

CONTRIBUTORS

Wayne County Hazard Mitigation Planning Committee

Jurisdictional Representatives

Name	Title	Department	Jurisdiction/Agency /Organization
Sharon Eudaley	Citizen	City of Williamsville, MO	Local Government
Leeanna Quick	City Clerk	City of Greenville, MO	Local Government
Steve Foster	Western District	Wayne County, MO	County Government
Brian Polk	Presiding	Wayne County, MO	County Government
Doug Wood	Eastern District	Wayne County, MO	County Government
Rhonda Crum	County Clerk	Wayne County, MO	County Government
Tammy Thurman	City Clerk	City of Piedmont, MO	Local Government
Angela Clyburn	Chairman of the Board	Village of Mill Spring, MO	Local Government
Rick Clubb	Superintendent	Greenville R-II Schools	Public Education
Archie Derboven	Superintendent	Clearwater R-I Schools	Public Education

Stakeholder Representatives

Name	Title	Department	Agency/Organization
Waylon Freeze	Director	Emergency Management	Wayne County
Alan Lutes	Director	N/A	Ozark Foothills Regional Planning Commission
Courtney Zimmerman	Mitigation Planner	Mitigation Management	MO Department of Public Safety, State
Brian Polk	Floodplain Manager	N/A	Wayne County
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John Singleton	Director	N/A	Black River Electric Cooperative
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Stephanie Arbison	President	N/A	Piedmont Chamber of Commerce
Jacob Wornson	Floodplain Mapping	State Emergency	MO Department of Public Safety
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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. Wayne County and participating jurisdictions and school/special districts developed this multi-jurisdictional local hazard mitigation plan update to reduce future losses from hazard events in the planning area. The plan is an update of a plan that was approved on August 22, 2019. 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 *Wayne County Hazard Mitigation Plan* is a multi-jurisdictional plan that covers the following jurisdictions participating in the planning process:

- Unincorporated Wayne County
- City of Greenville
- City of Piedmont
- City of Williamsville
- Village of Mill Spring
- Clearwater R-I School District
- Greenville R-II School District

The Village of Mill Spring was invited to participate in the planning process but did not meet all of the established requirements for official participation. When the future five-year update is developed for this plan, the village will again be invited to participate.

Wayne County and the entities listed above developed a Multi-Jurisdictional Hazard Mitigation Plan that was approved by FEMA on August 22, 2019 (hereafter referred to as the *2019 Hazard Mitigation Plan*). This current planning effort serves to update that previously approved plan.

The plan update process followed a methodology in accordance with FEMA guidance, which began with the formation of a Mitigation Planning Committee (MPC) comprised of representatives from Wayne County and its participating jurisdictions. The MPC updated the risk assessment that identified and profiled hazards that pose a risk to Wayne County and analyzed jurisdictional vulnerability to these hazards. The MPC also examined the capabilities in place to mitigate hazard damage, 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. Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
2. Implement mitigation actions that improve the continuity of government and essential services from the adverse effects of disasters.
3. Implement mitigation actions that improve the protection of public and private property from the adverse effects of disasters.

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 summarized within Mitigation Action Worksheets provided in Chapter 4.

Table 1.1 Mitigation Action Matrix

#	Action Name	Jurisdiction	Priority	Goal Addressed	Hazard Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
	Prevention							
Williamsville 5	Conservation of Water	City of Williamsville	M	#1	Drought	X		
Clearwater R-I 8	Transportation Route Clearance Capabilities	Clearwater R-I School District		#1	Severe Winter Weather			
Greenville R-II 6	Excessive Heat Exposure	Greenville R-II School District	M	#1	Extreme Heat & Cold			
Greenville R-II 8	Severe Winter Weather School Cancelations	Greenville R-II School District	M	#1	Severe Winter Weather			
Greenville R-II 9	Tornado Drills	Greenville R-II School District	H	#1	Tornado			
Piedmont 11	Plan Integration	City of Piedmont	L	#2	All	X	X	
Greenville R-II 1	Flood Routes	Greenville R-II School District	M	#2	Flood			
Greenville R-II 7	Lightning Protection	Greenville R-II School District	L	#2	Severe Thunderstorm	X	X	
Greenville R-II 11	Plan Integration	Greenville R-II School District	L	#2	All	X	X	
Wayne 1	Floodplain Ordinance Execution	Wayne County	H	#3	Flood			X
Wayne 4	Mapping of Sinkholes	Wayne County	M	#3	Sinkholes	X	X	
Wayne 5	Drought Emergency Plan	Wayne County	M	#3	Drought			
Greenville 1	Floodplain Ordinance Enforcