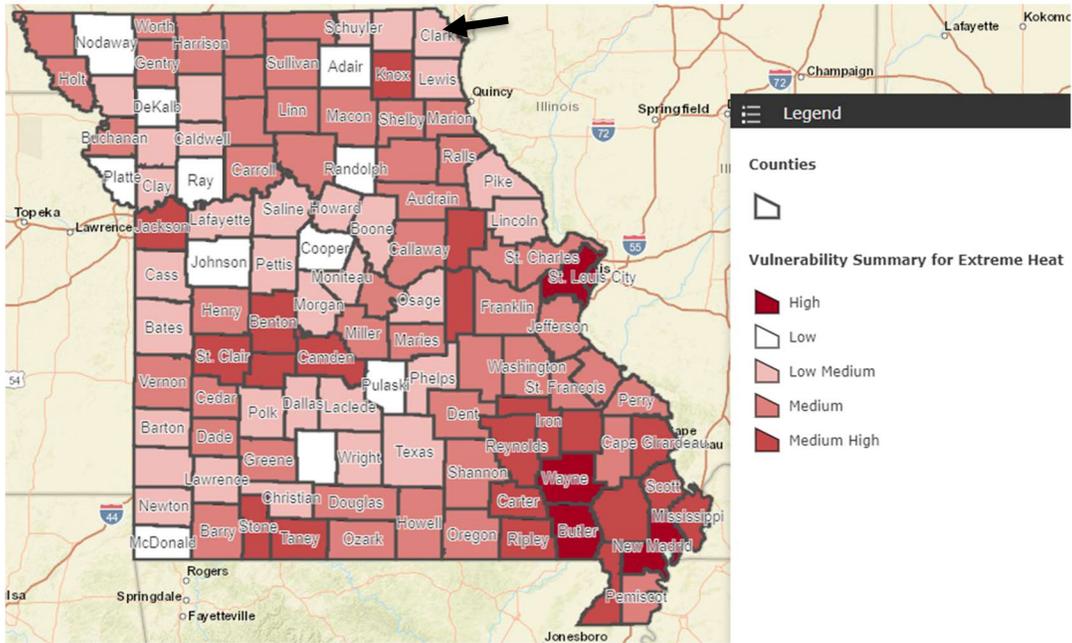
Figure 3.41 Average Annual Occurrence for Extreme Cold



Source: 2023 Missouri State Hazard Mitigation Plan Update

Figure 3.42 shows the vulnerability summary for extreme heat in Clark County.

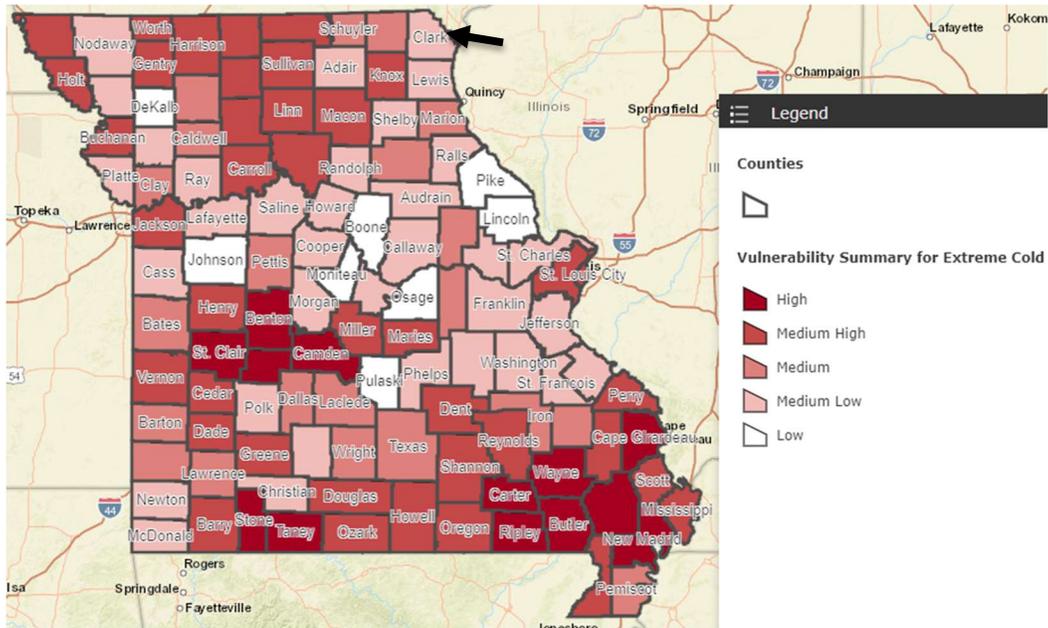
Figure 3.42. Vulnerability Summary for Extreme Heat



Source: 2023 Missouri State Hazard Mitigation Plan Update

Figure 3.43 shows the vulnerability summary for extreme cold in Clark County.

Figure 3.43. Vulnerability Summary for Extreme Cold



Source: 2023 Missouri State Hazard Mitigation Plan Update

Potential Losses to Existing Development

During the ten-year period from 2014-2024 there was a total of \$15.2 million in crop insurance claims paid as a result of losses to extreme temperatures. The anticipated loss in any given year can be expected to be the annual average of \$1,691,130.50. Illness and loss of life are still the biggest concerns with extreme heat.

Impact of Previous and Future Development

Population growth can result in increases in the age-groups that are most vulnerable to extreme temperatures. Population growth also increases the strain on electricity infrastructure, as more electricity is needed to accommodate the growing population.

According to the 2020 US Census, Clark County had a decrease in overall population of 5.5%, a decrease in population of those under 5 years of age, and a decrease in population of 65 years and over.

Hazard Summary by Jurisdiction

Those at greatest risk for extreme temperature-related illnesses and deaths include children up to five years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications. To determine jurisdictions within the planning area with populations more vulnerable to extreme temperatures, demographic data was obtained from the 2020 census on population percentages in each jurisdiction comprised of those under age 5 and over age 65. Data was not available for overweight individuals and those on medications vulnerable to extreme temperatures. **Table 3.29** below summarizes vulnerable populations in the participating jurisdictions. Note that school and special districts are not included in the table because students and those working for the special districts are not customarily in these age groups.

Table 3.29. Clark County Population Under Age 5 and Over Age 65, 2020 Census Data

Jurisdiction	Population Under 5 yrs	Population 65 yrs and over
Clark County	412	778
City of Kahoka	105	286
City of Alexandria	2	9
City of Revere	0	7
City of Wayland	21	51
City of Wyaconda	14	21
Village of Luray	8	5

Source: U.S. Census Bureau, (*) includes entire population of each city or county

All schools in Clark County have air conditioning which does not put school age children at risk during extreme temperatures.

Problem Statement

Clark County has a growing population of residents over 65 years based on the 2010 and 2020 census data. They are at a greater risk for extreme-temperature related illnesses, injuries, and death. Possible solutions include organizing outreach to the vulnerable elderly populations, including establishing and promoting accessible heating or cooling centers in the community and creating a database in coordination with the Health Department to track those individuals at high risk.

3.4.8 Severe Thunderstorms Including High Winds, Hail, and Lightning

Hazard Profile

Hazard Description

Thunderstorms

A thunderstorm is defined as a storm that contains lightning and thunder which is caused by unstable atmospheric conditions. When cold upper air sinks and warm moist air rises, storm clouds or 'thunderheads' develop resulting in thunderstorms. This can occur singularly, as well as in clusters or lines. The National Weather Service defines a thunderstorm as "severe" if it includes hail that is one inch or more, or wind gusts that are at 58 miles per hour or higher. At any given moment across the world, there are about 1,800 thunderstorms occurring. Severe thunderstorms most often occur in Missouri in the spring and summer, during the afternoon and evenings, but can occur at any time. Other hazards associated with thunderstorms are heavy rains resulting in flooding (discussed separately in **Section 3.4.1**) and tornadoes (discussed separately in **Section 3.4.10**).

High Winds

A severe thunderstorm can produce winds causing as much damage as a weak tornado. The damaging winds of thunderstorms include downbursts, microbursts, and straight-line winds. Downbursts are localized currents of air blasting down from a thunderstorm, which induce an outward burst of damaging wind on or near the ground. Microbursts are minimized downbursts covering an area of less than 2.5 miles across. They include a strong wind shear (a rapid change in the direction of wind over a short distance) near the surface. Microbursts may or may not include precipitation and can produce winds at speeds of more than 150 miles per hour. Damaging straight-line winds are high winds across a wide area that can reach speeds of 140 miles per hour.

Lightning

All thunderstorms produce lightning which can strike outside of the area where it is raining and is has been known to fall more than 10 miles away from the rainfall area. Thunder is simply the sound that lightning makes. Lightning is a huge discharge of electricity that shoots through the air causing vibrations and creating the sound of thunder.

Hail

According to the National Oceanic and Atmospheric Administration (NOAA), hail is precipitation that is formed when thunderstorm updrafts carry raindrops upward into extremely cold atmosphere causing them to freeze. The raindrops form into small frozen droplets. They continue to grow as they come into contact with super-cooled water which will freeze on contact with the frozen rain droplet. This frozen droplet can continue to grow and form hail. As long as the updraft forces can support or suspend the weight of the hailstone, hail can continue to grow before it hits the earth.

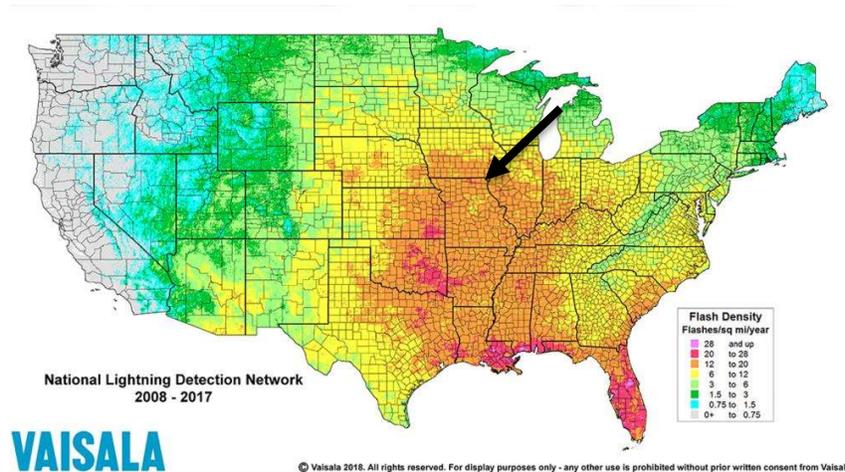
At the time when the updraft can no longer support the hailstone, it will fall down to the earth. For example, a 1/4" diameter or pea sized hail requires updrafts of 24 miles per hour, while a 2 3/4" diameter or baseball sized hail requires an updraft of 81 miles per hour. According to the NOAA, the largest hailstone in diameter recorded in the United States was found in Vivian, South Dakota on July 23, 2010. It was eight inches in diameter, almost the size of a soccer ball. Soccer-ball-sized hail is the exception, but even small pea-sized hail can do damage.

Geographic Location

Thunderstorms/high winds/hail/lightning events are an area-wide hazard that can happen anywhere in the county. Although these events occur similarly throughout the planning area, they are more frequently reported in more urbanized areas. In addition, damages are more likely to occur in more densely developed urban areas.

Figure 3.44 shows the lightning density in the nation, with the planning area indicated by an arrow.

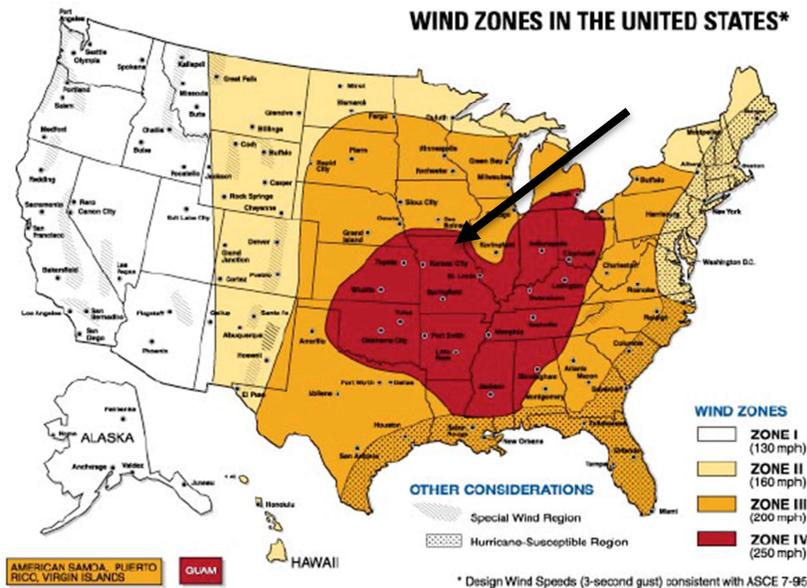
Figure 3.44. Location and Frequency of Lightning in Missouri



Source: National Weather Service, <http://www.vaisala.com/en/products/thunderstormandlightningdetectionsystems/Pages/NLDN.aspx>. Note: indicate location of planning area with a colored square or arrow.

Figure 3.45 shows wind zones in the United States, with the planning area indicated by an arrow.

Figure 3.45. Wind Zones in the United States



Source: FEMA 320, Taking Shelter from the Storm, 3rd edition, https://www.fema.gov/pdf/library/ism2_s1.pdf

Strength/Magnitude/Extent

Based on information provided by the Tornado and Storm Research Organization (TORRO), Table 3.30 below describes typical damage impacts of the various sizes of hail.

Table 3.30. 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	0.4-0.6	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 to 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 > Soft ball	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: Tornado and Storm Research Organization (TORRO), Department of Geography, Oxford Brookes University
 Notes: In addition to hail diameter, factors including number and density of hailstones, hail fall speed and surface wind speeds affect severity. <http://www.torro.org.uk/site/hyscale.php>

Straight-line winds are defined as any thunderstorm wind that is not associated with rotation (i.e., is not a tornado). It is these winds, which can exceed 100 miles per hour, which represent the most common type of severe weather. They are responsible for most wind damage related to thunderstorms. Since thunderstorms do not have narrow tracks like tornadoes, the associated wind damage can be extensive and affect entire (and 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.

The onset of thunderstorms with lightning, high wind, and hail is generally rapid. Duration is less than six hours and warning time is generally six to twelve hours. Nationwide, lightning kills 75 to 100 people each year. Lightning strikes can also start structural and wildland fires, as well as damage electrical systems and equipment.

Previous Occurrences

Table 3.31 through Table 3.33 below summarize past crop damages as indicated by crop insurance claims. The tables illustrate the magnitude of the impact on the planning area’s agricultural economy. According to the information obtained from the Risk Management Agency website from 2014-2024 a total of \$65,122.20 was paid out in crop insurance due to high winds, \$222,728.19 was paid out due to Hail, and \$1,487.00 was paid out due to Lightning.

No data is available for crop insurance claims paid in Clark County from Thunderstorms from 2014-2024.

Table 3.31. Crop Insurance Claims Paid in Clark County from High Winds, 2014-2024.

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid
2014	Corn	Wind/Excess Wind	\$11,815.00
2017	Corn	Wind/Excess Wind	\$634.00
2019	Soybeans	Wind/Excess Wind	\$601.00
2020	Corn	Wind/Excess Wind	\$33,904.00
2021	Corn	Wind/Excess Wind	\$2,887.00
2022	Corn	Wind/Excess Wind	\$10,159.20
2024	Corn	Wind/Excess Wind	\$5,122.00
Total			\$65,122.20

Source: USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Table 3.32. Crop Insurance Claims Paid in Clark County from Lightning, 2014-2024.

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid
2014	Wheat	Other-Lightening	\$1,487.00
Total			\$1,487.00

USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Table 3.33. Crop Insurance Claims Paid in Clark County from Hail, 2014-2024.

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid
2017	Wheat	Hail	\$190.00
2017	Corn	Hail	\$52,652.00
2017	Soybeans	Hail	\$4,450.00
2019	Wheat	Hail	\$2,532.89
2021	Corn	Hail	\$67,285.50
2021	Soybeans	Hail	\$998.00
2021	Wheat	Hail	\$667.00
2024	Corn	Hail	\$77,868.00
2024	Soybeans	Hail	\$16,084.80
Total			\$222,728.19

USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Probability of Future Occurrence

Thunderstorms

Based on National Centers for Environmental Information there has been 80 Thunderstorm Wind event in Clark County from 2004-2024. On average there are 4 Thunderstorm Wind events per year in the planning area giving it a high probability for Thunderstorm Wind in any given year of 100%.

High Winds

Based on National Centers for Environmental Information there has been 0 High Wind event in Clark County from 2004-2024; however **Table 3.31** demonstrates that 7 High Wind events occurred in a ten-year period. Based on this data the probability that a High Wind event would happen in the planning area in any given year is 70%, or medium-high.

Lightning

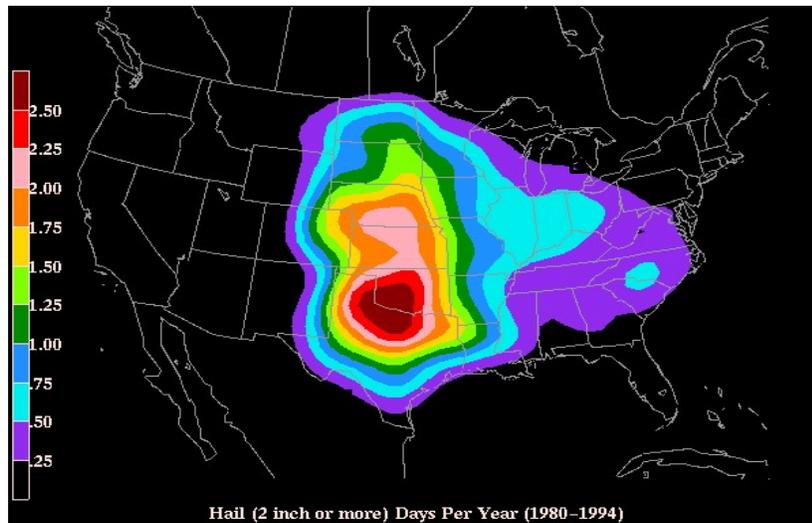
Based on National Centers for Environmental Information there has been 2 Lightning events in Clark County from 2004-2024. Based on this data the probability that a Lightning event would happen in the planning area in any given year is 10% or low.

Hail

Based on National Centers for Environmental Information there has been 63 Hail events in Clark County from 2004-2024. On average there are 3.15 Hail events per year in the planning area giving it a high probability for Hail in any given year of 100%.

Figure 3.46 is based on hailstorm data from 1980-1994. It shows the probability of hailstorm occurrence (2" diameter or larger) based on number of days per year. Clark County is located in the region to receive .50 to .75 hailstorm annually.

Figure 3.46. Annual Hailstorm Probability (2" diameter or larger), U 1980- 1994



Source: NSSL, http://www.nssl.noaa.gov/users/brooks/public_html/bighail.gif Note:

Changing Future Conditions Considerations

According to the 2023 Missouri State Plan, predicted increases in temperature could help create atmospheric conditions that are fertile breeding grounds for severe thunderstorms and tornadoes in Missouri. Possible impacts include an increased risk to life and property in both the public and private sectors. Public utilities and manufactured housing developments will be especially prone to damages. Jurisdictions already affected should be prepared for more of these events, and should thus prioritize mitigation actions such as construction of safe rooms for vulnerable populations, retrofitting and/or hardening existing structures, improving warning systems and public education, and reinforcing utilities and additional critical infrastructure.

Vulnerability

Vulnerability Overview

Severe thunderstorm losses are usually attributed to the associated hazards of hail, downburst winds, lightning and heavy rains. Losses due to hail and high wind are typically insured losses that are localized and do not result in presidential disaster declarations. However, in some cases, impacts are severe and widespread and assistance outside state capabilities is necessary. Hail and wind also can have devastating impacts on crops. Severe thunderstorms/heavy rains that lead to flooding are discussed in the flooding hazard profile. Hailstorms cause damage to property, crops, and the environment, and can injure and even kill livestock. In the United States, hail causes more than \$1 billion in damage to property and crops each year. Even relatively small hail can shred plants to ribbons in a matter of minutes. Vehicles, roofs of buildings and homes, and landscaping are also commonly damaged by hail. Hail has been known to cause injury to humans, occasionally fatal injury.

In general, assets in the County vulnerable to thunderstorms with lightning, high winds, and hail include people, crops, vehicles, and built structures. Although this hazard results in high annual losses, private property insurance and crop insurance usually cover the majority of losses. Considering insurance coverage as a recovery capability, the overall impact on jurisdictions is reduced.

Most lightning damages occur to electronic equipment located inside buildings. But structural damage can also occur when a lightning strike causes a building fire. In addition, lightning strikes

can cause damages to crops, if fields or forested lands are set on fire. Communications equipment and warning transmitters and receivers can also be knocked out by lightning strikes.
<http://www.vaisala.com/en/products/thunderstormandlightningdetectionsystems/Pages/NLDN.aspx>
and <http://www.lightningsafety.noaa.gov/>

Potential Losses to Existing Development

Most damages occur to electronic equipment located inside buildings, but structural damage can also occur when a lightning strike causes a building fire. Communications equipment and warning transmitters and receivers can also be knocked out by lightning strikes. There has not been any fatalities or injuries due to lightning in Clark County during the 20-year period reviewed. There have been several insurance claims due to wind, lightning and hail due to loss of property.

Hail: There were 8 reported crop insurance claims for a 10-year period. The USDA RMA data does not depict 8 individual claims, but rather summarizes the total for each crop type/cause of loss. This amount does not take in account most buildings and structures that are privately insured thus insurance would help the building owner recover from hail damage.

High Winds: During the 10-year period reviewed there were 2 reports of damage contributed to high winds. The USDA RMA data does not depict 2 individual claims, but rather summarizes the total for each crop type/cause of loss. This amount does not take in account most buildings and structures that are privately insured thus insurance would help the building owner recover from high wind damage.

Lightning: There were 3 reported crop insurance claims for a 10-year period. The USDA RMA data does not depict 3 individual claims, but rather summarizes the total for each crop type/cause of loss. This amount does not take in account most buildings and structures that are privately insured thus insurance would help the building owner recover from lightning damage.

Previous and Future Development

With a decline in population from the 2010 to the 2020 census it is difficult to determine the future impacts. Anticipated development in each jurisdiction will result in increase exposure. Likewise, increased development of residential structures will increase jurisdiction's vulnerability to damages from severe thunderstorms/high winds/lightning/hail.

Hazard Summary by Jurisdiction

Thunderstorms/high winds/ lightning/hail events are area-wide, NCEI data did not seem to indicate that any particular community had higher losses as compared to another.

Problem Statement

Thunderstorms can damage power lines with the high winds or fallen debris such as tree limbs. Not everyone in the county utilizes social media, texting or have access to a weather radio, communities would benefit from updated sirens. Possible solutions include review of local ordinance and building codes to address high winds and/or construction techniques to include structural bracing, straps and clips, or anchor bolts.

3.4.9 Severe Winter Weather

Hazard Profile

Hazard Description

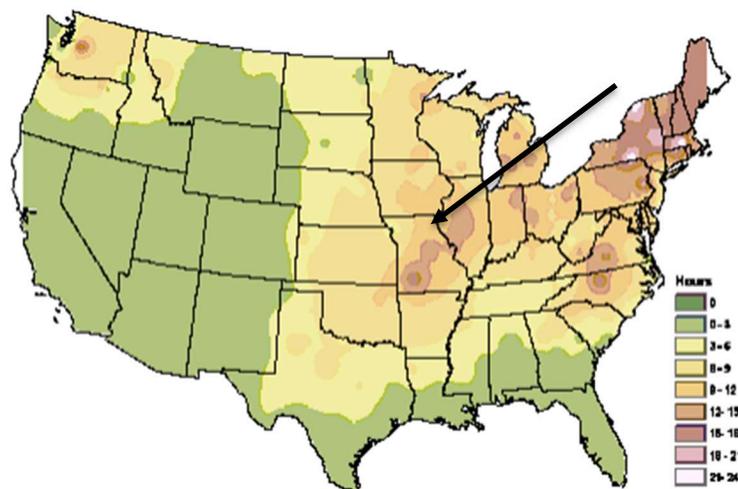
A major winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall, and cold temperatures. The National Weather Service describes different types of winter storm events as follows.

- **Blizzard**—Winds of 35 miles per hour or more with snow and blowing snow reducing visibility to less than $\frac{1}{4}$ 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 with a temperature below freezing. This causes it to freeze to 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.

Geographic Location

The entire planning area of Clark County is vulnerable to heavy snow, ice, extreme cold temperatures and freezing rain. **Figure 3.47** shows the county graphically (approximated by arrow) is in the orange-shaded area that receives 9-12 hours of freezing rain annually.

Figure 3.47. NWS Statewide Average Number of Hours per Year with Freezing Rain



Source: American Meteorological Society. "Freezing Rain Events in the United States." <http://ams.confex.com/ams/pdfpapers/71872.pdf>

Strength/Magnitude/Extent

Severe winter storms include heavy snowfall, ice, and strong winds which can push the wind chill well below zero degrees in the planning area.

For severe weather conditions, the National Weather Service issues some or all of the following products as conditions warrant across the State of Missouri. NWS local offices in Missouri may collaborate with local partners to determine when an alert should be issued for a local area.

- Winter Weather Advisory — Winter weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not become life threatening. Often the greatest hazard is to motorists.
- Winter Storm Watch — Severe winter conditions, such as heavy snow and/or ice are possible within the next day or two.
- Winter Storm Warning — Severe winter conditions have begun or are about to begin.
- Blizzard Warning — Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill.
- Ice Storm Warning -- Dangerous accumulations of ice are expected with generally over one quarter inch of ice on exposed surfaces. Travel is impacted, and widespread downed trees and power lines often result.
- Wind Chill Advisory -- Combination of low temperatures and strong winds will result in wind chill readings of -20 degrees F or lower.
- Wind Chill Warning -- Wind chill temperatures of -35 degrees F or lower are expected. This is a life-threatening situation.

Previous Occurrences

Table 3.34 includes NCEI reported events and damages for the past 20 years.

Table 3.34. NCEI Clark County Winter Weather Events Summary, 2004-2024

Type of Event	Inclusive Dates	Magnitude	# of Injuries	Property Damages	Crop Damages
Ice Storm	01/04/2005	-	0	\$10.00K	0
Winter Weather	12/08/2005	-	0	0	0
Ice Storm	01/20/2006	-	0	\$5.00K	0
Winter Weather	02/16/2006	-	0	\$0.50K	0
Winter Weather	03/21/2006	-	0	\$2.00K	0
Winter Storm	11/30/2006	-	0	0	0
Winter Storm	12/01/2006	-	0	0	0
Ice Storm	01/12/2007	-	0	0	0
Winter Weather	01/20/2007	-	0	0	0
Extreme Cold/Wind Chill	02/02/2007	-	0	0	0
Winter Weather	02/12/2007	-	0	0	0
Winter Weather	02/16/2007	-	0	0	0
Ice Storm	02/24/2007	-	0	0	0
Ice Storm	12/01/2007	-	0	0	0
Winter Weather	12/06/2007	-	0	0	0
Ice Storm	12/10/2007	-	0	0	0
Winter Weather	12/15/2007	-	0	0	0
Winter Weather	12/22/2007	-	0	0	0
Winter Weather	12/28/2007	-	0	0	0
Winter Weather	12/31/2007	-	0	0	0
Winter Weather	01/29/2008	-	0	0	0

Winter Weather	01/31/2008	-	0	0	0
Winter Weather	02/01/2008	-	0	0	0
Winter Weather	02/03/2008	-	0	0	0
Winter Weather	02/06/2008	-	0	0	0
Winter Weather	02/17/2008	-	0	0	0
Winter Weather	02/25/2008	-	0	0	0
Winter Weather	02/28/2008	-	0	0	0
Winter Weather	11/29/2008	-	0	0	0
Winter Weather	12/16/2008	-	0	0	0
Ice Storm	12/18/2008	-	0	0	0
Extreme Cold/Wind Chill	01/14/2009	-	0	0	0
Winter Weather	02/20/2009	-	0	0	0
Winter Storm	12/07/2009	-	0	0	0
Blizzard	12/09/2009	-	0	0	0
Winter Weather	12/25/2009	-	0	0	0
Winter Storm	01/06/2010	-	0	0	0
Winter Weather	01/25/2010	-	0	0	0
Winter Weather	02/08/2010	-	0	0	0
Winter Storm	02/21/2010	-	0	0	0
Winter Weather	03/20/2010	-	0	0	0
Winter Weather	12/11/2010	-	0	0	0
Winter Weather	12/24/2010	-	0	0	0
Winter Weather	01/10/2011	-	0	0	0
Winter Weather	01/17/2011	-	0	0	0
Blizzard	02/01/2011	-	0	0	0
Winter Weather	02/24/2011	-	0	0	0
Winter Weather	02/27/2011	-	0	0	0
Winter Weather	01/11/2012	-	0	0	0
Winter Storm	12/20/2012	-	0	0	0
Winter Weather	01/27/2013	-	0	0	0
Winter Storm	02/21/2013	-	0	0	0
Winter Storm	02/26/2013	-	0	0	0
Winter Weather	03/24/2013	-	0	0	0
Winter Storm	12/13/2013	-	0	0	0
Winter Weather	12/21/2013	-	0	0	0
Winter Weather	01/04/2014	-	0	0	0
Extreme Cold/Wind Chill	01/05/2014	-	0	0	0
Winter Storm	02/01/2014	-	0	0	0
Winter Storm	02/04/2014	-	0	0	0
Winter Weather	02/17/2014	-	0	0	0
Winter Weather	03/01/2014	-	0	0	0
Winter Weather	11/15/2014	-	0	0	0
Winter Weather	02/01/2015	-	0	0	0
Winter Weather	02/04/2015	-	0	0	0
Winter Storm	12/28/2015	-	0	0	0
Winter Weather	12/24/2017	-	0	0	0
Winter Weather	04/01/2018	-	0	0	0
Blizzard	11/25/2018	-	0	0	0
Winter Storm	01/11/2019	-	0	0	0
Winter Storm	01/18/2019	-	0	0	0
Extreme Cold/Wind Chill	01/29/2019	-	0	0	0
Winter Weather	10/30/2019	-	0	0	0
Winter Storm	04/16/2020	-	0	0	0
Winter Storm	01/01/2021	-	0	0	0
Winter Weather	01/25/2021	-	0	0	0
Winter Storm	01/01/2022	-	0	0	0
Winter Storm	01/14/2022	-	0	0	0
Winter Storm	12/21/2022	-	0	0	0
Blizzard	01/08/2024	-	0	0	0

Source: NCEI, data accessed February 12, 2025

Table 3.35 shows Presidential Disaster Declarations for Winter Storms in Clark County.

Table 3.35. Presidential Disaster Declarations for Winter Storms

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
3071	Ice Jam and Flooding	3/12/1979	-
1403	Ice Storm	2/6/2002	PA
3281	Severe Winter Storms	12/12/2007	-
3303	Severe Winter Storm	1/30/2009	-
3317	Severe Winter Storm	2/03/2001	-
1961	Severe Winter Storm and Snowstorm	3/23/2011	PA

Table 3.36 shows the USDA's Risk Management Agency payments for insured crop losses in the planning area as a result of cold conditions and snow for the past 10 years.

Table 3.36. Crop Insurance Claims Paid in Clark County as a Result of Cold Conditions and Snow 2014-2024

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid (\$)
2014	Wheat	Frost	\$2,470
2014	Wheat	Cold Winter	\$288,309
2014	Wheat	Cold/Wet Weather	\$13,670
2014	Corn	Cold/Wet Weather	\$22,200
2014	Soybeans	Cold/Wet Weather	\$3,930
2015	Wheat	Cold Winter	\$38,044
2016	Wheat	Cold Winter	\$1,385
2016	Corn	Cold/Wet Weather	\$4,732
2016	Soybeans	Cold/Wet Weather	\$7,835
2017	Corn	Cold/Wet Weather	\$10,421
2018	Soybeans	Cold/Wet Weather	\$75,617
2019	Corn	Cold/Wet Weather	\$41,531
2019	Soybeans	Cold/Wet Weather	\$8,779
2020	Corn	Cold/Wet Weather	\$22,366
2020	Soybeans	Cold/Wet Weather	\$7,043
2021	Corn	Cold/Wet Weather	\$109,403
2021	Soybeans	Cold/Wet Weather	\$56,281
2023	Soybeans	Cold/Wet Weather	\$5,505
2024	Corn	Cold/Wet Weather	\$2,912
2024	Soybeans	Cold/Wet Weather	\$6,911
Total			\$791,546

Source: USDA Risk Management Agency, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Probability of Future Occurrence

The entire planning area is vulnerable to the effects of winter storm/blizzard, ice storms, winter weather, cold/wind chill and heavy snow. All effects of winters tend to make driving more treacherous and can impact the response of emergency vehicles. The probability of utility and infrastructure failure increases during winter weather due to the freezing rain accumulation on utility poles and

power lines. Elderly populations are considered particularly vulnerable to the impact of winter weather.

Blizzard: There were 4 reported blizzard events in Clark County from the period of 2004-2024. The probability of a blizzard occurring in the planning area in any given year is 20% or low (4 events / 20 years).

Cold/Wind Chill: There was 4 reported Cold/Wind Chill event in Clark County from the period of 2004-2024. The probability of a Cold/Wind Chill event in the planning area in any given year is 20% or low (4 event / 20 years).

Ice Storm: There were 7 reported Ice Storm events in Clark County from the period of 2004-2024. The probability of an Ice Storm event in the planning area in any given year is 35% or medium-low (7 events / 20 years).

Winter Storm: There were 19 reported Winter Storm events in Clark County from the period of 2004-2024. The probability of a Winter Storm event in the planning area in any given year is 95% or high (19 events / 20 years).

Winter Weather: There were 46 Winter Weather events in Clark County from the period of 2004-2024. The probability of a Winter Weather event in the planning area is 100% or high with an average annual occurrence of 2.3 events.

Changing Future Conditions Considerations

According to the 2023 Missouri State Plan, a shorter overall winter season and fewer days of extreme cold may have both positive and negative indirect impacts. Warmer winter temperatures may result in changing distributions of native plant and animal species and/or an increase in pests and non-native species. Warmer winter temperatures will result in a reduction of lake ice cover. Reduced lake ice cover impacts aquatic ecosystems by raising water temperatures. Water temperature is linked to dissolved oxygen levels and many other environmental parameters that affect fish, plant, and other animal populations. A lack of ice cover also leaves lakes exposed to wind and evaporation during a time of year when they are normally protected. As both temperature and precipitation increase during the winter months, freezing rain will be more likely. Additional wintertime precipitation in any form will contribute to saturation and increase the risk and/or severity of spring flooding. A greater proportion of wintertime precipitation may fall as rain rather than snow.

Vulnerability

Vulnerability Overview

Heavy snow can bring a community to a standstill by inhibiting transportation (in whiteout conditions), weighing down utility lines, and by causing structural collapse in buildings not designed to withstand the weight of the snow. Repair and snow removal costs can be significant. Ice buildup can collapse utility lines and communication towers, as well as make transportation difficult and hazardous. Ice can also become a problem on roadways if the air temperature is high enough that precipitation falls as freezing rain rather than snow.

Buildings with overhanging tree limbs are more vulnerable to damage during winter storms when limbs fall. Businesses experience loss of income as a result of closure during power outages. In general heavy winter storms increase wear and tear on roadways though the cost of such damages is difficult to determine. Businesses can experience loss of income as a result of closure during winter storms.

Overhead power lines and infrastructure are also vulnerable to damages from winter storms. In particular ice accumulation during winter storm events damage to power lines due to the ice weight on the lines and equipment. Damages also occur to lines and equipment from falling trees and tree limbs weighted down by ice. Potential losses could include cost of repair or replacement of damaged facilities, and lost economic opportunities for businesses.

Secondary effects from loss of power could include burst water pipes in homes without electricity during winter storms. Public safety hazards include risk of electrocution from downed power lines. Specific amounts of estimated losses are not available due to the complexity and multiple variables associated with this hazard. Standard values for loss of service for utilities reported in FEMA's BCA Toolkit 6.0 Release Notes, the economic impact as a result of loss of power is \$174 per person per day of lost service.

The method used to determine vulnerability to severe winter weather across Missouri was statistical analysis of data from several sources: National Centers for Environmental Information (NCEI) storm events data (1996 to December 31, 2021), HAZUS Building Exposure Value data, housing density data from the U.S. Census (2020), and the calculated Social Vulnerability Index for Missouri Counties from the Hazards and Vulnerability Research Institute in the Department of Geography at the University of South Carolina. From the statistical data collected, five factors were considered in determining overall vulnerability to severe winter weather as follows: housing density, building exposure, social vulnerability, likelihood of occurrence, and average annual property loss. Based on natural breaks in the statistical data, a rating value of 1 through 5 was assigned to each factor. Once the individual ratings were determined for the above factors, a combined vulnerability rating was computed for severe winter weather. These rating values correspond to the following descriptive terms: 1) Low 2) Medium-Low 3) Medium 4) Medium-High 5) High shown in **Table 3.37** below. **Table 3.38** shows ranges for severe winter weather combined vulnerability rating. **Table 3.39** lists housing density, building exposure, and SOVI. **Figure 3.48** illustrates severe winter weather vulnerability with the planning area indicated by an arrow.

Table 3.37. Ranges for Severe Winter Weather Vulnerability Factor Rating

Factors Considered	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Common Factors					
Housing Density (# per sq. mile)	4-46	47-140	141-283	284-871	872-2,865
Building Exposure (\$1,000)	\$286,351- \$3,053,773	\$3,381,480- \$9,044,465	\$11,043,270- \$24,814,360	\$30,225,497- \$50,440,776	\$96,532,305- \$153,542,314
Social Vulnerability	1	2	3	4	5
Likelihood of Occurrence (# of events/ yrs. of data)	1-1.5	1.6-1.8	1.9-2.2	2.3-2.7	2.8-4
Average Annual Property Loss (annual property loss/ yrs. of data)	0	\$1- \$329,423	\$329,424- \$961,962	\$961,963- \$2,572,692	\$2,572,693- \$4,738,269

Source: 2023 Missouri Hazard Mitigation Plan

Table 3.38. Ranges for Severe Winter Weather Combined Vulnerability Rating

	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Severe Winter Weather Combined Vulnerability	6-8	9-10	11-12	13-15	16-21

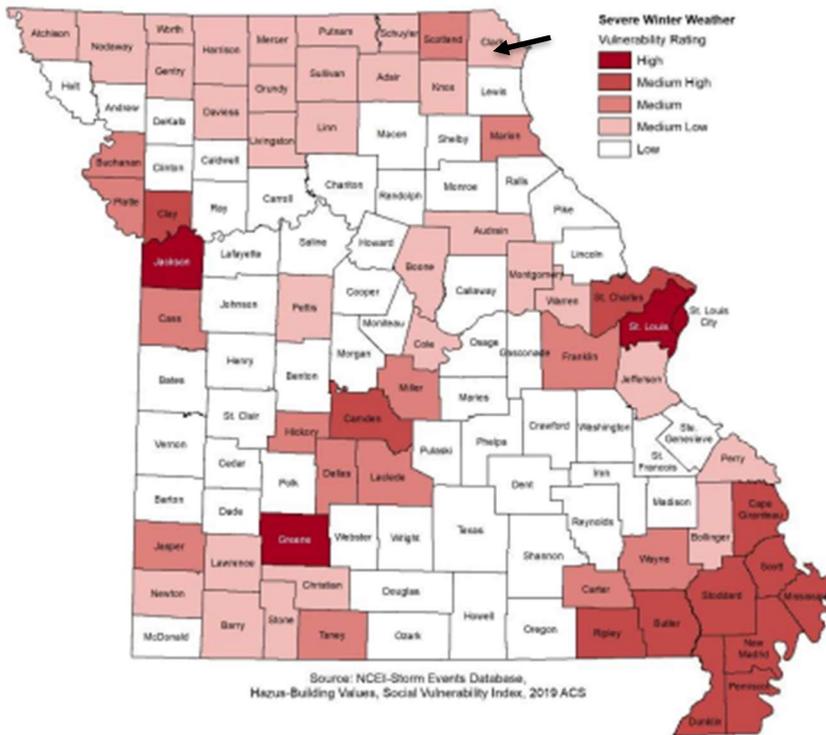
Source: 2023 Missouri Hazard Mitigation Plan

Table 3.39. Housing Density, Building Exposure, and SOVI

County	Total Building Exposure (Hazus)	Building Exposure Rating	Housing Density	Housing Density Rating	SOVI Ranking	SOVI Rating
Clark	\$749,824,000	1	6.95	1	Medium Low	2

Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.48. Vulnerability Summary for Severe Winter Weather



Source: 2023 Missouri Hazard Mitigation Plan

Potential Losses to Existing Development

The next severe winter storm will most likely close schools and businesses for multiple days, and make roadways hazardous for travel. Heavy ice accumulation may damage electrical infrastructures causing prolonged power outages for large portions of the region. In addition, freezing temperatures make water lines vulnerable to freeze/thaw. Fallen tree limbs also pose a threat to various structures/infrastructures across the county.

Previous and Future Development

Future development could potentially increase vulnerability to this hazard by increasing demand on the utilities and increasing the exposure of infrastructure networks.

Previous developments increase vulnerability due to older homes and buildings being constructed before modern energy standards resulting in poor insulation, outdated heating and cooling systems, and higher energy consumption.

Hazard Summary by Jurisdiction

Although crop loss as a result of severe winter storm occurs more in the unincorporated portions of the planning area, the density of vulnerable populations is higher in the urban areas of the planning areas. It is considered that the magnitude of this hazard is relatively equal. The factors of probability, warning time, and duration are also equal across the planning area. Therefore, the conclusion is the hazard does not substantially vary by jurisdiction.

Problem Statement

Clark County is expected to experience at least one severe winter weather events annually; the county has a low-medium vulnerability rating. Jurisdictions should enhance their weather monitoring to be better prepared for severe weather hazards. If jurisdictions monitor winter weather, they can dispatch road crews to prepare for the hazard. County and city crews can also trim trees along power lines to minimize the potential for outages due to snow and ice. Citizens should also be educated about the benefits of being proactive to alleviate property damage as well as preparing for power outages. Education needs to occur to ensure all residents are aware of the shelters in the County, residents are educated on emergency supplies to have and the utilization of social media and texting increases.

3.4.10 Tornado

Hazard Profile

Hazard Description

Essentially, tornadoes are a vortex storm with two components of winds. The first is the rotational winds that can measure up to 500 miles per hour, and the second is an uplifting current of great strength. The dynamic strength of both these currents can cause vacuums that can overpressure structures from the inside.

Although tornadoes have been documented in all 50 states, most of them occur in the central United States. The unique geography of the central United States allows for the development of thunderstorms that spawn tornadoes. The jet stream, which is a high-velocity stream of air, determines which area of the central United States will be prone to tornado development. The jet stream normally separates the cold air of the north from the warm air of the south. During the winter, the jet stream flows west to east from Texas to the Carolina coast. As the sun “moves” north, so does the jet stream, which at summer solstice flows from Canada across Lake Superior to Maine. During its move northward in the spring and its recession south during the fall, the jet stream crosses Missouri, causing the large thunderstorms that breed tornadoes.

Tornadoes spawn from the largest thunderstorms. The associated cumulonimbus clouds can reach heights of up to 55,000 feet above ground level and are commonly formed when Gulf air is warmed by solar heating. The moist, warm air is overridden by the dry cool air provided by the jet stream. This cold air presses down on the warm air, preventing it from rising, but only temporarily. Soon, the warm air forces its way through the cool air and the cool air moves downward past the rising warm air. This air movement, along with the deflection of the earth’s surface, can cause the air masses to start rotating. This rotational movement around the location of the breakthrough forms a vortex, or funnel. If the newly created funnel stays in the sky, it is referred to as a funnel cloud. However, if it touches the ground, the funnel officially becomes a tornado.

A typical tornado can be described as a funnel-shaped cloud that is “anchored” to a cloud, usually a cumulonimbus that is also in contact with the earth’s surface. This contact on average lasts 30 minutes and covers an average distance of 15 miles. The width of the tornado (and its path of destruction) is usually about 300 yards. However, tornadoes can stay on the ground for upward of 300 miles and can be up to a mile wide. The National Weather Service, in reviewing tornadoes occurring in Missouri between 1950 and 1996, calculated the mean path length at 2.27 miles and the mean path area at 0.14 square mile.

The average forward speed of a tornado is 30 miles per hour but may vary from nearly stationary to 70 miles per hour. The average tornado moves from southwest to northeast, but tornadoes have been known to move in any direction. Tornadoes are most likely to occur in the afternoon and evening, but have been known to occur at all hours of the day and night.

Geographic Location

Tornados can occur in the entire planning area and no area is immune from tornado suffering.

Strength/Magnitude/Extent

Tornadoes are the most violent of all atmospheric storms and are capable of tremendous destruction. Wind speeds can exceed 250 miles per hour and damage paths can be more than one mile wide and 50 miles long. Tornadoes have been known to lift and move objects weighing more than 300 tons a distance of 30 feet, toss homes more than 300 feet from their foundations, and siphon millions of tons of water from water bodies. Tornadoes also can generate a tremendous amount of flying debris or

“missiles,” which often become airborne shrapnel that causes additional damage. If wind speeds are high enough, missiles can be thrown at a building with enough force to penetrate windows, roofs, and walls. However, the less spectacular damage is much more common.

Tornado magnitude is classified according to the EF- Scale (or the Enhance Fujita Scale, based on the original Fujita Scale developed by Dr. Theodore Fujita, a renowned severe storm researcher). The EF-Scale (see **3.40**) attempts to rank tornadoes according to wind speed based on the damage caused. This update to the original F Scale was implemented in the U.S. on February 1, 2007.

Table 3.40. Enhanced F Scale for Tornado Damage

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest ¼-mile (mph)	3 Second Gust (mph)	EF Nu	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: The National Weather Service, www.spc.noaa.gov/faq/tornado/ef-scale.html

The wind speeds for the EF scale and damage descriptions are based on information on the NOAA Storm Prediction Center as listed in **Table 3.41**. The damage descriptions are summaries. For the actual EF scale it is necessary to look up the damage indicator (type of structure damaged) and refer to the degrees of damage associated with that indicator. Information on the Enhanced Fujita Scale’s damage indicators and degrees of damage is located online at www.spc.noaa.gov/efscale/ef-scale.html.

Table 3.41. Enhanced Fujita Scale with Potential Damage

Enhanced Fujita Scale			
Scale	Wind Speed (mph)	Relative Frequency	Potential Damage
EF0	65-85	53.5%	Light. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e. those that remain in open fields) are always rated EF0).
EF1	86-110	31.6%	Moderate. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	10.7%	Considerable. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes complete destroyed; large trees snapped or uprooted; light object missiles generated; cars lifted off ground.
EF3	136-165	3.4%	Severe. Entire stores of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some
EF4	166-200	0.7%	Devastating. Well-constructed houses and whole frame houses completely levelled; cars thrown and small missiles generated.
EF5	>200	<0.1%	Explosive. Strong frame houses levelled off foundations and swept away; automobile-sized missiles fly through the air in excess of 300 ft.; steel reinforced concrete structure badly damaged; high rise buildings have significant structural deformation; incredible phenomena will occur.

Source: NOAA Storm Prediction Center, <http://www.spc.noaa.gov/efscale/ef-scale.html>

Enhanced weather forecasting has provided the ability to predict severe weather likely to produce tornadoes days in advance. Tornado watches can be delivered to those in the path of these storms several hours in advance. Lead time for actual tornado warnings is about 30 minutes. Tornadoes have been known to change paths very rapidly, thus limiting the time in which to take shelter. Tornadoes may not be visible on the ground if they occur after sundown or due to blowing dust or driving rain and hail.

Previous Occurrences

There are limitations to the use of NCEI tornado data that must be noted. For example, one tornado may contain multiple segments as it moves geographically. A tornado that crosses a county line or state line is considered a separate segment for the purposes of reporting to the NCEI. Also, a tornado that lifts off the ground for less than 5 minutes or 2.5 miles is considered a separate segment. If the tornado lifts off the ground for greater than 5 minutes or 2.5 miles, it is considered a separate tornado. Tornadoes reported in Storm Data and the Storm Events Database are in segments.

Table 3.42 shows recorded tornadoes in Clark County from 1993 to present.

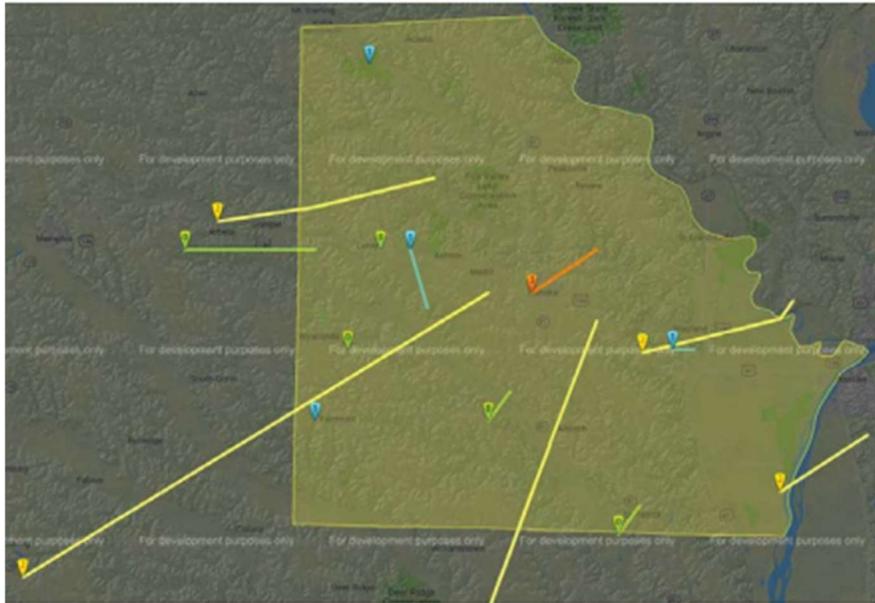
Table 3.42. Recorded Tornadoes in Clark County, 1993 – Present

Date	Beginning Location	Ending Location	Length (miles)	Width (yards)	F/EF Rating	Death	Injury	Property Damage	Crop Damages
5/13/1995	0 Arbela	4NE Luray	8	200	F2	0	3	630K	0
4/7/1998	1SW Wayland	1S Wayland	2.5	50	F1	0	0	50K	0
6/14/1998	1SE Wyaconda	1SE Wyaconda	.2	25	F0	0	0	0	0
6/14/1998	1E Luray	1E Luray	.2	25	F0	0	0	0	0
6/14/1998	6SSW Kahoka	5SSW Kahoka	1	50	F0	0	0	0	0
6/14/1998	1SW St Patrick	1SW St Patrick	1	50	F0	0	0	0	0
5/10/2003	2WNW Fiarmon	1S Medill	10.7	100	F0	0	0	250K	0
3/12/2006	3W Luray	3W Luray	.5	8	F0	0	0	.5K	0
4/25/2012	2E Luray	2SE Luray	2	50	EF1	0	0	0	0
12/4/2017	3WSW Wayland	3NW Alexandria	6.9	50	EF2	0	1	100K	4K
6/29/2023	2SW Medill	1ESE Medill	2.21	30	EF1	0	0	0	0
Total								\$1,030,500	\$4,000

Source: National Centers for Environmental Information, <http://www.NCEI.noaa.gov/stormevents/>

Figure 3.49 shows historic tornado paths in the planning area.

Figure 3.49. Clark County Map of Historic Tornado Events



Source: Missouri Tornado History Project, <http://www.tornadohistoryproject.com/tornado/Missouri>

Data from the USDA Risk Management Agency showed no insurance payments in Clark County for crop damages as a result of tornadoes within the period of 2014-2024.

Probability of Future Occurrence

The National Centers for Environmental Information reported 4 tornadoes in Clark County in a 20-year time period, which calculates to a 20 percent chance of tornado in any given year. Therefore, it is a low probability that some portion of Clark County will experience tornado activity in any given year.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, scientists do not know how the frequency and severity of tornadoes will change. Research published in 2015 suggests that changes in heat and moisture content in the atmosphere, brought on by a warming world, could be playing a role in making tornado outbreaks more common and severe in the U.S. The research concluded that the number of days with large outbreaks have been increasing since the 1950s and that densely concentrated tornado outbreaks are on the rise. It is notable that the research shows that the area of tornado activity is not expanding, but rather the areas already subject to tornado activity are seeing the more densely packed tornadoes. Because Missouri experiences on average around 38.5 tornadoes a year, such research is closely followed by meteorologists in the state.

Clark County has experienced 11 recorded tornadoes since 1995 with the strongest being an EF2. While this is lower than tornado counts in other regions of the state, Clark County remains vulnerable to destructive wind events.

Vulnerability

Vulnerability Overview

Clark County is located in a region of the U.S. with high frequency of dangerous and destructive tornadoes referred to as “Tornado Alley” (**Figure 3.50**) illustrating areas where dangerous tornadoes historically have occurred.

The method used to determine vulnerability to tornadoes across Missouri was statistical analysis of data from several sources: HAZUS building exposure value data, population density and mobile home data from the U.S. Census (2020), the calculated Social Vulnerability Index for Missouri Counties from the Hazards and Vulnerability Research Institute in the Department of Geography at the University of South Carolina, and storm events data (1950 to December 31, 2021) from the National Centers for Environmental Information (NCEI). It is important to realize that one limitation to the NCEI data is that many tornadoes that might have occurred in uninhabited areas, as well as some in inhabited areas, may not have been reported. The incompleteness of the data suggests that it is not appropriate for use in parametric modeling. In addition, NOAA data cannot show a realistic frequency distribution of different Fujita scale tornado events, except for recent years. Thus, a parametric model based on a combination of many physical aspects of the tornado to predict future expected losses was not used. The statistical model used for this analysis was probabilistic based purely on tornado frequency and historic losses. It is based on past experience and forecasts the expected results for the immediate or extended future.

From the statistical data collected, six factors were considered in determining overall vulnerability to tornadoes as follows: building exposure, population density, social vulnerability, percentage of mobile homes, likelihood of occurrence, and annual property loss. Based on natural breaks in the statistical data, a rating value of 1 through 5 was assigned to each factor. Once the ranges were determined and applied to all factors considered in the analysis, the ratings were combed to determine an overall vulnerability rating for tornadoes. These rating values correspond to the following descriptive terms: 1) Low 2) Medium-Low 3) Medium 4) Medium-High 5) High shown in **Table 3.43** below.

Table 3.44 shows ranges for tornado combined vulnerability rating. **Table 3.45** lists population density, building exposure, SOVI, and mobile home data for the planning area. **Figure 3.51** illustrates overall vulnerability for tornadoes, and **Figure 3.52** illustrates annualized property loss with the planning area indicated by an arrow.

Figure 3.50. Tornado Alley in the U.S.



Source: <http://www.tomadochaser.net/tornalley.html>

Table 3.43. Ranges for Tornado Vulnerability Factor Ratings

Factors Considered	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Common Factors					
Building Exposure (\$1,000)	\$286,351-\$3,053,773	\$3,381,480-\$9,044,465	\$11,043,270-\$24,814,360	\$30,225,497-\$50,440,776	\$96,532,305-\$153,542,314
Population Density (#per sq. mile)	8-113	114-434	435-1,163	1,164-1,958	1,959-4,855
Social Vulnerability	1	2	3	4	5
Percent Mobile Homes	0.23-4.38	4.39-8.24	8.25-13	13.01-23.77	23.78-34.58
Likelihood of Occurrence (# of events/ yrs. of data)	0-19	20-29	30-40	41-53	54-74
Total Annualized Property Loss (\$ / yrs. of data)	\$906-\$268,132	\$268,133-\$1,010,663	\$1,010,664-\$2,400,000	\$2,400,001-\$4,499,038	\$4,499,039-\$39,592,934

Source: 2023 Missouri Hazard Mitigation Plan

Table 3.44. Ranges for Tornado Combined Vulnerability Rating

	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Tornado Combined Vulnerability	7-10	11-12	13-14	15-16	17-21

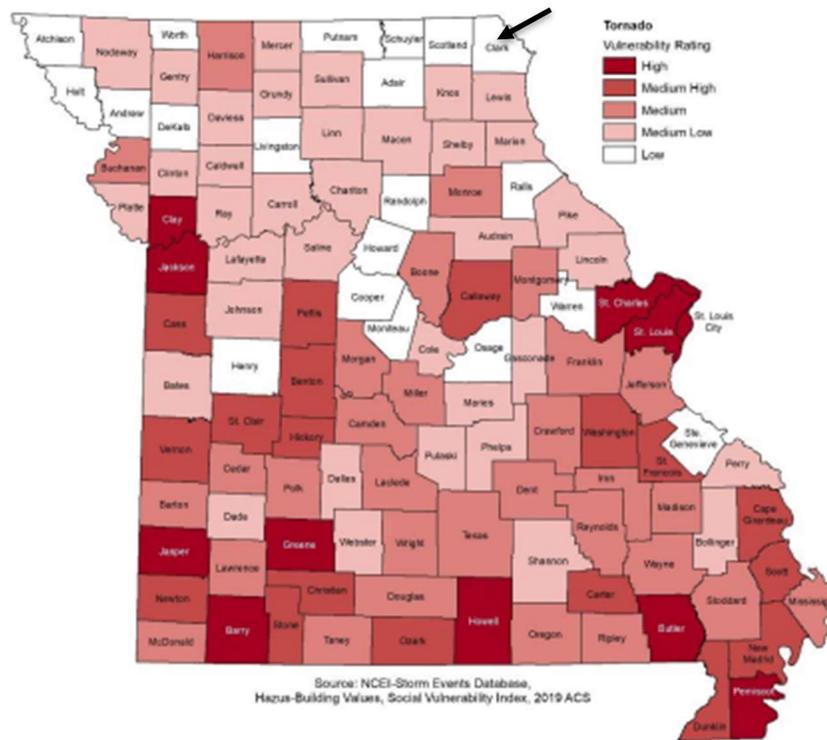
Source: 2023 Missouri Hazard Mitigation Plan

Table 3.45. Building Exposure, Population Density, SOVI, and Mobile Home Data for Clark County

County	Total Building Exposure (Hazus)	Exposure Rating	Population Density	Population Rating	SOVI Index Ranking	SOVI Rating	Percent Mobile Homes	Mobile Home Rating
Clark	\$749,824,000	1	13.47	1	Medium Low	2	15.7	4

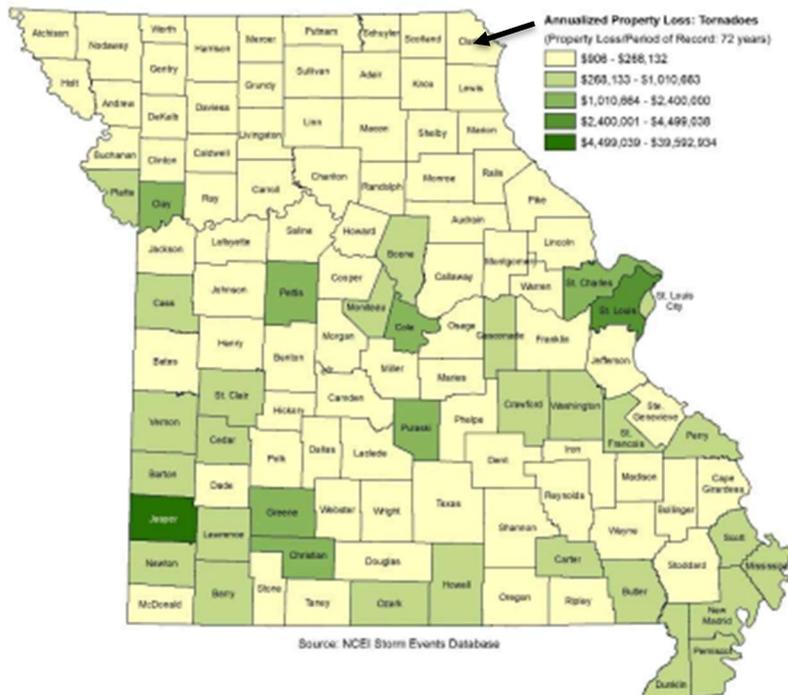
Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.51. Overall Vulnerability for Tornadoes



Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.52. Annualized Property Loss for Tornadoes



Source: 2023 Missouri Hazard Mitigation Plan

Potential Losses to Existing Development

Given that the annualized damage for Clark County due to tornadoes is \$49,385 over the past 67 years, it is estimated that existing development in the county faces an annual average loss of approximately \$737.09 due to tornado-related damages. While this amount may seem relatively low, it does not account for the potential for more severe or frequent tornadoes in the future.

The largest recorded tornado in Clark County has been an EF-2, which is capable of causing considerable damage, including roof loss, mobile home destruction, and damage to trees and power lines. If a stronger tornado were to impact a more densely populated area, losses could far exceed the historical annualized estimate, particularly in commercial districts, residential neighborhoods, and critical infrastructure sites.

Potential losses to existing development include structural damage of older buildings, mobile homes, and structures lacking modern wind-resistant construction; utility disruptions could occur due to down power lines; economic losses could occur due to business closures and damaged farm structures, equipment, and crops; public infrastructure could be damaged delaying emergency response.

Previous and Future Development

Vulnerability to tornadoes is anticipated to remain the same. Future development for public buildings such as schools, government offices, as well as buildings with high occupancy and campgrounds should consider including a tornado safe room to protect occupants in the event of a tornado.

Previous development presents challenges to tornado preparedness as many existing structures were not built with modern wind-resistant standards or tornado-safe rooms. Older buildings may lack reinforced shelters, basements, or designated storm protection areas, increasing occupant

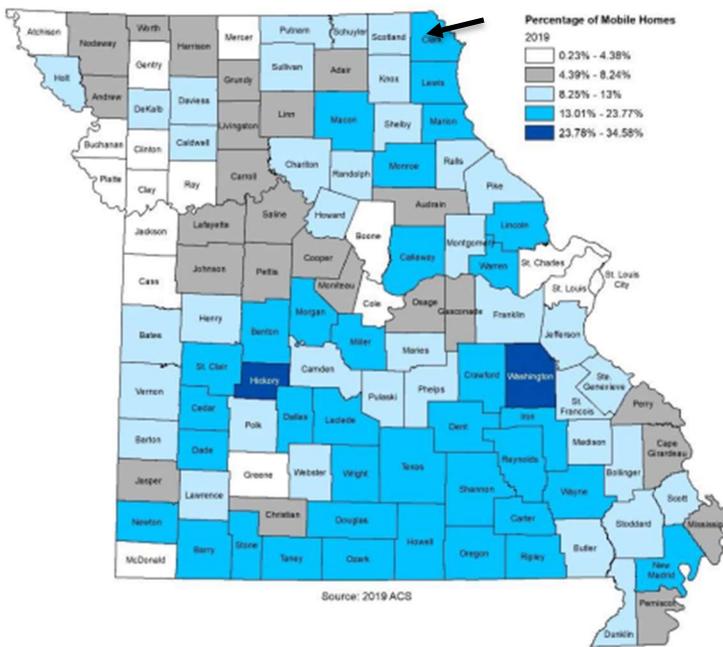
vulnerability during severe weather.

Hazard Summary by Jurisdiction

As previously stated, a tornado event could occur anywhere in the planning area. However, some jurisdictions would suffer heavier damages because of the age of housing or high concentration of mobile homes. Furthermore, data was obtained from the U.S. Census Bureau for the number of mobile homes in Clark County. Clark County has a Mobile Home Rating of 4 (see **Table 3.45**) and 15.7% mobile homes according to the 2023 Missouri State Hazard Mitigation Plan as shown in **Table 3.45**.

Figure 3.53 illustrates the ranges of percentages of mobile homes per county in Missouri with the planning area indicated by an arrow.

Figure 3.53. Percent of Mobile Homes per County



Source: 2023 Missouri Hazard Mitigation Plan

Problem Statement

Early warnings are possibly the best hope for residents when severe weather strikes. While more than two hours warning is not possible for tornados, citizens must immediately be aware when a city will be facing a severe weather incident. Jurisdictions that do not already possess warning systems should plan to purchase a system. Storm shelters are another important means of mitigating the effects of tornados. Additional public awareness also includes coverage by local media sources. A community-wide shelter program should be adopted for residents who may not have adequate shelter in their homes. Residents should also be encouraged to build their own storm shelters to prepare for emergencies. Local governments should encourage residents to purchase weather radios to ensure that everyone has sufficient access to information in times of severe weather.

3.4.11 Wildfire

Hazard Profile

Hazard Description

The fire incident types for wildfires include: 1) natural vegetation fire, 2) outside rubbish fire, 3) special outside fire, and 4) cultivated vegetation, crop fire.

The Forestry Division of the Missouri Department of Conservation (MDC) is responsible for protecting privately owned and state-owned forests and grasslands from wildfires. To accomplish this task, eight forestry regions have been established in Missouri for fire suppression. The Forestry Division works closely with volunteer fire departments and federal partners to assist with fire suppression activities. Currently, more than 900 rural fire departments in Missouri have mutual aid agreements with the Forestry Division to obtain assistance in wildfire protection if needed.

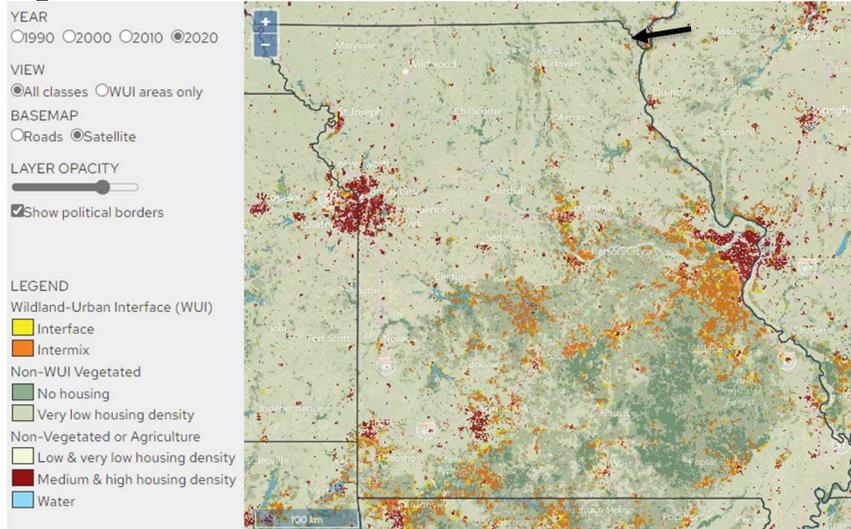
Most of Missouri fires occur during the spring season between February and May. The length and severity of wildland fires depend largely on weather conditions. Spring in Missouri is usually characterized by low humidity and high winds. These conditions result in higher fire danger. In addition, due to the recent lack of moisture throughout many areas of the state, conditions are likely to increase the risk of wildfires. Drought conditions can also hamper firefighting efforts, as decreasing water supplies may not prove adequate for firefighting. It is common for rural residents burn their garden spots, brush piles, and other areas in the spring. Some landowners also believe it is necessary to burn their forests in the spring to promote grass growth, kill ticks, and reduce brush. Therefore, spring months are the most dangerous for wildfires. The second most critical period of the year is fall. Depending on the weather conditions, a sizeable number of fires may occur between mid-October and late November.

Geographic Location

Within the WUI, there are two specific areas identified: 1) Interface and 2) Intermix. The interface areas are those areas that abut wildland vegetation and the Intermix areas are those areas that intermingle with wildland areas.

Figure 3.54 illustrates the Missouri Wildland Urban Interface with the planning area indicated with an arrow.

Figure 3.54. 2020 Missouri Wildland Urban Interface



Source: [The Global Wildland-Urban Interface \(WUI\) – 2020 – SILVIS LAB – UW–Madison](#), Planning area indicated with an arrow

Strength/Magnitude/Extent

Wildfires damage the environment, killing some plants and occasionally animals. Firefighters have been injured or killed, and structures can be damaged or destroyed. The loss of plants can heighten the risk of soil erosion and landslides. Although Missouri wildfires are not the size and intensity of those in the Western United States, they could impact recreation and tourism in and near the fires.

Wildland fires in Missouri have been mostly a result of human activity rather than lightning or some other natural event. Wildfires in Missouri are usually surface fires, burning the dead leaves on the ground or dried grasses. They do sometimes “torch” or “crown” out in certain dense evergreen stands like eastern red cedar and shortleaf pine. However, Missouri does not have the extensive stands of evergreens found in the western US that fuel the large fire storms seen on television news stories.

While very unusual, crown fires can and do occur in Missouri native hardwood forests during prolonged periods of drought combined with extreme heat, low relative humidity, and high wind. Tornadoes, high winds, wet snow and ice storms in recent years have placed a large amount of woody material on the forest floor that causes wildfires to burn hotter and longer. These conditions also make it more difficult for fire fighters to suppress fires safely.

Often wildfires in Missouri go unnoticed by the general public because the sensational fire behavior that captures the attention of television viewers is rare in the state. Yet, from the standpoint of destroying homes and other property, Missouri wildfires can be quite destructive.

Previous Occurrences

According to the Missouri Division of Fire Safety (MDFS) Website as well as the Missouri Department of Conservation Wildfire Data Search there were 215 reported wildfires in Clark County from 2015-2025. In total, these 215 fires burned 2,742 acres. During the ten-year reporting period the largest cause of fire was debris.

At this time no information is available from school districts about previous fire events and the damages resulting from them.

Probability of Future Occurrence

Wildfires in the planning area are most likely to occur every year with very little resulting damage. The wildfires occur in the unincorporated areas and are limited to undeveloped land posing risk to farms, livestock, equipment, and crops. The jurisdictions and school districts are largely surrounded by undeveloped land but have not been affected by wildfires. In years of significant drought or excessive heat the potential for a wildfire in planning area increases. More developed areas may be at low risk for direct wildfire damage, but their proximity could lead to smoke hazards, evacuations, temporary road closure, and limited emergency response. Bus routes for the school district could be impacted by road closures or poor visibility from smoke, and outdoor activities could be affected.

There were 215 Wildfires in Clark County from the period of 2015-2025. The probability of a Wildfire in the planning area is high at 100% with an average annual occurrence of 21.5 events.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, higher temperatures and changes in rainfall are unlikely to substantially reduce forest cover in Missouri, although the composition of trees in the forests may change. More droughts would reduce forest productivity, and changing future conditions are also likely to increase the damage from insects and diseases. But longer growing seasons and increased carbon dioxide concentrations could more than offset the losses from those factors. Forests cover about one-third of the state, dominated by oak and hickory trees. As the climate changes, the abundance of pines in Missouri's forests is likely to increase, while the population of hickory trees is likely to decrease.

Additionally, stated in the 2023 Missouri State hazard Mitigation Plan, higher temperatures will also reduce the number of days prescribed burning can be performed. Reduction of prescribed burning will allow for growth of understory vegetation – providing fuel for destructive wildfires. Drought is also anticipated to increase in frequency and intensity during summer months under projected future scenarios. Drought can lead to dead or dying vegetation and landscaping material close to structures which creates fodder for wildfires within both the urban and rural settings.

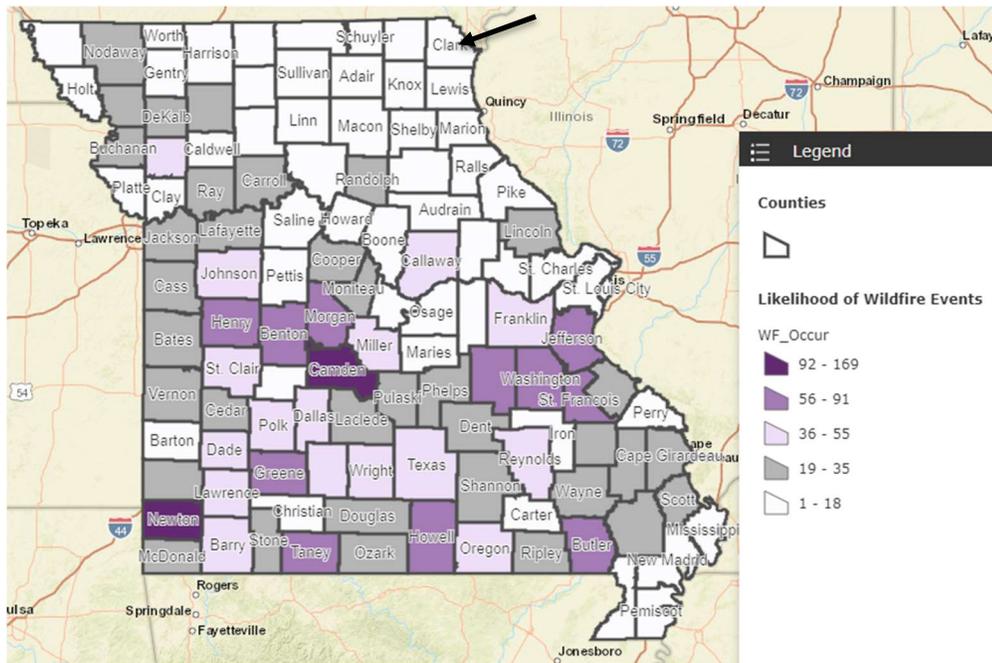
While Clark County has historically experienced low damage from wildfires, these climate-driven changes could increase the frequency, intensity, and potential damage of future fires.

Vulnerability

Vulnerability Overview

As outlined in the 2023 Missouri State Hazard Mitigation Plan, Clark County has a vulnerability rating in the range of 1-18 (**see Figure 3.55**) which is the lowest range. This rating is based on housing density, building exposure, social vulnerability, likelihood of occurrence, annual property loss, and number of deaths/injuries shown in **Table 3.46 and Table 3.47**. The data for wildfires are insufficient due to only 60% of fire departments in Missouri reporting to the National Fire Incident Reporting System. The majority of the fire departments in the planning area are comprised of volunteers and are limited in the time spent to report information.

Figure 3.55. Likelihood of Wildfire Events



Source: 2023 Missouri State Hazard Mitigation Plan

Potential Losses to Existing Development

The potential loss to existing development due to wildfire is difficult to determine due to lack of sufficient historical data. An average number of fires per year has been determined; however, there are no losses reported associated with the data. Information on historical losses was sought after through various sources including the Missouri Division of Fire Safety and The Missouri Department of Conservation but not obtained.

While direct losses to existing development from wildfire in Clark County have been minimal, the indirect economic, environmental, and health impacts should not be underestimated. As the frequency of wildfires increases due to climate change and drought conditions, the risk to property, infrastructure, and public health may rise.

Table 3.46 shows building exposure, housing density, and SOVI data for Clark County, and **Table 3.47** shows the likelihood of occurrence, annual property loss, death/injury rating, and overall vulnerability rating for structural and urban fires for Clark County.

Table 3.46. Building Exposure, Housing Density, and SOVI Data for Clark County

County	Total Building Exposure (Hazus)	Exposure Rating	Housing Density	Housing Density Rating	SOVI Index Ranking	SOVI Rating
Clark	\$709,999,000	1	6.84	1	Medium Low	2

Source: 2023 Missouri State Hazard Mitigation Plan

Table 3.47. Likelihood of Occurrence, Annual Property Loss, Death/Injury Rating and Overall Vulnerability Rating for Structural and Urban Fires, 2002-2012

County	Likelihood of Occurrence	Likelihood of Occurrence Rating	Total Annualized Property Loss	Total Annualized Property Loss Rating	# of Deaths/Injuries	# of Deaths/Injuries Rating	Overall Vulnerability Rating	Overall Vulnerability Rating Description
Clark	26	1	\$199,013	1	5	2	8	Low

Source: 2023 Missouri State Hazard Mitigation Plan

Impact of Previous and Future Development

Future and previous development in the wildland-urban interface would increase vulnerability to wildfires because it places structures, people, and infrastructure in closer proximity to fire-prone landscapes, making them more susceptible to damage. Both previous and future development in these areas contribute to wildfire risks.

Hazard Summary by Jurisdiction

The rural jurisdictions in the planning area are surrounded by undeveloped agricultural land and remain susceptible to wildfires. Under normal conditions, wildfires in Clark County are expected to have minimal adverse impacts on the community, as they would affect only a small percentage of the population in rural areas. However, drought conditions can significantly increase wildfire risk, particularly for homes and businesses in unincorporated areas, which are more vulnerable due to their proximity to combustible vegetation and limited access to fire services. Due to a lack of data, variations in wildfire occurrence—whether structural, urban, or wildland—cannot be precisely determined. However, both structural and wildland fires are anticipated to occur annually across the county.

Problem Statement

Residents do not comply with burn bans, education is not available for the levels of burn bans, many residents lack education in fire safety and not all residents utilize social media and texting. Education needs to occur on the dangers associated with not complying with the burn bans, more education for fire safety and encourage utilization of social media and texting. Due to Clark County's med-high drought rating, they may be more susceptible to fires.

4 MITIGATION STRATEGY

4 MITIGATION STRATEGY 4.1

4.1 Goals..... 4.1

4.2 Identification and Analysis of Mitigation Actions..... 4.2

4.3 Implementation of Mitigation Actions 4.4

44 CFR Requirement §201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section presents the mitigation strategy updated by the Mitigation Planning Committee (MPC) based on the [updated] risk assessment. The mitigation strategy was developed through a collaborative group process. The process included review of [updated] general goal statements to guide the jurisdictions in lessening disaster impacts as well as specific mitigation actions to directly reduce vulnerability to hazards and losses. The following definitions are taken from FEMA’s *Local Mitigation Planning Policy Guide (2023)*

- **Goals** are broad, long-term policy and vision statements that explain what is to be achieved by implementing the mitigation strategy.
- A **mitigation action** is a measure, project, plan or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

4.1 Goals

44 CFR 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.

This planning effort is an update to Clark County’s existing hazard mitigation plan approved by FEMA on August 14, 2020. Therefore, the goals from the 2020 Clark County Hazard Mitigation Plan were reviewed to see if they were still valid, feasible, practical, and applicable to the defined hazard impacts. The MPC conducted a discussion session during their planning meeting to review and update the plan goals. To ensure that the goals developed for this update were comprehensive and supported State goals, the 2023 State Hazard Mitigation Plan goals were reviewed. The MPC also reviewed the goals from current surrounding county plans.

Goal 1: Public Awareness - Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.

Goal 2: Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.

Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

4.2 Identification and Analysis of Mitigation Actions

44 CFR 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.

Some specific sources for mitigation action ideas include the following:

- FEMA’s Mitigation Ideas Publication, https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf
- FEMA’s Climate Resilient Activities for Hazard Mitigation Assistance, <https://www.fema.gov/emergency-managers/risk-management/climate-resilience>
- FEMA Resources for Climate Resilience, https://www.fema.gov/sites/default/files/documents/fema_resources-climate-resilience.pdf
- EPA’s Hazard Mitigation for Natural Disasters Publication, <https://www.epa.gov/waterutilityresponse/hazard-mitigation-natural-disasters>
- EPA’s Planning for an Emergency Drinking Water Supply Publication, <https://www.epa.gov/waterutilityresponse/water-utility-planning-emergency-drinking-water-supply>

During the MPC planning meeting, the results of the risk assessment update were provided to the MPC members for review and the key issues were identified for specific hazards. Changes in risk since adoption of the previously approved plan were discussed. Actions from the previous plan included completed actions, on-going actions, and actions upon which progress had not been made. The MPC discussed SEMA’s identified funding priorities and the types of mitigation actions generally recognized by FEMA.

The MPC included problem statements in the plan update at the end of each hazard profile. The problem statements summarize the risk to the planning area presented by each hazard and include possible methods to reduce that risk. Use of the problem statements allowed the MPC to recognize new and innovative strategies for mitigating risks in the planning area.

During the planning meeting the mitigation strategy was reviewed. For a comprehensive range of mitigation actions to consider, the MPC reviewed the following information during the planning meeting:

- A list of actions proposed in the previous mitigation plan, the current 2023 State Plan, and approved plans in surrounding counties,
- Key issues from the risk assessments, including the problem statements concluding each hazard profile and vulnerability analysis,
- State priorities established for HMA grants, and
- Public input during meetings, responses to data collection questionnaires, and other efforts to involve the public in the plan development process.

For the planning meeting, individual jurisdictions, including school and special districts, developed final mitigation strategy for submission to the MPC. They were encouraged to review the details of the risk assessment vulnerability analysis specific to their jurisdiction. They were also

provided a link to the FEMA’s publication, *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*. This document was developed by FEMA as a resource for identification of a range of potential mitigation actions for reducing risk to natural hazards and disasters.

The MPC reviewed the actions from the previously approved plan for progress made since the plan had been adopted, using worksheets included in Appendix B of this plan. During the Planning Meeting, the list of actions for each jurisdiction was emailed to that jurisdiction’s MPC representative along with the worksheets. Each jurisdiction was instructed to provide information regarding the “Action Status” with one of the following status choices:

- Completed, with a description of the progress;
- Ongoing, with a description of the progress made to date; or
- Not Yet Started, with a discussion of the reasons for lack of progress.

Additionally, the future inclusion of each mitigation action in the plan update was identified as either keep, delete, or modify. Based on the status updates, there were 0 actions completed, 33 continuing actions (either ongoing or modified), and 2 deleted actions.

Table 4.1 provides a summary of the action statuses for each jurisdiction:

Table 4.1. Action Status Summary

Jurisdiction	Completed Actions	Continuing Actions (ongoing or modify)	Deleted Actions
Clark County	0	6	1
City of Kahoka	0	4	1
City of Wayland	0	4	0
City of Wyaconda	0	4	0
City of Alexandria	0	5	0
Village of Luray	0	4	0
City of Revere	0	4	0
Clark Co R-1 Schools	0	2	0

Table 4.2 provides a summary of the completed and deleted actions from the previous plan.

Table 4.2. Summary of Completed and Deleted Actions from the Previous Plan

Completed Actions	Completion Details (date, amount, funding source)
Deleted Actions	Reason for Deletion
Response to Pandemic (Clark County)	This activity was determined to be an everyday/ongoing activity.
Emergency Operations Center (Kahoka)	Project was determined to not be feasible moving forward.

Source: Previously approved County Hazard Mitigation Plan; Data Collection Questionnaires.

4.3 Implementation of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include an action strategy describing how the actions identified in paragraph (c)(2)(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.

Jurisdictional MPC members were encouraged to meet with others in their community to finalize the actions to be submitted for the updated mitigation strategy. Throughout the MPC consideration and discussion, emphasis was placed on the importance of a benefit-cost analysis in determining project priority. The Disaster Mitigation Act requires benefit-cost review as the primary method by which mitigation projects should be prioritized. The MPC decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and priorities identified in the 2023 Missouri State Hazard Mitigation Plan. The benefit/cost review at the planning stage primarily consisted of a qualitative analysis and was not the detailed process required grant funding application. For each action, the plan sets forth a narrative describing the types of benefits that could be realized from action implementation. The cost was estimated as closely as possible, with further refinement to be supplied as project development occurs.

The plan must describe the criteria used for prioritizing the implementation of the actions. The criteria must include an emphasis on the extent to which benefits are maximized, in relation to the associated costs of the action. The plan must indicate if the prioritization process and/or methodology have changed since the previous plan’s adoption. If the process has changed, describe how it changed and why it changed. If the prioritization process and methodology have not changed, state this here in the plan with a description. Actions should be prioritized independently for EACH jurisdiction. For example, if two communities each have an action to acquire floodprone properties, these should be evaluated independently based on each jurisdiction’s capabilities.

FEMA’s STAPLEE methodology was used to assess the costs and benefits, overall feasibility of mitigation actions, and other issues impacting project. During the prioritization process, the jurisdictions used worksheets to assign scores. The worksheets posed questions based on the STAPLEE elements as well as the potential mitigation effectiveness of each action. Scores were based on the responses to the questions as follows:

- Definitely YES = 3 points
- Maybe YES = 2 points
- Probably NO = 1 points
- Definitely NO = 0 points

The following questions were asked for each proposed action.

S: Is the action socially acceptable?

T: Is the action technically feasible and potentially successful?

A: Does the jurisdiction have the administrative capability to successfully implement this action?

P: Is the action politically acceptable?

L: Does the jurisdiction have the legal authority to implement the action?

E: Is the action economically beneficial?

E: Will the project have an environmental impact that is either beneficial or neutral? (score "3" if positive and "2" if neutral)

Will the implemented action result in lives saved?

Will the implanted action result in a reduction of disaster damage?

The final scores are listed below in the analysis of each action. The STAPLEE final score for each action, absent other considerations, such as a localized need for a project, determined the priority. Low priority action items were those that had a total score of between 0 and 24.

Moderate priority actions were those scoring between 25 and 29. High priority actions scored 30 or above. A blank STAPLEE worksheet is shown in **Figure 4.1**

Figure 4.1. Blank STAPLEE Worksheet

STAPLEE Worksheet		
Name of Jurisdiction:		
Action or Project		
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)	
Name of Action or Project:		
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		
T: Is it Technically feasible and potentially successful?		
A: Does the jurisdiction have the Administrative capacity to execute this action?		
P: Is it Politically acceptable?		
L: Is there Legal authority to implement?		
E: Is it Economically beneficial?		
E: Will the project have either a neutral or positive impact on the natural Environment ?		
Will historic structures be saved or protected?		
Could it be implemented quickly?		
STAPLEE SCORE		
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	
MITIGATION EFFECTIVENESS SCORE		
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		
<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number) _____

ACTION WORKSHEET EXAMPLE

Action Worksheet	
Name of Jurisdiction:	
Risk / Vulnerability	
Hazard(s) Addressed:	List the hazard or hazards that will be addressed by this action
Problem being Mitigated:	Provide a brief description of the problem that the action will address. Utilize the problem statement developed in the risk assessment.
Action or Project	
Applicable Goal Statement:	Choose the goal statement that applies to this action
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)
Name of Action or Project:	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services
Action or Project Description:	Describe the action or project.
Estimated Cost:	Provide an estimate of the cost to implement this action. This can be accomplished with a range of estimated costs.
Benefits:	Provide a narrative describing the losses that will be avoided by implementing this action. If dollar amounts of avoided losses are known, include them as well.
Plan for Implementation	
Responsible Organization/Department:	Which organization will be responsible for tracking this action? Be specific to include the specific department or position within a department.
Supporting Organization/Department:	Which organization/department will assist in implementation of this action?
Action/Project Priority:	Include the STAPLEE score and Priority (H, M, L)
Timeline for Completion:	How many months/years to complete.
Potential Fund Sources:	List specific funding sources that may be used to pay for the implementation of the action.
Local Planning Mechanisms to be Used in Implementation, if any:	
Progress Report	
Action Status:	Indicate status as New, Continuing Not Started, or Continuing in Progress)
Report of Progress:	For Continuing actions only, indicate the report on progress. If the action is not started, indicate any barriers encountered to initiate the action. If the action is in progress, indicate the activity that has occurred to date.

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County 2025.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue Clark County's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	County Commission / EMD
Supporting Organization/Department:	County Commission/Emergency Management Director
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Flooding Throughout the County
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County 2025.2
Name of Action or Project:	Flood Mitigation
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Implement flood mitigation activities to eliminate effects on Clark County residents. Activities include enhancing culverts and ditches.
Estimated Cost:	\$1,000,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the County.
Plan for Implementation	
Responsible Organization/Department:	County Commission / EMD
Supporting Organization/Department:	County Commission/EMD
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA Flood Assistance
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund flood mitigations activities throughout the county.

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Thunderstorms, Tornado
Problem being Mitigated:	Residents lack adequate early warnings of natural hazards
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
Action/Project Number:	Clark County 2025.3
Name of Action or Project:	Install/Upgrade Warning Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	EMD will obtain/upgrade early warning systems and improved communication systems as funding allows.
Estimated Cost:	\$25,000
Benefits:	During or before a severe natural hazard event, residents will receive warning to seek shelter and/or make a plan.
Plan for Implementation	
Responsible Organization/Department:	County Commission
Supporting Organization/Department:	County EMD
Action/Project Priority:	High
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the county.

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather, Dam Failure, Levee Failure
Problem being Mitigated:	Outdated or of poor condition transportation infrastructure.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County 2025.4
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Road and Bridge will make necessary improvements to roads, culverts, low water crossings, road elevations, bank stabilizations, bridges and the general transportation infrastructure throughout the county. Road and Bridge will be responsible for prepping infrastructure to mitigate damages from natural hazard events such as winter weather.
Estimated Cost:	1,\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructure.
Plan for Implementation	
Responsible Organization/Department:	County Road and Bridge Department
Supporting Organization/Department:	County Commission, County EMD
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, Community Development Block Grant, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, Road and Bridge Department Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund flood mitigations activities throughout the city.

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County 2025.5
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant, CDBG
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	None to report.

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Generator for Shelter(s) and emergency services
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County 2025.6
Name of Action or Project:	Generators
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Obtain a generator for shelters/emergency services as funds become available.
Estimated Cost:	\$65,000
Benefits:	Generator will allow for continued use of shelters and emergency services for service to citizens in the event of an outage, this would be beneficial during any hazard.
Plan for Implementation	
Responsible Organization/Department:	County Commission/County EMD
Supporting Organization/Department:	County Commission/County EMD
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to purchase and install generators

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
Action/Project Number:	Clark County 2025.7
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	EMD will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Clerk, County Commission, County Health Department
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	County Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weakness and prioritize retrofitting projects.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy
Action/Project Number:	Clark County 2025.8
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	EMD will conduct a comprehensive seismic vulnerability assessment of critical infrastructure, including schools, hospitals, and government buildings, to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Clerk, County Commission
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Clark County
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Areas with subsidence risk may not be fully identified in the planning area.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy
Action/Project Number:	Clark County 2025.9
Name of Action or Project:	Subsidence Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Using GIS, EMD or firm contracted will map areas that are susceptible to subsidence. Identify and map old mining areas or geologically unstable terrain so that development can be prevented or eliminated. Support mapping efforts to identify areas of existing permafrost. Improve accuracy of hazard area maps to educate residents about unanticipated risks
Estimated Cost:	\$10,000
Benefits:	Upgrading maps will provide a truer measure of risk to a planning area.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Clerk, County Commission
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Lack of Generator for Shelter(s), Emergency Services
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Kahoka 2025.1
Name of Action or Project:	Generator for Shelter(s), Emergency Services
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Obtain a generator for shelters as funds become available.
Estimated Cost:	\$30,000
Benefits:	Generator will allow for continued use of shelters and emergency services for service to citizens in the event of an outage, this would be beneficial during any hazard.
Plan for Implementation	
Responsible Organization/Department:	City Clerk/ EMD
Supporting Organization/Department:	City Clerk/EMD
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, RHSOC, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to purchase and install generators.

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Kahoka 2025.2
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Thunderstorms, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Kahoka 2025.3
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Clerk
Action/Project Priority:	Medium Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing Not Started
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the city.

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Kahoka 2025.4
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continuing City of Kahoka's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk/EMD
Supporting Organization/Department:	Council/Emergency Management Director
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Kahoka 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Kahoka
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Kahoka 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Thunderstorms, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wayland 2025.1
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the city needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents can seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Clerk
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Assistance Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wayland 2025.2
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate protection for citizens from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wayland 2025.3
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	City Clerk will build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk/EMD
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wayland 2025.4
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Wayland's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk/EMD
Supporting Organization/Department:	Council/Emergency Management Director
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Wayland 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Wayland
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Wayland 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Storms, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wyaconda 2025.1
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the city needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	NA
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the city.

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wyaconda 2025.2
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs..
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate protection for citizens from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wyaconda 2025.3
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	City Clerk will build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Wyaconda 2025.4
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continuing City of Wyaconda's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Wyaconda 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Wyaconda
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Wyaconda 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will explore funding opportunities to conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Levee Failure
Problem being Mitigated:	Levee breach at roadways
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Alexandria 2025.1
Name of Action or Project:	Levee Doors
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation of pass-through levee doors at 3 locations around Alexandria.
Estimated Cost:	\$1,000,000
Benefits:	Reduce the risk of levee breach when the roadway is closed on HWY 61
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Assistance Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund the purchase, installation, and maintenance of levee doors.

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Storms, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Alexandria 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Assistance Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the village.

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Alexandria 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate protection for citizens from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Alexandria 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	City Clerk will build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Alexandria 2025.5
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Alexandria 2025.6
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Alexandria
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Alexandria 2025.7
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Storms, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Village of Luray 2025.1
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the village.

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Village of Luray 2025.2
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate protection for citizens from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Village of Luray 2025.3
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	City Clerk will build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Village of Luray 2025.4
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Village of Luray 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Luray
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	Village of Luray 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure, Severe Storm, Tornado
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Revere 2025.1
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the city.

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather
Problem being Mitigated:	Outdated poor condition of transportation infrastructure
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Revere 2025.2
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Clerk, City Street Department
Supporting Organization/Department:	City Clerk, City Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of adequate protection for citizens from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Revere 2025.3
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	City Clerk will build a storm shelter that will protect all lives in the community during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	5 years
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	City of Revere 2025.4
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Revere 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Revere
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Revere 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Clark County R-1
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for students and employees of the district.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County R-1 2025.1
Name of Action or Project:	Safe Rooms
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Superintendent will build a room that will protect all lives on campus during an extreme natural hazard event.
Estimated Cost:	\$3,000,000
Benefits:	Protect human lives.
Plan for Implementation	
Responsible Organization/Department:	Clark County R-1 Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA Hazard Mitigation Assistance Grant Funds, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	Clark County R-1
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms, Earthquake
Problem being Mitigated:	Lack of intercom system throughout entire school.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Clark County R-1 2025.2
Name of Action or Project:	Intercom System
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Outreach
Action or Project Description:	Upgrade intercom system to include two-way communication. Costs would include the purchase of license and equipment.
Estimated Cost:	\$150,000
Benefits:	Protect human lives.
Plan for Implementation	
Responsible Organization/Department:	Clark County R-1 Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA Hazard Mitigation Assistance Grant Funds, RHSOC, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade intercom systems.

Action Worksheet	
Name of Jurisdiction:	Clark County R-1
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Earthquakes, Drought, Extreme Temperatures, Severe Thunderstorms, Tornado, Wildfire
Problem being Mitigated:	Lack of Education
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Clark County R-1 2025.3
Name of Action or Project:	Natural Hazard Education
Mitigation Category:	Education and Outreach
Action or Project Description:	Superintendent will obtain and host programs to educate our patrons concerning natural hazard events. Information will be provided (by social media, websites, brochures, flyers, public notice, sent home with students and faculty) on all types of hazards, preparedness and mitigation measures, and responses during hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, newsletters to patrons in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Education allows for better preparedness for an emergency event
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	Medium
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Table 4.3. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Structure and Infrastructure Projects								
Clark County 2025.1	Continue Clark County's participation and good standing in the National Flood Insurance Program.	Clark County	High	3	Flooding			✓
Clark County 2025.2	Flood Mitigation	Clark County	High	3	Flooding	✓	✓	
Clark County 2025.3	Installation/Upgrade Sirens	Clark County	High	1	All Hazards	✓		
Clark County 2025.4	Improve Transportation Infrastructure	Clark County	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Clark County 2025.5	Safe Room and Storm Shelters	Clark County	High	3	Tornado, Severe Thunderstorms	✓		
Clark County 2025.6	Generator for Shelter(s)	Clark County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clark County 2025.7	Vulnerable Citizen Awareness	Clark County	Low	1	All Hazards	✓		
Clark County 2025.8	Seismic Vulnerability Assessment	Clark County	Low	3	Earthquakes	✓		
Clark County 2025.9	Subsidence Vulnerability Assessment	Clark County	Low	3	Sinkholes	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kahoka 2025.1	Generator for Shelter(s)	City of Kahoka	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
City of Kahoka 2025.2	Improve Transportation Infrastructure	City of Kahoka	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Kahoka 2025.3	Installation/Upgrade Sirens	City of Kahoka	Medium	3	All Hazards	✓		
City of Kahoka 2025.4	Continue City of Kahoka's participation and good standing in the National Flood Insurance Program	City of Kahoka	High	3	Flooding			✓
City of Kahoka 2025.5	Vulnerable Citizen Awareness	City of Kahoka	Low	1	All Hazards	✓		
City of Kahoka 2025.6	Seismic Vulnerability Assessment	City of Kahoka	Low	3	Earthquakes	✓		
City of Wayland 2025.1	Installation/Upgrade Sirens	City of Wayland	High	3	All Hazards	✓		
City of Wayland 2025.2	Improve Transportation Infrastructure	City of Wayland	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wayland 2025.3	Safe Rooms and Shelters	City of Wayland	High	3	Tornado, Severe Thunderstorms	✓		
City of Wayland 2025.4	Continue City of Wayland's participation and good standing in the National Flood Insurance Program	City of Wayland	High	3	Flooding			✓
City of Wayland 2025.5	Vulnerable Citizen Awareness	City of Wayland	Low	1	All Hazards	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Wayland 2025-6	Seismic Vulnerability Assessment	City of Wayland	Low	3	Earthquakes	✓		
City of Wyaconda 2025.1	Installation/Upgrade Sirens	City of Wyaconda	High	3	All Hazards	✓		
City of Wyaconda 2025.2	Improve Transportation Infrastructure	City of Wyaconda	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wyaconda 2025.3	Safe Rooms and Storm Shelters	City of Wyaconda	High	3	Tornado, Severe Thunderstorms	✓		
City of Wyaconda 2025.4	Continue City of Wyaconda's participation and good standing in the National Flood Insurance Program	City of Wyaconda	High	3	Flooding			✓
City of Wyaconda 2025.5	Vulnerable Citizen Awareness	City of Wyaconda	Low	1	All Hazards	✓		
City of Wyaconda 2025.6	Seismic Vulnerability Assessment	City of Wyaconda	Low	3	Earthquakes	✓		
City of Alexandria 2025.1	Levee Doors	City of Alexandria	High	3	Flooding	✓		
City of Alexandria 2025.2	Installation/Upgrade Sirens	City of Alexandria	High	3	All Hazards	✓		
City of Alexandria 2025.3	Improve Transportation Infrastructure	City of Alexandria	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Alexandria 2025.4	Safe Rooms and Storm Shelters	City of Alexandria	High	3	Tornado, Severe Thunderstorms	✓		
City of Alexandria 2025.5	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program	City of Alexandria	High	3	Flooding			✓
City of Alexandria 2025.6	Vulnerable Citizen Awareness	City of Alexandria	Low	1	All Hazards	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Alexandria 2025.7	Seismic Vulnerability Assessment	City of Alexandria	Low	3	Earthquakes	✓		
Village of Luray 2025.1	Installation/Upgrade Sirens	Village of Luray	High	3	All Hazards	✓		
Village of Luray 2025.2	Improve Transportation Infrastructure	Village of Luray	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Village of Luray 2025.3	Safe Rooms and Storm Shelters	Village of Luray	High	3	Tornado, Severe Thunderstorms	✓		
Village of Luray 2025.4	Continue Village of Luray's participation and good standing in the National Flood Insurance Program	Village of Luray	High	3	Flooding			✓
Village of Luray 2025.5	Vulnerable Citizen Awareness	Village of Luray	Low	1	All Hazards	✓		
Village of Luray 2025.6	Seismic Vulnerability Assessment	Village of Luray	Low	3	Earthquakes	✓		
City of Revere 2025.1	Installation/Upgrade Sirens	City of Revere	High	3	All Hazards	✓		
City of Revere 2025.2	Improve Transportation Infrastructure	City of Revere	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Revere 2025.3	Safe Rooms and Storm Shelters	City of Revere	High	3	Tornado, Severe Thunderstorms	✓		
City of Revere 2025.4	Continue City of Revere's participation and good standing in the National Flood Insurance Program	City of Revere	High	3	Flooding			✓
City of Revere 2025.5	Vulnerable Citizen Awareness	City of Revere	Low	1	All Hazards	✓		
City of Revere 2025.6	Seismic Vulnerability Assessment	City of Revere	Low	3	Earthquakes	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clark County R-1 2025.1	Safe Rooms	Clark County R-1	High	3	Tornado, Severe Thunderstorms, Earthquake	✓		
Clark County R-1 2025.2	Intercom System	Clark County R-1	Medium	3	Tornado, Severe Thunderstorms, Earthquake	✓		
Clark County R-1 2025.3	Natural Hazard Education	Clark County R-1	Medium	1	All Hazards	✓		
Natural Systems Protection								
Clark County 2025.1	Continue Clark County's participation and good standing in the National Flood Insurance Program.	Clark County	High	3	Flooding			✓
City of Kahoka 2025.5	Continue City of Kahoka's participation and good standing in the National Flood Insurance Program	City of Kahoka	High	3	Flooding			✓
City of Wayland 2025.4	Continue City of Wayland's participation and good standing in the National Flood Insurance Program	City of Wayland	High	3	Flooding			✓
City of Wyaconda 2025.4	Continue City of Wyaconda's participation and good standing in the National Flood Insurance Program	City of Wyaconda	High	3	Flooding			✓
City of Alexandria 2025.5	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program	City of Alexandria	High	3	Flooding			✓
Village of Luray 2025.4	Continue Village of Luray's participation and good standing in the National Flood Insurance Program	Village of Luray	High	3	Flooding			✓
City of Revere 2025.4	Continue City of Revere's participation and good standing in the National Flood Insurance Program	City of Revere	High	3	Flooding			✓
Education and Outreach								

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clark County 2025.1	Continue Clark County's participation and good standing in the National Flood Insurance Program.	Clark County	High	3	Flooding			✓
Clark County 2025.7	Vulnerable Citizen Awareness	Clark County	Low	1	All Hazards	✓		
City of Kahoka 2025.4	Continue City of Kahoka's participation and good standing in the National Flood Insurance Program	City of Kahoka	High	3	Flooding			✓
City of Kahoka 2025.5	Vulnerable Citizen Awareness	City of Kahoka	Low	1	All Hazards	✓		
City of Wayland 2025.4	Continue City of Wayland's participation and good standing in the National Flood Insurance Program	City of Wayland	High	3	Flooding			✓
City of Wayland 2025.5	Vulnerable Citizen Awareness	City of Wayland	Low	1	All Hazards	✓		
City of Wyaconda 2025.4	Continue City of Wyaconda's participation and good standing in the National Flood Insurance Program	City of Wyaconda	High	3	Flooding			✓
City of Wyaconda 2025.5	Vulnerable Citizen Awareness	City of Wyaconda	Low	1	All Hazards	✓		
City of Alexandria 2025.5	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program	City of Alexandria	High	3	Flooding			✓
City of Alexandria 2025.6	Vulnerable Citizen Awareness	City of Alexandria	Low	1	All Hazards	✓		
Village of Luray 2025.4	Continue Village of Luray's participation and good standing in the National Flood Insurance Program	Village of Luray	High	3	Flooding			✓
Village of Luray 2025.5	Vulnerable Citizen Awareness	Village of Luray	Low	1	All Hazards	✓		
City of Revere 2025.4	Continue City of Revere's participation and good standing in the National Flood Insurance Program	City of Revere	High	3	Flooding			✓

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Revere 2025.5	Vulnerable Citizen Awareness	City of Revere	Low	1	All Hazards	✓		
Clark County R-1 2025.1	Intercom System	Clark County R-1	Medium	3	Tornado, Severe Thunderstorms	✓		
Clark County R-1 2025.3	Natural Hazard Education	Clark County R-1	Medium	1	All Hazards	✓		
Emergency Services								
Clark County 2025.1	Continue Clark County's participation and good standing in the National Flood Insurance Program.	Clark County	High	3	Flooding			✓
Clark County 2025.2	Flood Mitigation	Clark County	High	3	Flooding	✓	✓	
Clark County 2025.3	Installation/Upgrade Sirens	Clark County	High	1	All Hazards	✓		
Clark County 2025.4	Improve Transportation Infrastructure	Clark County	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Clark County 2025.5	Safe Room and Storm Shelters	Clark County	High	3	Tornado, Severe Thunderstorms	✓		
Clark County 2025.6	Generator for Shelter(s)	Clark County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clark County 2025.8	Seismic Vulnerability Assessment	Clark County	Low	3	Earthquakes	✓		
Clark County 2025.9	Subsidence Vulnerability Assessment	Clark County	Low	3	Sinkholes	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kahoka 2025.1	Generator for Shelter(s)	City of Kahoka	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
City of Kahoka 2025.2	Improve Transportation Infrastructure	City of Kahoka	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Kahoka 2025.3	Installation/Upgrade Sirens	City of Kahoka	Medium	3	All Hazards	✓		
City of Kahoka 2025.4	Continue City of Kahoka's participation and good standing in the National Flood Insurance Program	City of Kahoka	High	3	Flooding			✓
City of Kahoka 2025.6	Seismic Vulnerability Assessment	City of Kahoka	Low	3	Earthquakes	✓		
City of Wayland 2025.1	Installation/Upgrade Sirens	City of Wayland	High	3	All Hazards	✓		
City of Wayland 2025.2	Improve Transportation Infrastructure	City of Wayland	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wayland 2025.3	Safe Rooms and Storm Shelters	City of Wayland	High	3	Tornado, Severe Thunderstorms	✓		
City of Wayland 2025.4	Continue City of Wayland's participation and good standing in the National Flood Insurance Program	City of Wayland	High	3	Flooding			✓
City of Wayland 2025.6	Seismic Vulnerability Assessment	City of Wayland	Low	3	Earthquakes	✓		
City of Wyaconda 2025.1	Installation/Upgrade Sirens	City of Wyaconda	High	3	All Hazards	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Wyaconda 2025.2	Improve Transportation Infrastructure	City of Wyaconda	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wyaconda 2025.3	Safe Rooms and Storm Shelters	City of Wyaconda	High	3	Tornado, Severe Thunderstorms	✓		
City of Wyaconda 2025.4	Continue City of Wyaconda's participation and good standing in the National Flood Insurance Program	City of Wyaconda	High	3	Flooding			✓
City of Wyaconda 2025.6	Seismic Vulnerability Assessment	City of Wyaconda	Low	3	Earthquakes	✓		
City of Alexandria 2025.1	Levee Doors	City of Alexandria	High	3	Flooding	✓		
City of Alexandria 2025.2	Installatio/Upgrade Sirens	City of Alexandria	High	3	All Hazards	✓		
City of Alexandria 2025.3	Improve Transportation Infrastructure	City of Alexandria	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Alexandria 2025.4	Safe Rooms and Storm Shelters	City of Alexandria	High	3	Tornado, Severe Thunderstorms	✓		
City of Alexandria 2025.5	Continue City of Alexandria's participation and good standing in the National Flood Insurance Program	City of Alexandria	High	3	Flooding			✓
City of Alexandria 2025.7	Seismic Vulnerability Assessment	City of Alexandria	Low	3	Earthquakes	✓		
Village of Luray 2025.1	Installation/Upgrade Siren	Village of Luray	High	3	All Hazards	✓		
Village of Luray 2025.2	Improve Transportation Infrastructure	Village of Luray	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Luray 2025.3	Safe Rooms and Storm Shelters	Village of Luray	High	3	Tornado, Severe Thunderstorms	✓		
Village of Luray 2025.4	Continue Village of Luray's participation and good standing in the National Flood Insurance Program	Village of Luray	High	3	Flooding			✓
Village of Luray 2025.6	Seismic Vulnerability Assessment	Village of Luray	Low	3	Earthquakes	✓		
City of Revere 2025.1	Installation/Upgrade Siren	City of Revere	High	3	All Hazards	✓		
City of Revere 2025.2	Improve Transportation Infrastructure	City of Revere	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Revere 2025.3	Safe Rooms and Storm Shelters	City of Revere	High	3	Tornado, Severe Thunderstorms	✓		
City of Revere 2025.4	Continue City of Revere's participation and good standing in the National Flood Insurance Program	City of Revere	High	3	Flooding			✓
City of Revere 2025.6	Seismic Vulnerability Assessment	City of Revere	Low	3	Earthquakes	✓		
Clark County R-1 2025.1	Safe Rooms	Clark County R-1	High	3	Tornado, Severe Thunderstorms	✓		
Clark County R-1 2025.1	Intercom System	Clark County R-1	Medium	3	Tornado, Severe Thunderstorms, Earthquake	✓		
	Prevention							
Clark County 2025.2	Flood Mitigation	Clark County	High	3	Flooding	✓	✓	
Clark County 2025.3	Installation/Upgrade Sirens	Clark County	High	1	All Hazards	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clark County 2025.4	Improve Transportation Infrastructure	Clark County	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Clark County 2025.5	Safe Room and Storm Shelters	Clark County	High	3	Tornado, Severe Thunderstorms	✓		
Clark County 2025.6	Generator for Shelter(s)	Clark County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clark County 2025.8	Seismic Vulnerability Assessment	Clark County	Low	3	Earthquakes	✓		
Clark County 2025.9	Subsidence Vulnerability Assessment	Clark County	Low	3	Sinkholes	✓		
City of Kahoka 2025.1	Generator for Shelter(s)	City of Kahoka	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
City of Kahoka 2025.2	Improve Transportation Infrastructure	City of Kahoka	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Kahoka 2025.3	Installation/Upgrade Sirens	City of Kahoka	Medium	3	All Hazards	✓		
City of Kahoka 2025.6	Seismic Vulnerability Assessment	City of Kahoka	Low	3	Earthquakes	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Wayland 2025.1	Installation/Upgrade Siren	City of Wayland	High	3	All Hazards	✓		
City of Wayland 2025.2	Improve Transportation Infrastructure	City of Wayland	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wayland 2025.3	Safe Rooms and Storm Shelters	City of Wayland	High	3	Tornado, Severe Thunderstorms	✓		
City of Wayland 2025.6	Seismic Vulnerability Assessment	City of Wayland	Low	3	Earthquakes	✓		
City of Wyaconda 2025.1	Installation/Upgrade Sirens	City of Wyaconda	High	3	All Hazards	✓		
City of Wyaconda 2025.2	Improve Transportation Infrastructure	City of Wyaconda	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Wyaconda 2025.3	Safe Rooms and Storm Shelters	City of Wyaconda	High	3	Tornado, Severe Thunderstorms	✓		
City of Wyaconda 2025.6	Seismic Vulnerability Assessment	City of Wyaconda	Low	3	Earthquakes	✓		
City of Alexandria 2025.1	Levee Doors	City of Alexandria	High	3	Flooding	✓		
City of Alexandria 2025.2	Installation/Upgrade Sirens	City of Alexandria	High	3	All Hazards	✓		
City of Alexandria 2025.3	Improve Transportation Infrastructure	City of Alexandria	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Alexandria 2025.4	Safe Rooms and Storm Shelters	City of Alexandria	High	3	Tornado, Severe Thunderstorms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Alexandria 2025.7	Seismic Vulnerability Assessment	City of Alexandria	Low	3	Earthquakes	✓		
Village of Luray 2025.1	Installation/Upgrade Sirens	Village of Luray	High	3	All Hazards	✓		
Village of Luray 2025.2	Improve Transportation Infrastructure	Village of Luray	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
Village of Luray 2025.3	Safe Rooms and Storm Shelters	Village of Luray	High	3	Tornado, Severe Thunderstorms	✓		
Village of Luray 2025.6	Seismic Vulnerability Assessment	Village of Luray	Low	3	Earthquakes	✓		
City of Revere 2025.1	Installation/Upgrade Siren	City of Revere	High	3	All Hazards	✓		
City of Revere 2025.2	Improve Transportation Infrastructure	City of Revere	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓		
City of Revere 2025.3	Safe Rooms and Storm Shelters	City of Revere	High	3	Tornado, Severe Thunderstorms	✓		
City of Revere 2025.6	Seismic Vulnerability Assessment	City of Revere	Low	3	Earthquakes	✓		
Clark County R-1 2025.1	Safe Rooms	Clark County R-1	High	3	Tornado, Severe Thunderstorms	✓		
Clark County R-1 2025.1	Intercom System	Clark County R-1	Medium	3	Tornado, Severe Thunderstorms, Earthquake	✓		

5 PLAN MAINTENANCE PROCESS

5 PLAN MAINTENANCE PROCESS	5.1
<i>5.1 Monitoring, Evaluating, and Updating the Plan.....</i>	<i>5.1</i>
5.1.1 Responsibility for Plan Maintenance	5.1
5.1.2 Plan Maintenance Schedule	5.2
5.1.3 Plan Maintenance Process.....	5.2
<i>5.2 Incorporation into Existing Planning Mechanisms</i>	<i>5.3</i>
<i>5.3 Continued Public Involvement.....</i>	<i>5.5</i>

This chapter provides an overview of the overall strategy for plan maintenance and outlines the method and schedule for monitoring, updating and evaluating the plan. The chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

5.1 Monitoring, Evaluating, and Updating the Plan

44 CFR Requirement 201.6(c)(4): 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.

5.1.1 Responsibility for Plan Maintenance

The Clark County MPC is an advisory body and can only make recommendations to county, city, town, or district elected officials. Its primary duty is to see the plan 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 in areas accessible to the public.

5.1.2 Plan Maintenance Schedule

The MPC agrees to meet annually and after a state or federally declared hazard event as appropriate to monitor progress and update the mitigation strategy. The Clark County Emergency Management Director will be responsible for initiating the plan reviews and will invite members of the MPC (or other designated responsible entity) to the meeting.

In coordination with all participating jurisdictions, the Emergency Management Director will be responsible for initiating a five-year written update of the plan to be submitted to the Missouri State Emergency Management Agency (SEMA) and FEMA Region VII per Requirement §201.6(c)(4)(i) of the Disaster Mitigation Act of 2000, unless disaster or other circumstances (e.g., changing regulations) require a change to this schedule.

5.1.3 Plan Maintenance Process

The plan must identify how, when and by whom the plan will be assessed for effectiveness at achieving its stated purpose and goals (evaluating). Progress on the proposed actions can be monitored by evaluating changes in vulnerabilities identified in the plan. The MPC (or other designated responsible entity) during the annual meeting should review changes in vulnerability identified as follows:

- Decreased vulnerability as a result of implementing recommended actions,
- Increased vulnerability as a result of failed or ineffective mitigation actions,
- Increased vulnerability due to hazard events, and/or
- Increased vulnerability as a result of new development (and/or annexation).

Future 5-year updates to this plan will include the following activities:

- Consideration of changes in vulnerability due to action implementation,
- Documentation of success stories where mitigation efforts have proven effective,
- Documentation of unsuccessful mitigation actions and why the actions were not effective,
- Documentation of previously overlooked hazard events that may have occurred since the previous plan approval,
- Incorporation of new data or studies with information on hazard risks,
- Incorporation of new capabilities or changes in capabilities,
- Incorporation of growth data and changes to inventories, and
- Incorporation of ideas for new actions and changes in action prioritization.

In order to best evaluate any changes in vulnerability as a result of plan implementation, the participating jurisdictions will adopt the following process:

- Each proposed action in the plan identified an individual, office, or agency responsible for action implementation. This entity will track and report on an annual basis to the jurisdictional MPC (or designated responsible entity) member on action status. The entity will provide input on whether the action as implemented meets the defined objectives and is likely to be successful in reducing risk.
- If the action does not meet identified objectives, the jurisdictional MPC (or designated responsible entity) member will determine necessary remedial action, making any required modifications to the plan.

Changes will be made to the plan to remedy actions that have failed or are not considered feasible. Feasibility will be determined after a review of action consistency with established criteria, time frame, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed as well during the monitoring of this plan. Updating of the plan will be accomplished by written changes and submissions, as the (MPC or designated responsible entity) deems appropriate and necessary. Changes will be approved by the Clark County Commissioners and the governing boards of the other participating jurisdictions.

5.2 Incorporation into Existing Planning Mechanisms

44 CFR 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, plan participants, including school and special districts, will use existing plans and/or programs to implement hazard mitigation actions. Based on the capability assessments of the participating jurisdictions, communities in Clark County will continue to plan and implement programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through the following plans:

- General or master plans of participating jurisdictions;
- Ordinances of participating jurisdictions;
- Clark County Emergency Operations Plan;
- Capital improvement plans and budgets;
- Other community plans within the County, such as water conservation plans, storm water management plans, and parks and recreation plans;
- School and Special District Plans and budgets; and
- Other plans and policies outlined in the capability assessment sections for each jurisdiction in Chapter 2 of this plan.

The MPC (or designated responsible entity) members involved in updating these existing planning mechanisms will be responsible for integrating the findings and actions of the mitigation plan, as appropriate. The MPC (or designated responsible entity) is also responsible for monitoring this integration and incorporation of the appropriate information into the five-year update of the multi-jurisdictional hazard mitigation plan.

Additionally, after the annual review of the Hazard Mitigation Plan, the Clark County Emergency Management Director will provide the updated Mitigation Strategy with current status of each mitigation action to the County (Boards of Supervisors or Commissions) as well as all Mayors, City Clerks, and School District Superintendents. The Emergency Management Director will request that the mitigation strategy be incorporated, where appropriate, in other planning mechanisms.

Table 5.1 below lists the planning mechanisms by jurisdiction into which the Hazard Mitigation Plan will be integrated.

Table 5.1. Planning Mechanisms Identified for Integration of Hazard Mitigation Plan

Jurisdiction	Planning Mechanisms	Integration Process for Previous Plan	Integration Process for Current Plan
Unincorporated Clark County	County Road and Bridge Plan	Road and Bridge Department attended all planning meetings and identified actions relating to transportation infrastructure were included in annual update to Comprehensive Plan	Road and Bridge Department attended all planning meetings and identified actions relating to transportation infrastructure were included in annual update to Comprehensive Plan
City of Kahoka	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
City of Wayland	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
City of Wyaconda	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
City of Alexandria	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
Village of Luray	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
City of Revere	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.

Clark County R-1	Local Budget	The previous plan was not Integrated into previous budgets due to the items not applicable to being added in previous plans.	The Hazard Mitigation Plan will be integrated into future budgets by consulting the plan during the planning process.
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5.3 Continued Public Involvement

44 CFR 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 hazard mitigation plan update process provides an opportunity to publicize success stories resulting from the plan’s implementation and seek additional public comment. Information about the annual reviews will be posted in the local newspaper, as well as, on the Clark County website following each annual review of the mitigation plan and will solicit comments from the public based on the annual review. When the MPC reconvenes for the five-year update, it will coordinate with all stakeholders participating in the planning process. Included in this group will be those who joined the MPC after the initial effort, to update and revise the plan. Public notice will be posted, and public participation will be actively solicited, at a minimum, through available website postings and press releases to local media outlets, primarily newspapers.

COUNTY OF CLARK, Missouri RESOLUTION NO. 25-02

A RESOLUTION OF THE COUNTY OF CLARK, MISSOURI ADOPTING THE CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the COUNTY OF CLARK recognizes the threat that natural hazards pose to people and property within the COUNTY OF CLARK; and

WHEREAS the COUNTY OF CLARK has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the COUNTY OF CLARK from the impacts of future hazards and disasters; and

WHEREAS the COUNTY OF CLARK recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the COUNTY OF CLARK will endeavor to integrate the *Plan* into the comprehensive planning process; and

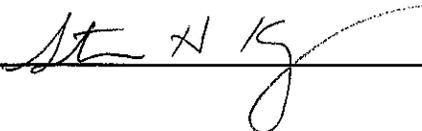
WHEREAS adoption by the COUNTY OF CLARK demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE COUNTY OF CLARK, in the State of Missouri, THAT:

THE COUNTY OF CLARK HEREBY adopts the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the COUNTY OF CLARK will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 02-25-2025

Certifying Official: 

CITY OF KAHOKA, Missouri RESOLUTION NO. __

A RESOLUTION OF THE **CITY OF KAHOKA**, MISSOURI ADOPTING THE **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **CITY OF KAHOKA** recognizes the threat that natural hazards pose to people and property within the **CITY OF KAHOKA**; and

WHEREAS the **CITY OF KAHOKA** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **CITY OF KAHOKA** from the impacts of future hazards and disasters; and

WHEREAS the **CITY OF KAHOKA** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **CITY OF KAHOKA** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **CITY OF KAHOKA** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **CITY OF KAHOKA**, in the State of Missouri, THAT:

THE **CITY OF KAHOKA** HEREBY adopts the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **CITY OF KAHOKA** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 3/10/25

Certifying Official:  _____

CITY OF WYACONDA, Missouri RESOLUTION NO. _____

A RESOLUTION OF THE **CITY OF WYACONDA**, MISSOURI ADOPTING THE **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **CITY OF WYACONDA** recognizes the threat that natural hazards pose to people and property within the **CITY OF WYACONDA**; and

WHEREAS the **CITY OF WYACONDA** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **CITY OF WYACONDA** from the impacts of future hazards and disasters; and

WHEREAS the **CITY OF WYACONDA** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **CITY OF WYACONDA** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **CITY OF WYACONDA** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **CITY OF WYACONDA**, in the State of Missouri, THAT:

THE **CITY OF WYACONDA** HEREBY adopts the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **CITY OF WYACONDA** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 02/24/2025

Certifying Official: Mayor Michael J. Pryor - Mayor Michael J. Pryor

CITY OF ALEXANDRIA, Missouri RESOLUTION NO. ____

A RESOLUTION OF THE **CITY OF ALEXANDRIA**, MISSOURI ADOPTING THE **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **CITY OF ALEXANDRIA** recognizes the threat that natural hazards pose to people and property within the **CITY OF ALEXANDRIA**; and

WHEREAS the **CITY OF ALEXANDRIA** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **CITY OF ALEXANDRIA** from the impacts of future hazards and disasters; and

WHEREAS the **CITY OF ALEXANDRIA** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **CITY OF ALEXANDRIA** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **CITY OF ALEXANDRIA** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **CITY OF ALEXANDRIA**, in the State of Missouri, THAT:

THE **CITY OF ALEXANDRIA** HEREBY adopts the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **CITY OF ALEXANDRIA** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date:
2-21-2025

Certifying Official:



Colleen Pottsman

CITY OF REVERE, Missouri RESOLUTION NO. ____

A RESOLUTION OF THE CITY OF REVERE, MISSOURI ADOPTING THE CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the CITY OF REVERE recognizes the threat that natural hazards pose to people and property within the CITY OF REVERE; and

WHEREAS the CITY OF REVERE has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the CITY OF REVERE from the impacts of future hazards and disasters; and

WHEREAS the CITY OF REVERE recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the CITY OF REVERE will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the CITY OF REVERE demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

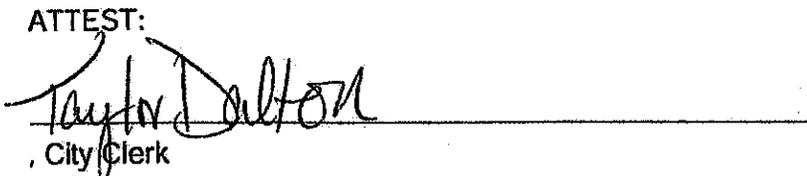
NOW THEREFORE, BE IT RESOLVED BY THE CITY OF REVERE, in the State of Missouri, THAT:

THE CITY OF REVERE HEREBY adopts the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

ADOPTED by the CITY OF REVERE, this 22nd day of April, 2025.



Josh Taylor Mayor

ATTEST:


Taylor Dalton
City Clerk

**COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO
BECOME A DISASTER RESISTANCE COMMUNITY.**

WHEREAS the **VILLAGE OF LURAY** recognizes the threat that natural hazards pose to people and property within the **VILLAGE OF LURAY**; and

WHEREAS the **VILLAGE OF LURAY** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **VILLAGE OF LURAY** from the impacts of future hazards and disasters; and

WHEREAS the **VILLAGE OF LURAY** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **VILLAGE OF LURAY** will endeavor to integrate the *Plan* into the comprehensive planning process; and

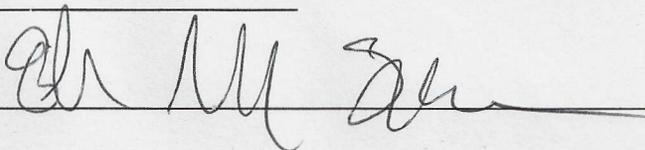
WHEREAS adoption by the **VILLAGE OF LURAY** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **VILLAGE OF LURAY**, in the State of Missouri, THAT:

THE VILLAGE OF LURAY HEREBY adopts the CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the **VILLAGE OF LURAY** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 3/8/2025

Certifying Official: 

CLARK COUNTY SCHOOL DISTRICT, Missouri RESOLUTION NO. ____

A RESOLUTION OF THE **CLARK COUNTY SCHOOL DISTRICT**, MISSOURI ADOPTING THE **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **CLARK COUNTY SCHOOL DISTRICT** recognizes the threat that natural hazards pose to people and property within the **CLARK COUNTY SCHOOL DISTRICT**; and

WHEREAS the **CLARK COUNTY SCHOOL DISTRICT** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **CLARK COUNTY SCHOOL DISTRICT** from the impacts of future hazards and disasters; and

WHEREAS the **CLARK COUNTY SCHOOL DISTRICT** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **CLARK COUNTY SCHOOL DISTRICT** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **CLARK COUNTY SCHOOL DISTRICT** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **CLARK COUNTY SCHOOL DISTRICT**, in the State of Missouri, THAT:

THE **CLARK COUNTY SCHOOL DISTRICT** HEREBY adopts the **CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **CLARK COUNTY SCHOOL DISTRICT** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 2/21/25

Certifying Official: *Patricia Kraft*



SEMA Mitigation Management LOCAL MITIGATION PLAN FORMAT GUIDANCE KICKOFF MEETING INVITATION FOR JURISDICTIONS

Subject: Clark County Multi-Jurisdictional Hazard Mitigation Plan Update

On behalf of Clark County, you are invited to the first of three planning meetings to update the Clark County Multi-Jurisdictional Hazard Mitigation Plan.

**Clark County Multi-Jurisdictional Hazard Mitigation Plan Update
Kickoff Meeting
September 10, 2024
Meeting Time: 10:00 AM
Place: Clark County Courthouse, Commission Chambers
Address: 111 E Court St, Kahoka, MO 63445**

Clark County is beginning the process to update the Clark County Multi-Jurisdictional Hazard Mitigation Plan to better protect the people and property of Clark County from the effects of natural hazard events. The existing plan was approved by FEMA in August 2020. The plan update will be prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations. These regulations establish the requirements that hazard mitigation plans must meet in order for Clark County and the participating jurisdictions, 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). Because Clark County is subject to many kinds of hazards, access to these federal programs is vital.

What is a Hazard Mitigation Plan?

A hazard mitigation plan is the result of a planning process which identifies policies and actions that can be implemented over the long term to reduce the risk and future losses resulting from hazard events. The Clark County Multi-Jurisdictional Hazard Mitigation Plan Update will address a comprehensive list of natural hazards likely to impact the County. The identified mitigation policies and actions will be based on an assessment of hazards, vulnerabilities, and risks.

The hazard mitigation planning process is also heavily dependent on the participation of representatives from local government agencies and departments, the public, and other stakeholder groups. A Hazard Mitigation Planning Committee will be formed to support this project and will include representatives from the County, cities, school districts, private-non-profit entities, business partners, academic institutions, and other local, state, and federal agencies acting in or serving Clark County.

What is My Role in the Planning Process?

The Northeast Missouri Regional Planning Commission has taken the lead in updating this plan. The point of contact is Derek Weber, Executive Director. To successfully complete this project and ensure your organization is eligible for FEMA hazard mitigation assistance funding, we need your participation and input. Jurisdictions (including county and city governments and public-school districts) that do not participate in an approved Hazard Mitigation Plan are **NOT eligible** to apply for FEMA's Hazard Mitigation Assistance grants. Participation in the planning process will include:

- Attending and contributing in the planning committee meetings;
- Providing requested data (as available);
- Reviewing and providing comments on plan drafts;
- Advertising, coordinating, and participating in the public input process; and
- Coordinating the formal adoption of the plan.



SEMA Mitigation Management LOCAL MITIGATION PLAN FORMAT GUIDANCE KICKOFF MEETING INVITATION FOR JURISDICTIONS

What can I expect for the planning committee meetings?

In the coming months, the Northeast Missouri Regional Planning Commission will facilitate three planning meetings, as briefly described below. Detailed agendas and information on the context of each meeting or activities performed within each meeting will be provided during the planning process.

- **Project Kick-off Meeting.** This meeting will initialize work with the planning committee including presentation of the federal planning requirements, participation requirements of planning committee members, and the proposed project work plan and schedule. A plan for public involvement and coordination with other agencies and departments will also be discussed at this initial meeting, especially regarding external agencies, such as state and federal agencies that may have significant interests (property, critical assets and infrastructure) in the County or that have information to help support the planning process.
- **Risk Assessment Meeting.** This meeting will include presentation of the risk assessment results and review/development of mitigation goals.
- **Mitigation Strategy Meeting.** This meeting will include updating of existing mitigation actions and identification and development of new mitigation strategies based upon the risk assessment.

Additional Resources

The following links provide additional information on hazard mitigation and the planning process.

- **Clark County Multi-Jurisdictional Hazard Mitigation Plan, May 2020**
<https://www.nemorpc.org/wp-content/uploads/2023/01/Clark-County-HMP-2019.pdf>
- **The requirements and procedures for state, tribal and local mitigation plans as presented in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201**
<https://www.fema.gov/hazard-mitigation-planning-laws-regulations-policies>
- **Frequently Asked Questions regarding hazard mitigation planning**
<https://www.fema.gov/hazard-mitigation-planning-frequently-asked-questions>

Clark County requests your assistance in forwarding this invitation to others in your jurisdiction. Appropriate participants in the planning committee include, but are not limited to: emergency responders, county clerks, city clerks, elected officials, public works directors, floodplain managers, stormwater managers, county and city planners, economic development directors, GIS staff, business partners, private-non-profit representatives, school principals, school facilities directors, and school superintendents.

Please confirm your attendance or provide contact information for your designated alternate by responding to Derek Weber at (660) 465-7281 Ext. 1 or derekweber@nemorpc.org.

Thank you,

Derek Weber
Executive Director
Northeast Missouri Regional Planning Commission

Clark County
Multi-Jurisdictional Hazard Mitigation Plan Update
Kick-off Planning Meeting
September 10, 2024
10:00 AM

Agenda

Welcome/Introductions Derek Weber, Executive Director
Northeast Missouri Regional Planning Commission

Hazard Mitigation Planning Purpose

Grant Programs Linked to Approved Plan

Planning Tasks / Multi-jurisdictional Approach

Participation Requirements

Public Involvement

Data Collection Questionnaires

Discussion of Hazards

Critical Facilities

Next Steps in the Planning Process

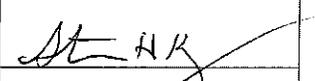
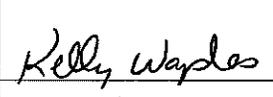
SAVE THE DATE:

Meeting #2—October 29, 2024—10:00 AM
Clark County Courthouse – Commission Chambers

Meeting #3—December 3, 2024—10:00 AM
Clark County Courthouse – Commission Chambers

CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE KICKOFF MEETING—SIGN-IN SHEET

Project:	Clark County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update	Meeting Date/Time:	September 10, 2024 10:00 AM
Facilitator:	Derek Weber, Executive Director Northeast Missouri Regional Planning Commission	Place/Room:	Clark County Courthouse/Commission Chambers 111 E Court St, Kahoka, MO 63445

Name	Title	Department/Agency	Email	Phone #	Signature
Joe Hermes	Western Commissioner		wcom	660-341-7528	
Steve Krueger	Presiding Eastern Comm		pcom@clarkcounty.mo.org	660-341-0647	
Tim Harper	Eastern Comm		EasternComm@clarkco.org	660-341-8211	
Kelly Waples	County Clerk		clark@sos.mo.gov	660-727-3283	
Derek Weber	NEMO RPC				
Batrina Dodge	NEMO RPC				

To **Clark County Hazard Mitigation Planning Committee**
 From **Derek Weber, Executive Director
 NEMO Regional Planning Commission**
 Tel / E-mail **(660) 465-7281 Ext 1 / derekweber@nemorpc.org**
 Date **September 10, 2024**
 Subject **Minutes from Clark County Hazard Mitigation Planning Kickoff Meeting held on
 September 10, 2024**

This document is a record of attendance and a summary of the issues discussed during the above meeting. The presentation began with an introduction on the purpose of hazard mitigation planning, grant programs linked to an approved plan, and the benefits of a multi-jurisdictional approach. The hazard mitigation planning process was reviewed to include requirements for participation and public involvement and the use of data collection questionnaires. The planning committee participated in a discussion of the hazards that have the potential to impact Clark County, including preliminary research on each hazard. The sources for compiling a GIS layer of critical facilities were also discussed and additional sources identified by planning committee members were noted. The meeting concluded with a discussion of the next steps in the planning process. The meeting was held at the Clark County Courthouse – Commission Chambers at 111 E Court Street, Kahoka, MO 63445 from 10:00 AM to 11:00 AM.

Attendees

Name	Title	Department	Jurisdiction
Joe Humes	Western Commissioner	County Commission	Clark County
Steve Krueger	Presiding Commissioner	County Commission	Clark County
Tim Harper	Eastern Commissioner	County Commission	Clark County
Kelly Waples	County Clerk	County Clerk	Clark County
Derek Weber	Executive Director		NEMO RPC
Batina Dodge	Economic Development Planner		NEMO RPC

Introductions

Derek Weber, Executive Director, with NEMO Regional Planning Commission, began the meeting by welcoming and thanking the attendees for coming and having all attendees introduce themselves and the jurisdiction or entity they were representing.

Hazard Mitigation Planning Purpose

Derek Weber, Executive Director, with NEMO Regional Planning Commission presented information on the purpose of Hazard Mitigation Planning and the Disaster Mitigation Act of 2000. The attendees were

reminded this is an update of the Clark County Hazard Mitigation Plan, previously approved in August 2020. The current plan expires in August 2025. The current plan is available for reference on the NEMO RPC website.

Grant Programs Linked to Approved Plan

Derek Weber briefly discussed the FEMA Hazard Mitigation Assistance grants that require participation in an approved Hazard Mitigation Plan for jurisdictions to be eligible to apply. These include: Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program.

Planning Tasks / Multi-Jurisdictional Approach

Derek Weber discussed the 9 Planning Steps for effective Hazard Mitigation Planning identified in FEMA's March 2013 *Handbook for Local Hazard Mitigation Planning* and addressed the benefits for jurisdictions participating in this mitigation plan update including improved coordination and communication among local jurisdictions. Impacts of hazards do not stop at jurisdictional boundaries. This multi-jurisdictional approach allows for a more comprehensive risk assessment and resulting mitigation strategy for the entire planning area. The following jurisdictions have been invited to participate as "official participants" in the Clark County Multi-jurisdictional Hazard Mitigation Plan Update:

- County of Clark
- City of Kahoka
- City of Alexandria
- Village of Luray
- City of Revere
- City of Wayland
- City of Wyaconda
- Clark County R-1 Schools
- Clark County Water District
- Kahoka Fire Department

Participation Requirements

Derek Weber also described the role of the HMPC. Each jurisdiction participating in development of the plan must meet the following minimum requirements:

1. Designate a representative to serve on the Clark County HMPC, which will meet **three** times during the planning process,
2. Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact your jurisdiction,
3. Provide data to describe current capabilities,
4. Develop/update mitigation actions (at least one) specific to your jurisdiction,
5. Provide comments on plan drafts as requested,
6. Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan, and
7. Formally adopt the mitigation plan.

Jurisdictions that choose not to participate in development of a FEMA-approved mitigation plan **will not** be eligible applicants for FEMA Hazard Mitigation Assistance Grants.

Planning for Public Involvement

The local hazard mitigation plan requirements state that the public needs to have the opportunity to comment on the plan. The public will be given two opportunities to comment on the plan, once during the drafting stage and another when the plan is complete in the final draft stage.

The meeting attendees discussed methods for notifying the public in the plan.

Hard copies of the draft plan will be available at public facilities such as the county commission office, city hall, library, and post office. A link to the draft plan will also be available on NEMO RPC's website.

Data Collection Questionnaires

Representatives from local governments and school districts were provided with hard copies and Survey Monkey links of Data Collection Questionnaires. The Data Collection Questionnaire is designed to collect information on existing capabilities within each jurisdiction to implement mitigation initiatives as well as collect information on previous hazard events. The questionnaires are different for local units of government and schools. The Data Collection Questionnaires were reviewed as a group and then meeting participants were given time to review the forms individually and note any questions about the forms.

The deadline for submittal of the Data Collection Guides is October 8, 2024.

Discussion/Prioritization of Hazards

Initial research information was presented on the hazards being considered for inclusion in the hazard mitigation plan.

Derek Weber facilitated a discussion of the mitigation goals. Common categories of mitigation goals were presented along with past plan goals.

The previous goals were reviewed and they were updated to the following:

1. Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

The planning committee members were informed they would be contacted to review previous mitigation actions and how they wanted to proceed with the mitigation actions. Each jurisdiction is required to have at least one mitigation action item.

Critical Facilities

The Risk Assessment will include information on critical facilities for each jurisdiction. A GIS-based inventory of the critical facilities will be developed, and meeting participants were asked to identify additional sources of GIS data for the critical facility inventory.

Next Steps

Attendees were asked to complete their jurisdiction's Data Collection Questionnaire by October 8, 2024. **The 2nd meeting of the Hazard Mitigation Planning Committee for this plan update will be October 29, 2024 at the Clark County Courthouse – Commission Chambers at 10:00 AM.** A draft of the risk assessment update will be provided to the committee for review prior to Meeting #2. The meeting will involve a review of the risk assessment results and update of the plan's goals. **The 3rd and final planning meeting is scheduled for December 3, 2024.** Additional details on this meeting will be provided at a later date.

**Multi-Jurisdictional
Hazard Mitigation Plan**

**Data Collection Questionnaire
For Local Governments**

County: Clark

Jurisdiction: Clark County

Return by: October 8, 2024

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Joseph B. Humes
Phone: 660-341-7528
Email: jhumes@marktwain.net
Date: 9-24-24

Please return questionnaires by mail or email to:

Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date:	
Builder's Plan	Date:	
Capital Improvement Plan	Date:	
City Emergency Operations Plan	Date:	
County Emergency Operations Plan	Date: 9/24/2024	
Local Recovery Plan	Date:	
County Recovery Plan	Date:	
City Mitigation Plan	Date:	
County Mitigation Plan	Date:	
Debris Management Plan	Date: 9/24/2024	
<u>Economic Development Plan</u>	Date:	
Transportation Plan	Date:	
Land-use Plan	Date:	
Flood Mitigation Assistance (FMA) Plan	Date:	
<u>Watershed Plan</u>	Date:	
Firewise or other fire mitigation plan	Date:	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date:	
Policies/Ordinance		

Element	Yes, No, N/A	Comments
Zoning Ordinance		
Building Code	Version:	
Floodplain Ordinance	Date: Feb. 16, 2012	60.3 (d)
Subdivision Ordinance		
Tree Trimming Ordinance		
Nuisance Ordinance		
Storm Water Ordinance		
Drainage Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		
Landscape Ordinance		
Program		
Zoning/Land Use Restrictions		
Codes Building Site/Design		
Hazard Awareness Program		
National Flood Insurance Program		
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating?	
National Weather Service (NWS) Storm Ready Certification		
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating:	Varies By district (b)
Economic Development Program		
Land Use Program		
Public Education/Awareness		
Property Acquisition		
Planning/Zoning Boards		
Stream Maintenance Program		
Tree Trimming Program		
Engineering Studies for Streams (Local/County/Regional)		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
Hazard Analysis/Risk Assessment (City)		
Hazard Analysis/Risk Assessment (County)		
Evacuation Route Map		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Land Use Map		

Staff/Department	Full Time or Part Time?
Building Code Official	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)

Commission 3 members

2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.

Fire Safety - HeadStart - Scouts Preparedness - monthly Newspaper Column

3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Limited Transportation For Vulnerable Populations (wheelchair) & Trained Shelters -

5. How many outdoor warning sirens are in your community? 2

Large low population

How are they activated (indicate responsible department/personnel)? City

6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them. NO

7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? yes - UNKNOWN

Please provide address locations:

~~Kyoto~~ St Paul Church, St Paul Court house

8. List residential, commercial and industrial development in your jurisdiction since last plan update.

Hog confinements, Grain bins, more Housing + homes,

9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

Expected Growth on along Highway + cities

10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

11. Please list major employers in your jurisdiction with an estimated number of employees.

Clark Co. School

Clark Co. Nursing home

Clark Co.

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
 Police stations
 Fire station
 Emergency Operations Centers

High Potential Loss Facilities

Power plants
 Dams/levees
 Military installations
 Hazardous material sites
 Schools
 Shelters
 Day care centers
 Nursing homes
 Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
 Railroads and facilities
 Bus facilities
 Airports
 Water treatment facilities
 Natural gas facilities and pipelines
 Oil facilities and pipelines
 Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the natural hazard column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Natural Hazards	
Flooding (Major & Flash) - RF	Drought - D
Levee Failure - LF	Extreme Temperature - ET
Dam Failure - DF	Severe Thunderstorm (incl. winds, hail, lightning) - ST
Earthquake - EQ	Severe Winter Weather (incl. snow, ice, severe cold) - SWW
Land Subsidence / Sinkholes - LSS	Tornadoes - T
	Wildfire - WF

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

CONTRIBUTORS

Clark County Hazard Mitigation Planning Committee

Jurisdictional Representatives

Name	Title	Department	Jurisdiction/Agency/Organiz
Chris Blomgren	County Emergency Coordinator	Administration	Kahoka/Clark County
Henry Dienst	Commissioner	Administration	Clark County
Gary Webster	Commissioner	Administration	Clark County
Ron Gates	Mayor	Administration	Alexandria
Ritchie Kratch	Superintendent	Administration	Clark County R-1
Jerry Webber	Mayor	Administration	Kahoka
Buddy Kattreimann	Presiding Commissioner	Administration	Clark County
Kathy Alvis	City Clerk	Administration	Wayland
Nathan Bartlett	Chief	Administration	Wayland
Jim Sherwood	Asst. EMD	Administration	Kahoka
Dale Clark	Mayor	Administration	Revere
Edward Nye	Mayor	Administration	Luray
Tammy Hammond	Mayor Pro Term	Administration	Wyaconda

Tanner Hoffis
Tim Harter
Joe Humes
Anthony Anderson
Steve Krueger

Stakeholder Representatives

Name	Title	Department	Agency/Organization
Larry Sexton	LEPC Chairman	Emergency Response	Clark County LEPC
Jim Engles	President	Emergency Response	Revere Fire
Delbert Irvin	Chief	Emergency Response	Revere Fire
Evelletta Sutterfield	RN Administrator	Administration	Clark County Health Dept
Randy Alvis	Chairman	Emergency Response	Wayland Fire
Paul Brotherton	Citizen	Administration	Clark County

**Multi-Jurisdictional
Hazard Mitigation Plan**

**Data Collection Questionnaire
For Local Governments**

County: Clark

Jurisdiction: City of Kahoka

Return by: October 8, 2024

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Tanner Harrison
Phone: 660-216-1436
Email: ClarkCountyTannerHarrison@gmail.com
Date: 10-23-24

Please return questionnaires by mail or email to:

**Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org**

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date:	
Builder's Plan	Date:	
Capital Improvement Plan	Date:	
City Emergency Operations Plan	Date: 1/1/2020	
County Emergency Operations Plan	Date: 1/1/2019	
Local Recovery Plan	Date:	
County Recovery Plan	Date:	
City Mitigation Plan	Date: 5/1/2014	
County Mitigation Plan	Date: 5/1/2014	
Debris Management Plan	Date: 1/1/2019	
<u>Economic Development Plan</u>	Date:	
Transportation Plan	Date:	
Land-use Plan	Date:	
Flood Mitigation Assistance (FMA) Plan	Date:	
<u>Watershed Plan</u>	Date:	
Firewise or other fire mitigation plan	Date:	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: 12/31/2020	
Policies/Ordinance		

Element	Yes, No, N/A	Comments
Zoning Ordinance		
Building Code	Version: #1, 3/15	
Floodplain Ordinance	Date:	
Subdivision Ordinance		
Tree Trimming Ordinance		
Nuisance Ordinance	Yes	
Storm Water Ordinance		
Drainage Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		
Landscape Ordinance		
Program		
Zoning/Land Use Restrictions		
Codes Building Site/Design		
Hazard Awareness Program		
National Flood Insurance Program		
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating?	
National Weather Service (NWS) Storm Ready Certification	Yes	
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating: 6.9	
Economic Development Program		
Land Use Program		
Public Education/Awareness		
Property Acquisition		
Planning/Zoning Boards		
Stream Maintenance Program		
Tree Trimming Program		
Engineering Studies for Streams (Local/County/Regional)		
Mutual Aid Agreements		
Studies/Reports/Maps		
Hazard Analysis/Risk Assessment (City)		
Hazard Analysis/Risk Assessment (County)		
Evacuation Route Map		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Land Use Map		

Staff/Department	Full Time or Part Time?
Building Code Official	

Element	Yes, No, N/A	Comments
Building Inspector	Mike Newbold	Full time
Mapping Specialist (GIS)		
Engineer		
Development Planner		
Public Works Official		
Emergency Management Coordinator	Yes	
NFIP Floodplain Administrator		
Bomb and/or Arson Squad		
Emergency Response Team		
Hazardous Materials Expert		
Local Emergency Planning Committee	Yes	
County Emergency Management Commission	Yes	
Sanitation Department		
Transportation Department		
Economic Development Department		
Housing Department		
Historic Preservation		
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	NO	Quincy Ill
Salvation Army	NO	
Veterans Groups	NO	
Local Environmental Organization		
Homeowner Associations	NO	
Neighborhood Associations	NO	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding		
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
Mayor
City Council - 4 members
Police chief
Fire chief
Clerk - Treasurer - Collector
Public works
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.
 - Annual Fire Safety in School systems multiple times a year
 - Public Awareness with first responders
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.
4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.
5. How many outdoor warning sirens are in your community?
4
How are they activated (indicate responsible department/personnel)?
Fire chief, Police chief, Sheriff, Mayor
6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them.
7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?
Yes
Please provide address locations:
Can Bldg
8. List residential, commercial and industrial development in your jurisdiction since last plan update.
9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.
10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.
11. Please list major employers in your jurisdiction with an estimated number of employees.

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)-RF	Severe Winter Weather (incl. snow, ice, severe cold)-SWW	Hazardous Materials Release (fixed facility, accidents)-HM
Dam Failure-DF	Droughts-D	Mass Transportation Accident-MTA
Levee Failure-LF	Extreme Temperatures-ET	Nuclear Power Plants (emergencies & accidents)-NPP
Earthquake-EQ	Fires (structural, urban, and wild)-F	Public Health Emergencies/Environmental Issues-PH
Land Subsidence / Sinkholes-LSS	Attack (nuclear, conventional, chemical, and biological)-A	Special Events-SE
Severe Thunderstorm (incl. winds, hail, lightning)-ST	Civil Disorder-CD	Terrorism-TX
Tornadoes-T	Cyber Disruption-CyD	Utilities (interruptions & system failures)-U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>High Potential Loss Facilities</u> such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
Kuhaka Power Plant	255 S Washington Kuhaka		5.5 M		0	RF, EQ, T, SWW, ST
Kuhaka Water Plant	500 Vine Street		6.5 M			RF, EQ, T, SWW, ST
City Hall	250 N Morgan Kuhaka		350 K			-----
Nursing Home	1260 N Johnson		7.5 M		90 Residents 40 Staff	-----
Daycare 1	throughout city					-----
Daycare 2	throughout city					-----
Daycare 3	throughout city					-----
Daycare 4	throughout city					-----
<u>Transportation and Lifelines</u> such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 136	S of Kuhaka					RF, EQ, T
DN SF	N of Kuhaka					RF EQ, T

*If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.

Economic Assets (Major Employers, etc)

Asset	Address	Product/Service	Value (if known)	Number of Employees	Hazards
KPF Foundry	809 Empire	Small Casts		50	Product, Chemicals
Coryor Center	1385 Industrial Dr	Welding		50	
Dadco's	275 N Myrtle	Candy/Toys		50	Flammable
IMJ	Hwy 136	Farm Equipment		20	Chemicals
Bull Valve	Hwy 136	Semi Service		20	

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	<i>Kuhole throughout County</i>
Type of event	<i>Storm damage</i>
Nature and magnitude of event	<i>High winds</i>
Location	<i>throughout Kuhole</i>
Date of event	<i>June 24, 2023</i>
Injuries	<i>0</i>
Deaths	<i>0</i>
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	

Jurisdiction: _____

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	

Jurisdiction: _____

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
<i>Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.</i>	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

Multi-Jurisdictional Hazard Mitigation Plan
Data Collection Questionnaire
For Small Local Governments

County: Clark _____

Jurisdiction: City of Wayland _____

Return by: _____

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: _____

Phone: (660) 754-6132 _____

Email: waylan01@centurytel.net _____

Date: February 11, 2025 _____

Please return questionnaires by mail, email, or fax to:

Name: Derek Weber, Executive Director NEMO RPC _____

Address: 121 S. Cecil St. Memphis, MO 63555 _____

Email: derekweber@nemorpc.org _____

Fax: (660) 465-7163 _____

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments and/or Weblink
Planning Capabilities		
Comprehensive or Land-Use Plan		Date:
Capital Improvement Plan		Date:
Transportation Plan / Highway Department		Date:
Emergency Operations Plan	Yes, Uses County Plan	Date: 8/15/2019
Local Recovery Plan		Date:
Debris Management Plan	Yes, Uses County Plan	Date: 1/1/2019
Firewise or other fire mitigation plan		Date:
Economic Development Plan		Date:
Policies/Ordinance		
Zoning Ordinance		
Building Code		Version:
Floodplain Ordinance		Date:
Drainage/Stormwater Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		

Element	Yes, No, N/A	Comments and/or Weblink
Program		
National Flood Insurance Program (NFIP)	Yes	
NFIP Community Rating System (CRS) program		If so, what is your current level rating?
National Weather Service (NWS) Storm Ready Certification		
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating: 6.9x	
Public Education or information programs (i.e., responsible water use, fire safety, household preparedness, or environmental education)		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Staff/Department		Full Time or Part Time?
Building Code Official / Building Inspector		
Engineer		
Development Planner		
NFIP Floodplain Administrator		
Mapping Specialist (GIS)		
Public Works Official		
Emergency Management Coordinator	County	
Local Emergency Planning Committee	Yes	
Sanitation Department		
Highway/Transportation Department		
Economic Development Department		
Housing Department		
Historic Preservation		

Element	Yes, No, N/A	Comments and/or Weblink
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	Yes	
Local Environmental Organization		
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding		
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive or Land-Use Plan	
Capital Improvement Plan	
Transportation Plan / Highway Department	
Emergency Operations Plan	
Local Recovery Plan	
Debris Management Plan	
Firewise or other fire mitigation plan	
Economic Development Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)

Mayor
City Council-4 members
Clerk

2. List any other past or ongoing projects or programs designed to reduce disaster losses, these may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Public awareness with first responder agencies,
Recurrent grant work on blight mitigation,
Coordination with outside agencies and conducting training and exercises.

3. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Evacuation and sheltering concerns of a large low-income/elderly population,
Mass notification of vulnerable populations

4. How many outdoor warning sirens are in your community?

None

How are they activated (indicate responsible department/personnel)?
N/A

5. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe.

No

6. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?

No

Please provide address locations:

7. Identify residential, commercial and industrial development in your jurisdiction since last plan update.

8. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

No specific development and growth trends are noted. No new development in 100-year floodplain. No new development in specific hazard area.

9. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

Ongoing ag related development, no location specified.

10. Please list major employers in your jurisdiction with an estimated number of employees.

Commuter/Farm Community

11. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

No previous membership

12. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

Member, no active compliance measures

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the natural hazard column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Natural Hazards	
Flooding (Major & Flash) - RF	Drought - D
Levee Failure - LF	Extreme Temperature - ET
Dam Failure - DF	Severe Thunderstorm (incl. winds, hail, lightning) - ST
Earthquake - EQ	Severe Winter Weather (incl. snow, ice, severe cold) - SWW
Land Subsidence / Sinkholes - LSS	Tornadoes - T
Drought - D	Wildfire - WF

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Area (sq.ft.)	Replacement Value (Insured) (\$)	Contents Value (\$)	Occupancy/ Capacity (#)	Natural Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall						RF, EQ, T, SWW, ST
Daycare 1	Throughout City					RF, EQ, T, SWW, ST
Daycare 2	Throughout City					RF, EQ, T, SWW, ST
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 81						DR, EQ, T

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

HISTORIC HAZARD EVENTS (continued)

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Wayland

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost.

The worksheet should include information on the status of the action and progress made in implementation, if any. This includes:

- For **completed actions** provide a description of the implementation process. This may be a success story you would like to publicize in your community.
- Some of the actions might have been **ongoing** in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.
- If **no progress** has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

#	Action	Status			Description of Implementation Activities or Reasons for Lack of Progress	Keep – ✓ Delete – X Modify – M
		Complete	Ongoing	No Progress		

Multi-Jurisdictional Hazard Mitigation Plan
Data Collection Questionnaire
For Small Local Governments

County: Clark _____

Jurisdiction: City of Wyaconda _____

Return by: _____

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: _____

Phone: (660) 479-5611 _____

Email: _____

Date: February 11, 2025 _____

Please return questionnaires by mail, email, or fax to:

Name: Derek Weber, Executive Director NEMO RPC _____

Address: 121 S. Cecil St. Memphis, MO 63555 _____

Email: derekweber@nemorpc.org _____

Fax: (660) 465-7163 _____

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments and/or Weblink
Planning Capabilities		
Comprehensive or Land-Use Plan		Date:
Capital Improvement Plan		Date:
Transportation Plan / Highway Department		Date:
Emergency Operations Plan	Yes, Uses County Plan	Date: 8/15/2019
Local Recovery Plan		Date:
Debris Management Plan	Yes, Uses County Plan	Date: 1/1/2019
Firewise or other fire mitigation plan		Date:
Economic Development Plan		Date:
Policies/Ordinance		
Zoning Ordinance		
Building Code		Version:
Floodplain Ordinance		Date:
Drainage/Stormwater Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		

Element	Yes, No, N/A	Comments and/or Weblink
Program		
National Flood Insurance Program (NFIP)	Yes	
NFIP Community Rating System (CRS) program		If so, what is your current level rating?
National Weather Service (NWS) Storm Ready Certification		
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating: 6.9x	
Public Education or information programs (i.e., responsible water use, fire safety, household preparedness, or environmental education)		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Staff/Department		Full Time or Part Time?
Building Code Official / Building Inspector		
Engineer		
Development Planner		
NFIP Floodplain Administrator		
Mapping Specialist (GIS)		
Public Works Official		
Emergency Management Coordinator	County	
Local Emergency Planning Committee	Yes	
Sanitation Department		
Highway/Transportation Department		
Economic Development Department		
Housing Department		
Historic Preservation		

Element	Yes, No, N/A	Comments and/or Weblink
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	Yes	
Local Environmental Organization		
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding		
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive or Land-Use Plan	
Capital Improvement Plan	
Transportation Plan / Highway Department	
Emergency Operations Plan	
Local Recovery Plan	
Debris Management Plan	
Firewise or other fire mitigation plan	
Economic Development Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)

Mayor
City Council-4 members
Clerk

2. List any other past or ongoing projects or programs designed to reduce disaster losses, these may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Public awareness with first responder agencies,
Recurrent grant work on blight mitigation,
Coordination with outside agencies and conducting training and exercises.

3. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Evacuation and sheltering concerns of a large low-income/elderly population,
Mass notification of vulnerable populations

4. How many outdoor warning sirens are in your community?

None

How are they activated (indicate responsible department/personnel)?
N/A

5. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe.

No

6. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?

No

Please provide address locations:

7. Identify residential, commercial and industrial development in your jurisdiction since last plan update.

8. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

No specific development and growth trends are noted. No new development in 100-year floodplain. No new development in specific hazard area.

9. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

Ongoing ag related development, no location specified.

10. Please list major employers in your jurisdiction with an estimated number of employees.

Commuter/Farm Community

11. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

No previous membership

12. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

Member, no active compliance measures

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the natural hazard column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Natural Hazards	
Flooding (Major & Flash) - RF	Drought - D
Levee Failure - LF	Extreme Temperature - ET
Dam Failure - DF	Severe Thunderstorm (incl. winds, hail, lightning) - ST
Earthquake - EQ	Severe Winter Weather (incl. snow, ice, severe cold) - SWW
Land Subsidence / Sinkholes - LSS	Tornadoes - T
Drought - D	Wildfire - WF

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Area (sq.ft.)	Replacement Value (Insured) (\$)	Contents Value (\$)	Occupancy/ Capacity (#)	Natural Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall						RF, EQ, T, SWW, ST
Daycare 1	Throughout City					RF, EQ, T, SWW, ST
Daycare 2	Throughout City					RF, EQ, T, SWW, ST
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 81						DR, EQ, T

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

HISTORIC HAZARD EVENTS (continued)

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Wayland

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost.

The worksheet should include information on the status of the action and progress made in implementation, if any. This includes:

- For **completed actions** provide a description of the implementation process. This may be a success story you would like to publicize in your community.
- Some of the actions might have been **ongoing** in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.
- If **no progress** has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

#	Action	Status			Description of Implementation Activities or Reasons for Lack of Progress	Keep – ✓ Delete – X Modify – M
		Complete	Ongoing	No Progress		

#2

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, January 24, 2025 9:30:27 AM
Last Modified: Friday, January 24, 2025 10:30:55 AM
Time Spent: 01:00:27
IP Address: 98.97.15.134

Page 1: Introduction

Q1

Preparer Name

Colten Protsman

Q2

Preparer Phone Number

3197959005

Q3

Preparer Email

coltenprotsman@gmail.com

Q4

Date / Time

01/24/2025

Date of Completion

Page 2: CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q5

Element: Planning Capabilities

	Implemented	Date
Comprehensive Plan	NO	
Builder's Plan	NO	
Capital Improvement Plan	NO	
City Emergency Operations Plan	NO	
County Emergency Operations Plan	NO	
Local Recovery Plan	NO	
County Recovery Plan	NO	
City Mitigation Plan	NO	
County Mitigation Plan	NO	
County Mitigation Plan	NO	
Debris Management Plan	NO	
Economic Development Plan	NO	
Transportation Plan	NO	
Land-use Plan	NO	
Flood Mitigation Assistance (FMA) Plan	NO	
Watershed Plan	NO	
Firewise or other fire mitigation plan	NO	
Critical Facilities Plan (Mitigation/Response/Recovery)	NO	

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q6

Element: Policies/Ordinance

	Implemented
Zoning Ordinance	NO
Building Code (LIST VERSION IN COMMENTS)	NO
Floodplain Ordinance (LIST DATE IN COMMENTS)	NO
Subdivision Ordinance	NO
Tree Trimming Ordinance	NO
Nuisance Ordinance	YES
Storm Water Ordinance	NO
Drainage Ordinance	NO
Site Plan Review Requirements	NO
Historic Preservation Ordinance	NO
Landscape Ordinance	NO

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q7

Element: Program

	Implemen ted
Zoning/Land Use Restrictions	NO
Codes Building Site/Design	NO
Hazard Awareness Program	NO
National Flood Insurance Program	YES
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)? (LIST CURRENT LEVEL RATING IN COMMENTS)	NO
National Weather Service (NWS) Storm Ready Certification	NO
Firewise Community Certification	NO
Building Code Effectiveness Grading (BCEGs)	NO
Building Code Effectiveness Grading (BCEGs) (LIST RATING IN COMMENTS)	NO
Economic Development Program	NO
Land Use Program	NO
Public Education/Awareness	NO
Property Acquisition	NO
Planning/Zoning Boards	NO
Stream Maintenance Program	NO
Tree Trimming Program	NO
Engineering Studies for Streams (Local/County/Regional)	NO
Mutual Aid Agreements	NO

Q8

Studies/Reports/Maps

	Yes, No, N/A
Hazard Analysis/Risk Assessment (City)	NO
Hazard Analysis/Risk Assessment (County)	NO
Evacuation Route Map	NO
Critical Facilities Inventory	NO
Vulnerable Population Inventory	NO
Land Use Map	NO

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q9

Staff/Department

	Yes, No, N/A	Full-Time or Part-Time
Building Code Official	NO	
Building Inspector	NO	
Mapping Specialist (GIS)	NO	
Engineer	NO	
Development Planner	NO	
Public Works Official	NO	
Emergency Management Coordinator	NO	
NFIP Floodplain Administrator	YES	Part-Time
Bomb and/or Arson Squad	NO	
Emergency Response Team	NO	
Hazardous Materials Expert	NO	
Local Emergency Planning Committee	NO	
County Emergency Management Commission	NO	
Sanitation Department	NO	
Transportation Department	NO	
Economic Development Department	NO	
Housing Department	NO	
Historic Preservation	NO	

Q10

Non-Governmental Organizations (NGOs)

	Is there a local chapter?
American Red Cross	NO
Salvation Army	NO
Veterans Groups	NO
Local Environmental Organization	NO
Homeowner Associations	NO
Neighborhood Associations	NO
Chamber of Commerce	NO
Community Organizations (Lions, Kiwanis, etc.)	NO

Q11

Financial Resources

	Is your jurisdiction able to?
Apply for Community Development Block Grants	YES
Fund projects thru Capital Improvements funding	NO
Authority to levy taxes for specific purposes	YES
Fees for water, sewer, gas, or electric services	NO
Impact fees for new development	NO
Incur debt through general obligation bonds	NO
Incur debt through special tax bonds	NO
Incur debt through private activities	NO
Withhold spending in hazard prone areas	NO

Q12

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation. Planning Capabilities Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation Comprehensive Plan Builder's Plan Capital Improvement Plan Local Recovery Plan County Recovery Plan Debris Management Plan Economic Development Plan Transportation Plan Land-use Plan Watershed Plan Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan

Comprehensive Plan	Low population, low public interest, costs
Builder's Plan	Lack of construction, lack of knowledge
Capital Improvement Plan	Low population, low public interest, costs
Local Recovery Plan	Lack of knowledge
Economic Development Plan	Lack of knowledge, costs, low city income
Transportation Plan	Unnecessary
Land-use Plan	Our open lands owned by thr city are FEMA buyouts that we can't use for much of anything

Q13

How is your government structure organized? (Commission, Mayor/City Council, how many members)

Mayor, city council of 4 alderman, treasurer, secretary/clerk

Q14

Respondent skipped this question

List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.

Q15

Respondent skipped this question

List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Q16

Respondent skipped this question

Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Q17

How many outdoor warning sirens are in your community? How are they activated (indicate responsible department/personnel)?

1. Volunteer fire dept.

Q18

Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them.

No

Q19

Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? Please provide address locations:

No

Q20

Respondent skipped this question

List residential, commercial and industrial development in your jurisdiction since last plan update.

Q21

Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

NEMO port, just northeast of Alexandria city limits. Potentially bringing new developments within city limits.

Q22

Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

No.

Q23

Respondent skipped this question

Please list major employers in your jurisdiction with an estimated number of employees.

Q24

Respondent skipped this question

Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

Q25

Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

Any new home must be built in accordance to the NFIP guidelines. We have had trouble getting surveyors to come shoot elevations to ensure compliance.

Page 3: VULNERABILITY ASSESSMENT

Q26

Respondent skipped this question

Asset Inventory Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide. Critical Facilities - ESSENTIAL FACILITIES such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers

Q27

#1 Name of Asset

Alexandria Volunteer Fire Dept

Q28

#1 Address

102 s walnut st, Alexandria, mo

Q29

#1 Square Feet

Na

Q30

#1 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Na, the fd is volunteer and not affiliated directly with city govt other than a 100 year lease on city property

Q31

#1 Contents Value

Na

Q32

#1 Occupancy/Capacity #

Na

Q33

#1 Hazards

F, LF, RF, T, DF, SWW, ST

Q34

#2 Name of Asset

Levee

Q35

#2 Address

Na

Q36

#2 Square Feet

Na

Q37

#2 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Na, levee district technically owns the levee system. But as we are directly inside of it, I felt it should be listed. Disregard if not applicable.

Q38

#2 Contents Value

Na

Q39

#2 Occupancy/Capacity #

Na

Q40

#2 Hazards

LF, DF, RF

Q41

#3 Name of Asset

Alexandria Community Center

Q42

#3 Address

109 E Market St, Alexandria, MO

Q43

#3 Square Feet

Estimate 4,800-6,000

Q44

#3 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

\$500,000-\$750,000

Q45

#3 Contents Value

\$50,000

Q46

#3 Occupancy/Capacity #

Na

Q47

#3 Hazards

F, LF, RF, T, DF, SWW, ST

Q48

#4 Name of Asset

Pump house

Q49

#4 Address

Na

Q50

#4 Square Feet

Na

Q51

#4 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Estimate \$100,000

Q52

#4 Contents Value

Na

Q53

#4 Occupancy/Capacity #

Na

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q54

#4 Hazards

F, LF, F, T, DF

Q55

Respondent skipped this question

#5 Name of Asset

Q56

Respondent skipped this question

#5 Address

Q57

Respondent skipped this question

#5 Square Feet

Q58

Respondent skipped this question

#5 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q59

Respondent skipped this question

#5 Contents Value

Q60

Respondent skipped this question

#5 Occupancy/Capacity #

Q61

Respondent skipped this question

#5 Hazards

Q62

Respondent skipped this question

#6 Name of Asset

Q63

Respondent skipped this question

#6 Address

Q64

Respondent skipped this question

#6 Square Feet

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q65 Respondent skipped this question

#6 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q66 Respondent skipped this question

#6 Contents Value

Q67 Respondent skipped this question

#6 Occupancy/Capacity #

Q68 Respondent skipped this question

#6 Hazards

Q69 Respondent skipped this question

#7 Name of Asset

Q70 Respondent skipped this question

#7 Address

Q71 Respondent skipped this question

#7 Square Feet

Q72 Respondent skipped this question

#7 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q73 Respondent skipped this question

#7 Contents Value

Q74 Respondent skipped this question

#7 Occupancy/Capacity #

Q75 Respondent skipped this question

#7 Hazards

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q76 Respondent skipped this question

#8 Name of Asset

Q77 Respondent skipped this question

#8 Address

Q78 Respondent skipped this question

#8 Square Feet

Q79 Respondent skipped this question

#8 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q80 Respondent skipped this question

#8 Contents Value

Q81 Respondent skipped this question

#8 Occupancy/Capacity #

Q82 Respondent skipped this question

#8 Hazards

Q83 Respondent skipped this question

#9 Name of Asset

Q84 Respondent skipped this question

#9 Address

Q85 Respondent skipped this question

#9 Square Feet

Q86 Respondent skipped this question

#9 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q87 Respondent skipped this question

#9 Contents Value

Q88 Respondent skipped this question

#9 Occupancy/Capacity #

Q89 Respondent skipped this question

#9 Hazards

Q90 Respondent skipped this question

#10 Name of Asset

Q91 Respondent skipped this question

#10 Address

Q92 Respondent skipped this question

#10 Square Feet

Q93 Respondent skipped this question

#10 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q94 Respondent skipped this question

#10 Contents Value

Q95 Respondent skipped this question

#10 Occupancy/Capacity #

Q96 Respondent skipped this question

#10 Hazards

Q97 Respondent skipped this question

Asset Inventory (Continued)Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.Critical Facilities - HIGH POTENTIAL LOSS FACILITIES such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools - they will be reported by the school districts).

Q98 Respondent skipped this question

#1 Name of Asset

Q99 Respondent skipped this question

#1 Address

Q100 Respondent skipped this question

#1 Square Feet

Q101 Respondent skipped this question

#1 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q102 Respondent skipped this question

#1 Contents Value

Q103 Respondent skipped this question

#1 Occupancy/Capacity #

Q104 Respondent skipped this question

#1 Hazards

Q105 Respondent skipped this question

#2 Name of Asset

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q106 Respondent skipped this question

#2 Address

Q107 Respondent skipped this question

#2 Square Feet

Q108 Respondent skipped this question

#2 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q109 Respondent skipped this question

#2 Contents Value

Q110 Respondent skipped this question

#2 Occupancy/Capacity #

Q111 Respondent skipped this question

#2 Hazards

Q112 Respondent skipped this question

#3 Name of Asset

Q113 Respondent skipped this question

#3 Address

Q114 Respondent skipped this question

#3 Square Feet

Q115 Respondent skipped this question

#3 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q116 Respondent skipped this question

#3 Contents Value

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q117 Respondent skipped this question

#3 Occupancy/Capacity #

Q118 Respondent skipped this question

#3 Hazards

Q119 Respondent skipped this question

#4 Name of Asset

Q120 Respondent skipped this question

#4 Address

Q121 Respondent skipped this question

#4 Square Feet

Q122 Respondent skipped this question

#4 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q123 Respondent skipped this question

#4 Contents Value

Q124 Respondent skipped this question

#4 Occupancy/Capacity #

Q125 Respondent skipped this question

#4 Hazards

Q126 Respondent skipped this question

#5 Name of Asset

Q127 Respondent skipped this question

#5 Address

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q128 Respondent skipped this question

#5 Square Feet

Q129 Respondent skipped this question

#5 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q130 Respondent skipped this question

#5 Contents Value

Q131 Respondent skipped this question

#5 Occupancy/Capacity #

Q132 Respondent skipped this question

#5 Hazards

Q133 Respondent skipped this question

#6 Name of Asset

Q134 Respondent skipped this question

#6 Address

Q135 Respondent skipped this question

#6 Square Feet

Q136 Respondent skipped this question

#6 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q137 Respondent skipped this question

#6 Contents Value

Q138 Respondent skipped this question

#6 Occupancy/Capacity #

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q139 Respondent skipped this question

#6 Hazards

Q140 Respondent skipped this question

#7 Name of Asset

Q141 Respondent skipped this question

#7 Address

Q142 Respondent skipped this question

#7 Square Feet

Q143 Respondent skipped this question

#7 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q144 Respondent skipped this question

#7 Contents Value

Q145 Respondent skipped this question

#7 Occupancy/Capacity #

Q146 Respondent skipped this question

#7 Hazards

Q147 Respondent skipped this question

#8 Name of Asset

Q148 Respondent skipped this question

#8 Address

Q149 Respondent skipped this question

#8 Square Feet

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q150	Respondent skipped this question
#8 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.	
Q151	Respondent skipped this question
#8 Contents Value	
Q152	Respondent skipped this question
#8 Occupancy/Capacity #	
Q153	Respondent skipped this question
#8 Hazards	
Q154	Respondent skipped this question
#9 Name of Asset	
Q155	Respondent skipped this question
#9 Address	
Q156	Respondent skipped this question
#9 Square Feet	
Q157	Respondent skipped this question
#9 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.	
Q158	Respondent skipped this question
#9 Contents Value	
Q159	Respondent skipped this question
#9 Occupancy/Capacity #	
Q160	Respondent skipped this question
#9 Hazards	

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional Hazard Mitigation Plan

Q161 Respondent skipped this question

#10 Name of Asset

Q162 Respondent skipped this question

#10 Address

Q163 Respondent skipped this question

#10 Square Feet

Q164 Respondent skipped this question

#10 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q165 Respondent skipped this question

#10 Contents Value

Q166 Respondent skipped this question

#10 Occupancy/Capacity #

Q167 Respondent skipped this question

#10 Hazards

Page 5: VULNERABILITY ASSESSMENT (Continued)

Q168 Respondent skipped this question

Asset Inventory (Continued) Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide. Critical Facilities - TRANSPORTATION AND LIFELINES such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities and pipelines, communications facilities.

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q169 Respondent skipped this question

#1 Name of Asset

Q170 Respondent skipped this question

#1 Address

Q171 Respondent skipped this question

#1 Square Feet

Q172 Respondent skipped this question

#1 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q173 Respondent skipped this question

#1 Contents Value

Q174 Respondent skipped this question

#1 Occupancy/Capacity #

Q175 Respondent skipped this question

#1 Hazards

Q176 Respondent skipped this question

#2 Name of Asset

Q177 Respondent skipped this question

#2 Address

Q178 Respondent skipped this question

#2 Square Feet

Q179 Respondent skipped this question

#2 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q180 #2 Contents Value	Respondent skipped this question
Q181 #2 Occupancy/Capacity #	Respondent skipped this question
Q182 #2 Hazards	Respondent skipped this question
Q183 #3 Name of Asset	Respondent skipped this question
Q184 #3 Address	Respondent skipped this question
Q185 #3 Square Feet	Respondent skipped this question
Q186 #3 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.	Respondent skipped this question
Q187 #3 Contents Value	Respondent skipped this question
Q188 #3 Occupancy/Capacity #	Respondent skipped this question
Q189 #3 Hazards	Respondent skipped this question
Q190 #4 Name of Asset	Respondent skipped this question

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q191 Respondent skipped this question

#4 Address

Q192 Respondent skipped this question

#4 Square Feet

Q193 Respondent skipped this question

#4 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q194 Respondent skipped this question

#4 Contents Value

Q195 Respondent skipped this question

#4 Occupancy/Capacity #

Q196 Respondent skipped this question

#4 Hazards

Q197 Respondent skipped this question

#5 Name of Asset

Q198 Respondent skipped this question

#5 Address

Q199 Respondent skipped this question

#5 Square Feet

Q200 Respondent skipped this question

#5 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q201 Respondent skipped this question

#5 Contents Value

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q202 #5 Occupancy/Capacity #	Respondent skipped this question
Q203 #5 Hazards	Respondent skipped this question
Q204 #6 Name of Asset	Respondent skipped this question
Q205 #6 Address	Respondent skipped this question
Q206 #6 Square Feet	Respondent skipped this question
Q207 #6 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.	Respondent skipped this question
Q208 #6 Contents Value	Respondent skipped this question
Q209 #6 Occupancy/Capacity #	Respondent skipped this question
Q210 #6 Hazards	Respondent skipped this question
Q211 #7 Name of Asset	Respondent skipped this question
Q212 #7 Address	Respondent skipped this question

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q213 Respondent skipped this question

#7 Square Feet

Q214 Respondent skipped this question

#7 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q215 Respondent skipped this question

#7 Contents Value

Q216 Respondent skipped this question

#7 Occupancy/Capacity #

Q217 Respondent skipped this question

#7 Hazards

Q218 Respondent skipped this question

#8 Name of Asset

Q219 Respondent skipped this question

#8 Address

Q220 Respondent skipped this question

#8 Square Feet

Q221 Respondent skipped this question

#8 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q222 Respondent skipped this question

#8 Contents Value

Q223 Respondent skipped this question

#8 Occupancy/Capacity #

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q224 #8 Hazards	Respondent skipped this question
Q225 #9 Name of Asset	Respondent skipped this question
Q226 #9 Address	Respondent skipped this question
Q227 #9 Square Feet	Respondent skipped this question
Q228 #9 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.	Respondent skipped this question
Q229 #9 Contents Value	Respondent skipped this question
Q230 #9 Occupancy/Capacity #	Respondent skipped this question
Q231 #9 Hazards	Respondent skipped this question
Q232 #10 Name of Asset	Respondent skipped this question
Q233 #10 Address	Respondent skipped this question
Q234 #10 Square Feet	Respondent skipped this question

Q235 Respondent skipped this question
#10 Replacement Value (Insured) - If replacement cost data is not available, use the best available data (Assessed valuation or other method for estimating cost) and explain any data deficiencies.

Q236 Respondent skipped this question
#10 Contents Value

Q237 Respondent skipped this question
#10 Occupancy/Capacity #

Q238 Respondent skipped this question
#10 Hazards

Page 6: VULNERABILITY ASSESSMENT (Continued)

Q239 Respondent skipped this question
Asset Inventory (Continued)Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.
ECONOMIC ASSETEconomic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Q240 Respondent skipped this question
#1 Name of Asset

Q241 Respondent skipped this question
#1 Address

Q242 Respondent skipped this question
#1 Product/Service

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q243 Respondent skipped this question

#1 Value (if known)

Q244 Respondent skipped this question

#1 Number of Employees

Q245 Respondent skipped this question

#1 Hazards

Q246 Respondent skipped this question

#2 Name of Asset

Q247 Respondent skipped this question

#2 Address

Q248 Respondent skipped this question

#2 Product/Service

Q249 Respondent skipped this question

#2 Value (if known)

Q250 Respondent skipped this question

#2 Number of Employees

Q251 Respondent skipped this question

#2 Hazards

Q252 Respondent skipped this question

#3 Name of Asset

Q253 Respondent skipped this question

#3 Address

Q254 Respondent skipped this question

#3 Product/Service

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q255 Respondent skipped this question
#3 Value (if known)

Q256 Respondent skipped this question
#3 Number of Employees

Q257 Respondent skipped this question
#3 Hazards

Q258 Respondent skipped this question
#4 Name of Asset

Q259 Respondent skipped this question
#4 Address

Q260 Respondent skipped this question
#4 Product/Service

Q261 Respondent skipped this question
#4 Value (if known)

Q262 Respondent skipped this question
#4 Number of Employees

Q263 Respondent skipped this question
#4 Hazards

Q264 Respondent skipped this question
#5 Name of Asset

Q265 Respondent skipped this question
#5 Address

Q266 Respondent skipped this question
#5 Product/Service

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q267 Respondent skipped this question

#5 Value (if known)

Q268 Respondent skipped this question

#5 Number of Employees

Q269 Respondent skipped this question

#5 Hazards

Q270 Respondent skipped this question

#6 Name of Asset

Q271 Respondent skipped this question

#6 Address

Q272 Respondent skipped this question

#6 Product/Service

Q273 Respondent skipped this question

#6 Value (if known)

Q274 Respondent skipped this question

#6 Number of Employees

Q275 Respondent skipped this question

#6 Hazards

Q276 Respondent skipped this question

#7 Name of Asset

Q277 Respondent skipped this question

#7 Address

Q278 Respondent skipped this question

#7 Product/Service

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q279 Respondent skipped this question

#7 Value (if known)

Q280 Respondent skipped this question

#7 Number of Employees

Q281 Respondent skipped this question

#7 Hazards

Q282 Respondent skipped this question

#8 Name of Asset

Q283 Respondent skipped this question

#8 Address

Q284 Respondent skipped this question

#8 Product/Service

Q285 Respondent skipped this question

#8 Value (if known)

Q286 Respondent skipped this question

#8 Number of Employees

Q287 Respondent skipped this question

#8 Hazards

Q288 Respondent skipped this question

#9 Name of Asset

Q289 Respondent skipped this question

#9 Address

Q290 Respondent skipped this question

#9 Product/Service

Q291 Respondent skipped this question

#9 Value (if known)

Q292 Respondent skipped this question

#9 Number of Employees

Q293 Respondent skipped this question

#9 Hazards

Q294 Respondent skipped this question

#10 Name of Asset

Q295 Respondent skipped this question

#10 Address

Q296 Respondent skipped this question

#10 Product/Service

Q297 Respondent skipped this question

#10 Value (if known)

Q298 Respondent skipped this question

#10 Number of Employees

Q299 Respondent skipped this question

#10 Hazards

Page 7: HISTORIC HAZARD EVENTS

Q300

Jurisdiction

City of Alexandria Missouri

Q301

Type of event

Flood

Q302

Nature and magnitude of event

Historic flood breached the levee

Q303

Location

Alexandria, Missouri

Q304

Date of event

July 1993

Q305

Injuries

Na

Q306

Deaths

None

Q307

Property Damage

All properties in city limits were severely damaged. Most were a total loss.

Q308

Infrastructure Damage

Ditches filled in and were never properly fixed. Drainage tubes were cleaned out as quickly as possible, were not reset or checked for proper drainage. Streets were moderately damaged. Sidewalks buckled in spots.

Q309

Crop Damage

Na

Q310

Business/Economic Impacts

Population drastically decreased, property values decreased, decreasing the tax revenue for the city. Crippling the city economically.

Q311

Respondent skipped this question

Road/School/Other Closures

Q312

Respondent skipped this question

Other Damage

Q313

Insured Losses

I dont have exact numbers but there were dozens of homes and other properties lost. A lot of which were insured under the NFIP

Q314

Federal/State Disaster Relief Funding

FEMA bought out around 20 properties. Don't have exact numbers.

Q315

Opinion On Likelihood Of Occurring Again

With the way the rivers have been managed for the last 20 years, I think it's very likely.

Q316

Source Of Information

Various. First-hand information, FEMA documents, city treasurer, city residents

Q317

Comments

I know I don't have the best info on this. The city records are not organized at all so I am piecing things together as I go. I am sure FEMA has all the info you need.

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q318	Respondent skipped this question
Type of event	
Q319	Respondent skipped this question
Nature and magnitude of event	
Q320	Respondent skipped this question
Location	
Q321	Respondent skipped this question
Date of event	
Q322	Respondent skipped this question
Injuries	
Q323	Respondent skipped this question
Deaths	
Q324	Respondent skipped this question
Property Damage	
Q325	Respondent skipped this question
Infrastructure Damage	
Q326	Respondent skipped this question
Crop Damage	
Q327	Respondent skipped this question
Business/Economic Impacts	
Q328	Respondent skipped this question
Road/School/Other Closures	
Q329	Respondent skipped this question
Other Damage	

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q330 Respondent skipped this question

Insured Losses

Q331 Respondent skipped this question

Federal/State Disaster Relief Funding

Q332 Respondent skipped this question

Opinion On Likelihood Of Occurring Again

Q333 Respondent skipped this question

Source Of Information

Q334 Respondent skipped this question

Comments

Q335 Respondent skipped this question

Type of event

Q336 Respondent skipped this question

Nature and magnitude of event

Q337 Respondent skipped this question

Location

Q338 Respondent skipped this question

Date of event

Q339 Respondent skipped this question

Injuries

Q340 Respondent skipped this question

Deaths

Q341 Respondent skipped this question

Property Damage

LOCAL GOVERNMENTS DATA COLLECTION QUESTIONNAIRE Clark County Multi-Jurisdictional
Hazard Mitigation Plan

Q342 Respondent skipped this question

Infrastructure Damage

Q343 Respondent skipped this question

Crop Damage

Q344 Respondent skipped this question

Business/Economic Impacts

Q345 Respondent skipped this question

Road/School/Other Closures

Q346 Respondent skipped this question

Other Damage

Q347 Respondent skipped this question

Insured Losses

Q348 Respondent skipped this question

Federal/State Disaster Relief Funding

Q349 Respondent skipped this question

Opinion On Likelihood Of Occurring Again

Q350 Respondent skipped this question

Source Of Information

Q351 Respondent skipped this question

Comments

Multi-Jurisdictional Hazard Mitigation Plan
Data Collection Questionnaire
For Small Local Governments

County: Clark _____

Jurisdiction: City of Revere _____

Return by: _____

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: _____

Phone: (319) 795-3082 _____

Email: jtaylor9117@gmail.com _____

Date: February 11, 2025 _____

Please return questionnaires by mail, email, or fax to:

Name: Derek Weber, Executive Director NEMO RPC _____

Address: 121 S. Cecil St. Memphis, MO 63555 _____

Email: derekweber@nemorpc.org _____

Fax: (660) 465-7163 _____

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments and/or Weblink
Planning Capabilities		
Comprehensive or Land-Use Plan		Date:
Capital Improvement Plan		Date:
Transportation Plan / Highway Department		Date:
Emergency Operations Plan	Yes, Uses County Plan	Date: 8/15/2019
Local Recovery Plan		Date:
Debris Management Plan	Yes, Uses County Plan	Date: 1/1/2019
Firewise or other fire mitigation plan		Date:
Economic Development Plan		Date:
Policies/Ordinance		
Zoning Ordinance		
Building Code		Version:
Floodplain Ordinance		Date:
Drainage/Stormwater Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		

Element	Yes, No, N/A	Comments and/or Weblink
Program		
National Flood Insurance Program (NFIP)	Yes	
NFIP Community Rating System (CRS) program		If so, what is your current level rating?
National Weather Service (NWS) Storm Ready Certification		
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating: 6.9x	
Public Education or information programs (i.e., responsible water use, fire safety, household preparedness, or environmental education)		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Staff/Department		Full Time or Part Time?
Building Code Official / Building Inspector		
Engineer		
Development Planner		
NFIP Floodplain Administrator		
Mapping Specialist (GIS)		
Public Works Official		
Emergency Management Coordinator	County	
Local Emergency Planning Committee	Yes	
Sanitation Department		
Highway/Transportation Department		
Economic Development Department		
Housing Department		
Historic Preservation		

Element	Yes, No, N/A	Comments and/or Weblink
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	Yes	
Local Environmental Organization		
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding		
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive or Land-Use Plan	
Capital Improvement Plan	
Transportation Plan / Highway Department	
Emergency Operations Plan	
Local Recovery Plan	
Debris Management Plan	
Firewise or other fire mitigation plan	
Economic Development Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)

Mayor
City Council-4 members
Clerk

2. List any other past or ongoing projects or programs designed to reduce disaster losses, these may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Public awareness with first responder agencies,
Recurrent grant work on blight mitigation,
Coordination with outside agencies and conducting training and exercises.

3. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Evacuation and sheltering concerns of a large low-income/elderly population,
Mass notification of vulnerable populations

4. How many outdoor warning sirens are in your community?

None

How are they activated (indicate responsible department/personnel)?
N/A

5. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe.

No

6. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?

No

Please provide address locations:

7. Identify residential, commercial and industrial development in your jurisdiction since last plan update.

8. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

No specific development and growth trends are noted. No new development in 100-year floodplain. No new development in specific hazard area.

9. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

Ongoing ag related development, no location specified.

10. Please list major employers in your jurisdiction with an estimated number of employees.

Commuter/Farm Community

11. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

No previous membership

12. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

Member, no active compliance measures

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the natural hazard column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Natural Hazards	
Flooding (Major & Flash) - RF	Drought - D
Levee Failure - LF	Extreme Temperature - ET
Dam Failure - DF	Severe Thunderstorm (incl. winds, hail, lightning) - ST
Earthquake - EQ	Severe Winter Weather (incl. snow, ice, severe cold) - SWW
Land Subsidence / Sinkholes - LSS	Tornadoes - T
Drought - D	Wildfire - WF

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Area (sq.ft.)	Replacement Value (Insured) (\$)	Contents Value (\$)	Occupancy/ Capacity (#)	Natural Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall	250 N Morgan, Revere, MO		350K			RF, EQ, T, SWW, ST
Daycare 1	Throughout City					RF, EQ, T, SWW, ST
Daycare 2	Throughout City					RF, EQ, T, SWW, ST
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 81						DR, EQ, T

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

HISTORIC HAZARD EVENTS (continued)

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Wayland

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost.

The worksheet should include information on the status of the action and progress made in implementation, if any. This includes:

- For **completed actions** provide a description of the implementation process. This may be a success story you would like to publicize in your community.
- Some of the actions might have been **ongoing** in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.
- If **no progress** has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

#	Action	Status			Description of Implementation Activities or Reasons for Lack of Progress	Keep – ✓ Delete – X Modify – M
		Complete	Ongoing	No Progress		

Multi-Jurisdictional Hazard Mitigation Plan
Data Collection Questionnaire
For Small Local Governments

County: Clark _____

Jurisdiction: Village of Luray _____

Return by: _____

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: _____

Phone: (660) 216-8934 _____

Email: cityofluray@gmail.com _____

Date: February 11, 2025 _____

Please return questionnaires by mail, email, or fax to:

Name: Derek Weber, Executive Director NEMO RPC _____

Address: 121 S. Cecil St. Memphis, MO 63555 _____

Email: derekweber@nemorpc.org _____

Fax: (660) 465-7163 _____

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments and/or Weblink
Planning Capabilities		
Comprehensive or Land-Use Plan		Date:
Capital Improvement Plan		Date:
Transportation Plan / Highway Department		Date:
Emergency Operations Plan	Yes, Uses County Plan	Date: 8/15/2019
Local Recovery Plan		Date:
Debris Management Plan	Yes, Uses County Plan	Date: 1/1/2019
Firewise or other fire mitigation plan		Date:
Economic Development Plan		Date:
Policies/Ordinance		
Zoning Ordinance		
Building Code		Version:
Floodplain Ordinance		Date:
Drainage/Stormwater Ordinance		
Site Plan Review Requirements		
Historic Preservation Ordinance		

Element	Yes, No, N/A	Comments and/or Weblink
Program		
National Flood Insurance Program (NFIP)	Yes	
NFIP Community Rating System (CRS) program		If so, what is your current level rating?
National Weather Service (NWS) Storm Ready Certification		
Firewise Community Certification		
Building Code Effectiveness Grading (BCEGs)		
ISO Fire Rating	Rating: 6.9x	
Public Education or information programs (i.e., responsible water use, fire safety, household preparedness, or environmental education)		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
Critical Facilities Inventory		
Vulnerable Population Inventory		
Staff/Department		Full Time or Part Time?
Building Code Official / Building Inspector		
Engineer		
Development Planner		
NFIP Floodplain Administrator		
Mapping Specialist (GIS)		
Public Works Official		
Emergency Management Coordinator	County	
Local Emergency Planning Committee	Yes	
Sanitation Department		
Highway/Transportation Department		
Economic Development Department		
Housing Department		
Historic Preservation		

Element	Yes, No, N/A	Comments and/or Weblink
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	Yes	
Local Environmental Organization		
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding		
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive or Land-Use Plan	
Capital Improvement Plan	
Transportation Plan / Highway Department	
Emergency Operations Plan	
Local Recovery Plan	
Debris Management Plan	
Firewise or other fire mitigation plan	
Economic Development Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)

Mayor
City Council-4 members
Clerk

2. List any other past or ongoing projects or programs designed to reduce disaster losses, these may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Public awareness with first responder agencies,
Recurrent grant work on blight mitigation,
Coordination with outside agencies and conducting training and exercises.

3. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Evacuation and sheltering concerns of a large low-income/elderly population,
Mass notification of vulnerable populations

4. How many outdoor warning sirens are in your community?

None

How are they activated (indicate responsible department/personnel)?
N/A

5. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe.

No

6. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?

No

Please provide address locations:

7. Identify residential, commercial and industrial development in your jurisdiction since last plan update.

8. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

No specific development and growth trends are noted. No new development in 100-year floodplain. No new development in specific hazard area.

9. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

Ongoing ag related development, no location specified.

10. Please list major employers in your jurisdiction with an estimated number of employees.

Commuter/Farm Community

11. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

No previous membership

12. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

Member, no active compliance measures

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the natural hazard column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Natural Hazards	
Flooding (Major & Flash) - RF	Drought - D
Levee Failure - LF	Extreme Temperature - ET
Dam Failure - DF	Severe Thunderstorm (incl. winds, hail, lightning) - ST
Earthquake - EQ	Severe Winter Weather (incl. snow, ice, severe cold) - SWW
Land Subsidence / Sinkholes - LSS	Tornadoes - T
Drought - D	Wildfire - WF

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Area (sq.ft.)	Replacement Value (Insured) (\$)	Contents Value (\$)	Occupancy/ Capacity (#)	Natural Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall						RF, EQ, T, SWW, ST
Daycare 1	Throughout City					RF, EQ, T, SWW, ST
Daycare 2	Throughout City					RF, EQ, T, SWW, ST
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 81						DR, EQ, T

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

HISTORIC HAZARD EVENTS (continued)

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Wayland

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost.

The worksheet should include information on the status of the action and progress made in implementation, if any. This includes:

- For **completed actions** provide a description of the implementation process. This may be a success story you would like to publicize in your community.
- Some of the actions might have been **ongoing** in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.
- If **no progress** has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

#	Action	Status			Description of Implementation Activities or Reasons for Lack of Progress	Keep – ✓ Delete – X Modify – M
		Complete	Ongoing	No Progress		

#2

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, January 20, 2025 10:41:56 AM
Last Modified: Monday, January 20, 2025 11:08:49 AM
Time Spent: 00:26:52
IP Address: 209.152.144.146

Page 1: Introduction

Q1

Preparer Name

Ritchie Kracht

Q2

Preparer Phone Number

660-727-2377

Q3

Preparer Email

rkracht@clarkcounty.k12.mo.us

Q4

Date / Time

01/20/2025

Date of Completion

Page 2: CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS
AND TECHNICAL INFORMATION

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q5

Planning Elements

	Implemented	Date of Latest Version
Master Plan	YES	2022
Capital Improvement Plan	YES	2024
School Emergency Plan	YES	2021
Shelter in Place Protocols	YES	2021
Evacuation Protocols	YES	2021
Weapons Policy	YES	2024

Q6

Administrative/Technical Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your school district / institution. Personnel Resources

	Yes/No	Department/Position
Full-time building official (i.e. Principal)	YES	Administration
Emergency Manager	YES	Administration
Grant Writer	YES	Administration
Public Information Officer	YES	Administration

Q7

Financial Resources Identify whether your school district /institution has access to or is eligible to use the following financial resources for hazard mitigation.

	Yes/No
Capital improvements project funding	YES
Local funds	YES
General obligation bonds	YES
Special tax bonds	NO
Private activities/donations	YES
State and federal funds	YES

Q8

Are your buildings equipped with a public address system or other emergency alert system? Please describe.

Yes. Each classroom has a phone in which the office can make a building wide alert.

Q9

Do your school's buildings have NOAA Weather Radios?

Yes

Q10

Respondent skipped this question

List any past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect facilities or provide education regarding potential hazards.

Q11

Respondent skipped this question

List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.

Q12

Do any of your buildings have designated tornado shelters or “saferooms”? If so, are they constructed in accordance with FEMA standards?

Indian Pride Learning Center has a storm shelter built in 2018 to FEMA standards. The other four attendance building do not have storm shelters.

Q13

Did your school district / institution make any additions to buildings or construct new buildings since the last plan update (2010)? Please list the buildings and the improvement.

Indian Pride Learning Center was built.

Q14

Does your school district / institution plan to remodel or construct any buildings in the next 5 years? If so, please list the building or proposed building and planned improvements. Are any planned construction activities in known hazard areas?

We have no plans at this time.

Q15

What percentage is your projected enrollment expected to increase or decrease in the next five years?

We expect to stay relatively stable at around 1,000 students K-12.

Q16

Do you have your own campus police? Please explain your police department or who you rely on for security needs.

No. We do have an SRO which is on campus daily during school hours. We have an agreement with the county.

Page 3: VULNERABILITY ASSESSMENT

Q17

Respondent skipped this question

Asset Inventory Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter “N/A”. Add as many rows as needed. If you have this data in GIS formats, or other formats, please provide in lieu of this.

Q18

#1 Name of Asset

High School

Q19

#1 Address

680 E. Main St. Kahoka

Q20

#1 Square Feet

58,298

Q21

#1 Replacement Value (Insured)

11,377,437

Q22

#1 Contents Value

2,172,270

Q23

#1 Occupancy/Capacity #

500 school, 2,000 basketball game

Q24

#1 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q25

#2 Name of Asset

Middle School

Q26

#2 Address

384 N. Jefferson St. Kahoka

Q27

#2 Square Feet

43,799

Q28

#2 Replacement Value (Insured)

10,872,693

Q29

#2 Contents Value

1,632,014

Q30

#2 Occupancy/Capacity #

300 school, 800 basketball game

Q31

#2 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q32

#3 Name of Asset

Black Hawk Elementary

Q33

#3 Address

751 W. Chestnut St.

Q34

#3 Square Feet

40,694

Q35

#3 Replacement Value (Insured)

10,135,482

Q36

#3 Contents Value

1,516,319

Q37

#3 Occupancy/Capacity #

450

Q38

#3 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q39

#4 Name of Asset

Running Fox Elementary

Q40

#4 Address

27192 US HWY 61 Alexandria

Q41

#4 Square Feet

19,654

Q42

#4 Replacement Value (Insured)

5,371,173

Q43

#4 Contents Value

732,336

Q44

#4 Occupancy/Capacity #

200

Q45

#4 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q46

#5 Name of Asset

Indian Pride Learning Center

Q47

#5 Address

495 W. Chestnut St. Kahoka

Q48

#5 Square Feet

22,000

Q49

#5 Replacement Value (Insured)

4,935,000

Q50

#5 Contents Value

819,752

Q51

#5 Occupancy/Capacity #

250

Q52

#5 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q53

#6 Name of Asset

Administration Building

Q54

#6 Address

427 W. Chestnut St. Kahoka

Q55

#6 Square Feet

2,000

Q56

#6 Replacement Value (Insured)

253,192

Q57

#6 Contents Value

208,573

Q58

#6 Occupancy/Capacity #

30

Q59

#6 Hazards

SWW, ET, EQ, F, PH, SE, ST, CD, T, CyD, & U

Q60

Respondent skipped this question

#7 Name of Asset

Q61

Respondent skipped this question

#7 Address

Q62

Respondent skipped this question

#7 Square Feet

Q63

Respondent skipped this question

#7 Replacement Value (Insured)

Q64

Respondent skipped this question

#7 Contents Value

Q65

Respondent skipped this question

#7 Occupancy/Capacity #

Q66

Respondent skipped this question

#7 Hazards

Q67

Respondent skipped this question

#8 Name of Asset

Q68

Respondent skipped this question

#8 Address

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q69 Respondent skipped this question

#8 Square Feet

Q70 Respondent skipped this question

#8 Replacement Value (Insured)

Q71 Respondent skipped this question

#8 Contents Value

Q72 Respondent skipped this question

#8 Occupancy/Capacity #

Q73 Respondent skipped this question

#8 Hazards

Q74 Respondent skipped this question

#9 Name of Asset

Q75 Respondent skipped this question

#9 Address

Q76 Respondent skipped this question

#9 Square Feet

Q77 Respondent skipped this question

#9 Replacement Value (Insured)

Q78 Respondent skipped this question

#9 Contents Value

Q79 Respondent skipped this question

#9 Occupancy/Capacity #

Q80 Respondent skipped this question

#9 Hazards

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q81 Respondent skipped this question

#10 Name of Asset

Q82 Respondent skipped this question

#10 Address

Q83 Respondent skipped this question

#10 Square Feet

Q84 Respondent skipped this question

#10 Replacement Value (Insured)

Q85 Respondent skipped this question

#10 Contents Value

Q86 Respondent skipped this question

#10 Occupancy/Capacity #

Q87 Respondent skipped this question

#10 Hazards

Q88 Respondent skipped this question

#11 Name of Asset

Q89 Respondent skipped this question

#11 Address

Q90 Respondent skipped this question

#11 Square Feet

Q91 Respondent skipped this question

#11 Replacement Value (Insured)

Q92 Respondent skipped this question

#11 Contents Value

Q93 Respondent skipped this question

#11 Occupancy/Capacity #

Q94 Respondent skipped this question

#11 Hazards

Q95 Respondent skipped this question

#12 Name of Asset

Q96 Respondent skipped this question

#12 Address

Q97 Respondent skipped this question

#12 Square Feet

Q98 Respondent skipped this question

#12 Replacement Value (Insured)

Q99 Respondent skipped this question

#12 Contents Value

Q100 Respondent skipped this question

#12 Occupancy/Capacity #

Q101 Respondent skipped this question

#12 Hazards

Page 4: VULNERABILITY ASSESSMENT (Continued)

Q102 Respondent skipped this question

Asset Inventory Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter "N/A". Add as many rows as needed. If you have this data in GIS formats, or other formats, please provide in lieu of this.

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q103	Respondent skipped this question
#13 Name of Asset	
Q104	Respondent skipped this question
#13 Address	
Q105	Respondent skipped this question
#13 Square Feet	
Q106	Respondent skipped this question
#13 Replacement Value (Insured)	
Q107	Respondent skipped this question
#13 Contents Value	
Q108	Respondent skipped this question
#13 Occupancy/Capacity #	
Q109	Respondent skipped this question
#13 Hazards	
Q110	Respondent skipped this question
#14 Name of Asset	
Q111	Respondent skipped this question
#14 Address	
Q112	Respondent skipped this question
#14 Square Feet	
Q113	Respondent skipped this question
#14 Replacement Value (Insured)	
Q114	Respondent skipped this question
#14 Contents Value	

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q115 Respondent skipped this question
#14 Occupancy/Capacity #

Q116 Respondent skipped this question
#14 Hazards

Q117 Respondent skipped this question
#15 Name of Asset

Q118 Respondent skipped this question
#15 Address

Q119 Respondent skipped this question
#15 Square Feet

Q120 Respondent skipped this question
#15 Replacement Value (Insured)

Q121 Respondent skipped this question
#15 Contents Value

Q122 Respondent skipped this question
#15 Occupancy/Capacity #

Q123 Respondent skipped this question
#15 Hazards

Q124 Respondent skipped this question
#16 Name of Asset

Q125 Respondent skipped this question
#16 Address

Q126 Respondent skipped this question
#16 Square Feet

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q127 Respondent skipped this question
#16 Replacement Value (Insured)

Q128 Respondent skipped this question
#16 Contents Value

Q129 Respondent skipped this question
#16 Occupancy/Capacity #

Q130 Respondent skipped this question
#16 Hazards

Q131 Respondent skipped this question
#17 Name of Asset

Q132 Respondent skipped this question
#17 Address

Q133 Respondent skipped this question
#17 Square Feet

Q134 Respondent skipped this question
#17 Replacement Value (Insured)

Q135 Respondent skipped this question
#17 Contents Value

Q136 Respondent skipped this question
#17 Occupancy/Capacity #

Q137 Respondent skipped this question
#17 Hazards

Q138 Respondent skipped this question
#18 Name of Asset

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q139 Respondent skipped this question
#18 Address

Q140 Respondent skipped this question
#18 Square Feet

Q141 Respondent skipped this question
#18 Replacement Value (Insured)

Q142 Respondent skipped this question
#18 Contents Value

Q143 Respondent skipped this question
#18 Occupancy/Capacity #

Q144 Respondent skipped this question
#18 Hazards

Q145 Respondent skipped this question
#19 Name of Asset

Q146 Respondent skipped this question
#19 Address

Q147 Respondent skipped this question
#19 Square Feet

Q148 Respondent skipped this question
#19 Replacement Value (Insured)

Q149 Respondent skipped this question
#19 Contents Value

Q150 Respondent skipped this question
#19 Occupancy/Capacity #

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q151

Respondent skipped this question

#19 Hazards

Q152

Respondent skipped this question

#20 Name of Asset

Q153

Respondent skipped this question

#20 Address

Q154

Respondent skipped this question

#20 Square Feet

Q155

Respondent skipped this question

#20 Replacement Value (Insured)

Q156

Respondent skipped this question

#20 Contents Value

Q157

Respondent skipped this question

#20 Occupancy/Capacity #

Q158

Respondent skipped this question

#20 Hazards

Q159

Respondent skipped this question

#21 Name of Asset

Q160

Respondent skipped this question

#21 Address

Q161

Respondent skipped this question

#21 Square Feet

Q162

Respondent skipped this question

#21 Replacement Value (Insured)

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q163 Respondent skipped this question
#21 Contents Value

Q164 Respondent skipped this question
#21 Occupancy/Capacity #

Q165 Respondent skipped this question
#21 Hazards

Q166 Respondent skipped this question
#22 Name of Asset

Q167 Respondent skipped this question
#22 Address

Q168 Respondent skipped this question
#22 Square Feet

Q169 Respondent skipped this question
#22 Replacement Value (Insured)

Q170 Respondent skipped this question
#22 Contents Value

Q171 Respondent skipped this question
#22 Occupancy/Capacity #

Q172 Respondent skipped this question
#22 Hazards

Q173 Respondent skipped this question
#23 Name of Asset

Q174 Respondent skipped this question
#23 Address

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q175 Respondent skipped this question
#23 Square Feet

Q176 Respondent skipped this question
#23 Replacement Value (Insured)

Q177 Respondent skipped this question
#23 Contents Value

Q178 Respondent skipped this question
#23 Occupancy/Capacity #

Q179 Respondent skipped this question
#23 Hazards

Q180 Respondent skipped this question
#24 Name of Asset

Q181 Respondent skipped this question
#24 Address

Q182 Respondent skipped this question
#24 Square Feet

Q183 Respondent skipped this question
#24 Replacement Value (Insured)

Q184 Respondent skipped this question
#24 Contents Value

Q185 Respondent skipped this question
#24 Occupancy/Capacity #

Q186 Respondent skipped this question
#24 Hazards

Page 5: HISTORIC HAZARD EVENTS

Q187

School District/Institution

Clark County R-1

Q188

Type of event

Wind

Q189

Nature and magnitude of event

Damage to buildings and track equipment

Q190

Location

High School

Q191

Date of event

July 2023

Q192

Injuries

no

Q193

Deaths

no

Q194

Property Damage

Damage to building and track equipment

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q195

Respondent skipped this question

Infrastructure Damage

Q196

Respondent skipped this question

Crop Damage

Q197

Respondent skipped this question

Business/Economic Impacts

Q198

Respondent skipped this question

Road/School/Other Closures

Q199

Respondent skipped this question

Other Damage

Q200

Insured Losses

15,000

Q201

Federal/State Disaster Relief Funding

no

Q202

Opinion On Likelihood Of Occurring Again

high

Q203

Source Of Information

first hand knowledge

Q204

Respondent skipped this question

Comments

Q205

Type of event

frozen pipes

Q206

Nature and magnitude of event

frozen pipes

Q207

Location

Black Hawk Elementary

Q208

Date of event

December 2022

Q209

Injuries

no

Q210

Deaths

no

Q211

Property Damage

yes

Q212

Infrastructure Damage

yes

Q213

Crop Damage

no

Q214

Business/Economic Impacts

no

Q215

Road/School/Other Closures

no

Q216

Other Damage

no

Q217

Insured Losses

15,000

Q218

Federal/State Disaster Relief Funding

no

Q219

Opinion On Likelihood Of Occurring Again

medium

Q220

Source Of Information

first hand knowledge

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Clark
County Multi-Jurisdictional Hazard Mitigation Plan

Q221	Respondent skipped this question
Comments	
Q222	Respondent skipped this question
Type of event	
Q223	Respondent skipped this question
Nature and magnitude of event	
Q224	Respondent skipped this question
Location	
Q225	Respondent skipped this question
Date of event	
Q226	Respondent skipped this question
Injuries	
Q227	Respondent skipped this question
Deaths	
Q228	Respondent skipped this question
Property Damage	
Q229	Respondent skipped this question
Infrastructure Damage	
Q230	Respondent skipped this question
Crop Damage	
Q231	Respondent skipped this question
Business/Economic Impacts	
Q232	Respondent skipped this question
Road/School/Other Closures	

Q233 Respondent skipped this question
Other Damage

Q234 Respondent skipped this question
Insured Losses

Q235 Respondent skipped this question
Federal/State Disaster Relief Funding

Q236 Respondent skipped this question
Opinion On Likelihood Of Occurring Again

Q237 Respondent skipped this question
Source Of Information

Q238 Respondent skipped this question
Comments

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.1

Name of Action or Project: NFIP Participation

Mitigation Category: Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 3

T: Is it **Technically** feasible and potentially successful? 3

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 3

L: Is there **Legal** authority to implement? 3

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 3

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 20

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.2

Name of Action or Project: Flood Mitigation

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 2

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 10

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by (Name, Title, Phone Number) Batina Dodge, Economic Development Planner (660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.3

Name of Action or Project: Install/Upgrade Warning Sirens

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 2

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 2

STAPLEE SCORE 16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Clark County	
Action or Project		
Action/Project Number:	Clark County 2025.4	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.5

Name of Action or Project: Safe Rooms and Storm Shelters

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.6

Name of Action or Project: Generators

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 15

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
 (Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Clark County	
Action or Project		
Action/Project Number:	Clark County 2025.7	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Clark County	
Action or Project		
Action/Project Number:	Clark County 2025.8	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Clark County

Action or Project

Action/Project Number: Clark County 2025.9

Name of Action or Project: Subsidence Vulnerability Assessment

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
 (Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Kahoka

Action or Project

Action/Project Number: City of Kahoka 2025.1

Name of Action or Project: Generator for Shelter(s), Emergency Services

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Kahoka	
Action or Project		
Action/Project Number:	City of Kahoka 2025.2	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Kahoka

Action or Project

Action/Project Number: City of Kahoka 2025.3

Name of Action or Project: Installation/Upgrade Sirens

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 2

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 2

STAPLEE SCORE 16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Kahoka	
Action or Project		
Action/Project Number:	City of Kahoka 2025.4	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Kahoka	
Action or Project		
Action/Project Number:	City of Kahoka 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Kahoka	
Action or Project		
Action/Project Number:	City of Kahoka 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wayland	
Action or Project		
Action/Project Number:	City of Wayland 2025.1	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wayland	
Action or Project		
Action/Project Number:	City of Wayland 2025.2	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wayland	
Action or Project		
Action/Project Number:	City of Wayland 2025.3	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wayland	
Action or Project		
Action/Project Number:	City of Wayland 2025.4	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wayland	
Action or Project		
Action/Project Number:	City of Wayland 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction:	City of Wayland
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Action or Project

Action/Project Number:	City of Wayland 2025.6
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Name of Action or Project:	Seismic Vulnerability Assessment
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Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
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STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it Socially Acceptable	2
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T: Is it Technically feasible and potentially successful?	2
---	---

A: Does the jurisdiction have the Administrative capacity to execute this action?	1
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P: Is it Politically acceptable?	2
--	---

L: Is there Legal authority to implement?	2
---	---

E: Is it Economically beneficial?	1
---	---

E: Will the project have either a neutral or positive impact on the natural Environment ?	2
---	---

Will historic structures be saved or protected?	2
---	---

Could it be implemented quickly?	0
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STAPLEE SCORE	14
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Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
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Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
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MITIGATION EFFECTIVENESS SCORE	10
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TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	24
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<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by (Name, Title, Phone Number)	Batina Dodge, Economic Development Planner (660) 465-7281 ext 7
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STAPLEE Worksheet		
Name of Jurisdiction:	City of Wyaconda	
Action or Project		
Action/Project Number:	City of Wyaconda 2025.1	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wyaconda	
Action or Project		
Action/Project Number:	City of Wyaconda 2025.2	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction:	City of Wyaconda
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Action or Project

Action/Project Number:	City of Wyaconda 2025.3
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Name of Action or Project:	Safe Rooms and Storm Shelters
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Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
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STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it Socially Acceptable	2
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T: Is it Technically feasible and potentially successful?	2
---	---

A: Does the jurisdiction have the Administrative capacity to execute this action?	1
---	---

P: Is it Politically acceptable?	2
--	---

L: Is there Legal authority to implement?	2
---	---

E: Is it Economically beneficial?	2
---	---

E: Will the project have either a neutral or positive impact on the natural Environment ?	2
---	---

Will historic structures be saved or protected?	0
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Could it be implemented quickly?	1
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STAPLEE SCORE	14
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Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
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Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
--	--	---

MITIGATION EFFECTIVENESS SCORE	15
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TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	31
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<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by (Name, Title, Phone Number)	Batina Dodge, Economic Development Planner (660) 465-7281 ext 7
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STAPLEE Worksheet		
Name of Jurisdiction:	City of Wyaconda	
Action or Project		
Action/Project Number:	City of Wyaconda 2025.4	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wyaconda	
Action or Project		
Action/Project Number:	City of Wyaconda 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Wyaconda	
Action or Project		
Action/Project Number:	City of Wyaconda 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.1	
Name of Action or Project:	Levee Doors	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.2	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Alexandria

Action or Project

Action/Project Number: City of Alexandria 2025.4

Name of Action or Project: Safe Rooms and Storm Shelters

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.5	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.6	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Alexandria	
Action or Project		
Action/Project Number:	City of Alexandria 2025.7	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Luray	
Action or Project		
Action/Project Number:	Village of Luray 2025.1	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Luray	
Action or Project		
Action/Project Number:	Village of Luray 2025.2	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Luray	
Action or Project		
Action/Project Number:	Village of Luray 2025.3	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Luray	
Action or Project		
Action/Project Number:	Village of Luray 2025.4	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction:	Village of Luray
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Action or Project

Action/Project Number:	Village of Luray 2025.5
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Name of Action or Project:	Vulnerable Citizen Awareness
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Mitigation Category:	Education and Outreach
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STAPLEE Criteria	Score
Evaluation Rating	
Definitely YES = 3 Maybe YES = 2	
Probably NO = 1 Definitely NO = 0	

S: Is it Socially Acceptable	2
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T: Is it Technically feasible and potentially successful?	2
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A: Does the jurisdiction have the Administrative capacity to execute this action?	1
---	---

P: Is it Politically acceptable?	2
--	---

L: Is there Legal authority to implement?	2
---	---

E: Is it Economically beneficial?	1
---	---

E: Will the project have either a neutral or positive impact on the natural Environment ?	2
---	---

Will historic structures be saved or protected?	2
---	---

Could it be implemented quickly?	0
----------------------------------	---

STAPLEE SCORE	14
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Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
--	---	---

Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
--	--	---

MITIGATION EFFECTIVENESS SCORE	10
---------------------------------------	----

TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	24
---	----

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction:	Village of Luray
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Action or Project

Action/Project Number:	Village of Luray 2025.6
-------------------------------	-------------------------

Name of Action or Project:	Seismic Vulnerability Assessment
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Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
-----------------------------	---

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it Socially Acceptable	2
--	---

T: Is it Technically feasible and potentially successful?	2
---	---

A: Does the jurisdiction have the Administrative capacity to execute this action?	1
---	---

P: Is it Politically acceptable?	2
--	---

L: Is there Legal authority to implement?	2
---	---

E: Is it Economically beneficial?	1
---	---

E: Will the project have either a neutral or positive impact on the natural Environment ?	2
---	---

Will historic structures be saved or protected?	2
---	---

Could it be implemented quickly?	0
----------------------------------	---

STAPLEE SCORE	14
----------------------	----

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
--	---	---

Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
--	--	---

MITIGATION EFFECTIVENESS SCORE	10
---------------------------------------	----

TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	24
---	----

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Revere

Action or Project

Action/Project Number: City of Revere 2025.1

Name of Action or Project: Installation/Upgrade Sirens

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 2

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 2

STAPLEE SCORE 16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved? 10
Assign from 5-10 points based on the likelihood that lives will be saved.

Will the implemented action result in a reduction of disaster damages? 5
Assign from 5-10 points based on the relative reduction of disaster damages.

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Revere	
Action or Project		
Action/Project Number:	City of Revere 2025.2	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Revere	
Action or Project		
Action/Project Number:	City of Revere 2025.3	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Revere	
Action or Project		
Action/Project Number:	City of Revere 2025.4	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Revere	
Action or Project		
Action/Project Number:	City of Revere 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Revere	
Action or Project		
Action/Project Number:	City of Revere 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction:	Clark County R-1
------------------------------	------------------

Action or Project

Action/Project Number:	Clark County R-1 2025.1
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Name of Action or Project:	Safe Rooms
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Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
-----------------------------	---

STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	Score
--	-------

S: Is it Socially Acceptable	2
--	---

T: Is it Technically feasible and potentially successful?	2
---	---

A: Does the jurisdiction have the Administrative capacity to execute this action?	1
---	---

P: Is it Politically acceptable?	2
--	---

L: Is there Legal authority to implement?	2
---	---

E: Is it Economically beneficial?	2
---	---

E: Will the project have either a neutral or positive impact on the natural Environment ?	2
---	---

Will historic structures be saved or protected?	0
---	---

Could it be implemented quickly?	1
----------------------------------	---

STAPLEE SCORE	14
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Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
--	---	----

Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
--	--	---

MITIGATION EFFECTIVENESS SCORE	15
---------------------------------------	----

TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	31
---	----

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Clark County R-1	
Action or Project		
Action/Project Number:	Clark County R-1 2025.2	
Name of Action or Project:	Intercom System	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Clark County R-1	
Action or Project		
Action/Project Number:	Clark County R-1 2025.3	
Name of Action or Project:	Natural Hazard Education	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		1
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

Clark County Multi-Jurisdictional Hazard Mitigation Plan

Contact Information

Clark County Commission

111 E. Court Street, Ste 110

Kahoka, MO 63445-1268

(660) 727-8241

presidingcommissioner@clarkcountymo.org

City of Wayland:

Kathy Alvis, City Clerk

Waylan01@centurytel.net

660-754-6132

City of Wyaconda

Laura Hines, City Clerk

Cityofwyaconda13@yahoo.com

660-479-5611

City of Alexandria

Colten Protsman, Mayor

coltenprotsman@gmail.com

319-795-9005

Village of Luray

Elizabeth Summers, Clerk

cityofluray@gmail.com

660-216-8934

City of Revere

Josh Taylor, Mayor

Jtaylor9117@gmail.com

319-795-3082

City of Kahoka

Sandie Hopp, City Clerk
cityofkahoka@kahoka.com
660-727-3711

Clark County R-1 School District

Dr. Ritchie Kracht, Superintendent
427 W. Chestnut St.
Kahoka, MO 63445
rkracht@clarkcounty.k12.mo.us
660-727-2377

Alexandria Fire Department/Clark County LEPC

James Steele, Chief
(319) 795-5198

MoDOT

1711 Highway 61 S
Hannibal, MO 63401
(573) 248-2490

MO DNR

1709 Prospect Dr
Macon, MO 63552
(660) 385-8000

Clark County Water District

114 West Ct
Kahoka, MO 63445
(573) 853-4343

Clark County Ambulance District

211 N Vine St
Kahoka, MO 63445
(660) 727-3612

Clark County Nursing Home

1260 N Johnson St
Kahoka, MO 63445
(660) 727-3303



PUBLIC SURVEY: Clark County Multi-Jurisdictional Hazard Mitigation Plan

Introduction

The federal government requires all states and local governments to have hazard mitigation plans approved by FEMA that are consistent with the Disaster Mitigation Act of 2000. Approved mitigation plans are required to maintain eligibility for certain types of federal Hazard Mitigation Assistance Grants. A planning committee comprised of representatives from Clark County, the incorporated cities, and the public school districts is currently developing an update to the comprehensive Clark County Multi-jurisdictional Hazard Mitigation Plan with a strategy to reduce the vulnerability of people and property in the planning area to the impacts of hazards and to remain eligible for mitigation funding programs from FEMA.

One of the key components of a hazard mitigation plan is public input during the planning process. The planning committee will be evaluating information on the hazards that impact each jurisdiction within Clark County. The committee is seeking your input on the hazards that will be evaluated as well as your opinions on the types of activities that should be considered to reduce future impacts. Your comments will be considered by your community's representatives on the planning committee as the plan is developed. Please take a few moments to answer the following questions. Thank you for your participation.

For more information contact Derek Weber, Executive Director, NEMO Regional Planning Commission, at (660) 465-7281 Ext 1 or derekweber@nemorpc.org.

1. Please select your jurisdiction from the list. You may only select one jurisdiction for each survey completed. If you belong to more than one jurisdiction in this list, please complete multiple surveys.

2. The hazards addressed in the Multi-jurisdictional Hazard Mitigation Plan Update are listed below. Please indicate your opinion on the *likelihood* for each hazard to impact YOUR JURISDICTION (identified above). **Please rate EACH hazard 1 through 4 as follows:**

1=Unlikely, 2=Occasional, 3=Likely, 4=Highly Likely

	1	2	3	4
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flooding (Flash and River)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence/Sinkholes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tornado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Weather/Snow/Ice/Severe Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Levee Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thunderstorm/High Winds/Lightning/Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please indicate your opinion on the ***potential magnitude*** of each hazard's impact on YOUR JURISDICTION (identified above). **Please rate EACH hazard 1 through 4 as follows:**

1=Negligible, 2=Limited, 3=Critical, 4=Catastrophic

	1	2	3	4
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flooding (Flash and River)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence/Sinkholes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tornado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Weather/Snow/Ice/Severe Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Levee Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thunderstorm/High Winds/Lightning/Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. FEMA Hazard Mitigation Assistance Grants are administered by the State Emergency Management Agency. Listed below are some types of projects considered.

Please check all those that could benefit your jurisdiction, in your opinion:

Flood-prone Property Acquisition & Structure Demolition /Relocation

Flood-Prone Structure Elevation

- Dry Floodproofing of Historical Residential Structures and/or Non-residential Structures
- Minor Localized Flood Reduction Projects (storm water management or localized flood control projects)
- Structural Retrofitting of Existing Buildings to Add a Tornado Safe Room
- Retrofitting of Existing Buildings, and Facilities from Wind Damage
- New Tornado Safe Room Construction
- Electrical Utilities Infrastructure Retrofit
- Soil Erosion Stabilization
- Wildfire Mitigation
- Other (please specify):

5. Please comment on any other issues that the Clark County Hazard Mitigation Planning Committee should consider in developing a strategy to reduce future losses caused by hazard events.

Done

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CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN PUBLIC COMMENT

NORTHEAST MISSOURI REGIONAL PLANNING COMMISSION IS SEEKING PUBLIC INPUT ON THE CLARK COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE THROUGH THE LINK BELOW. PUBLIC COMMENT WILL BE OPEN FROM 12:00 PM SEPTEMBER 10TH TO 4:30 PM OCTOBER 10TH, 2024. YOU CAN CLICK THE LINK BELOW TO FILL OUT THE SURVEY MONKEY FOR OR SUBMIT ADDITIONAL PUBLIC COMMENT THROUGH THE TEXT BOXES.

[CLICK HERE FOR LINK TO CLARK COUNTY HMP UPDATE SURVEY MONKEY](#)

SEND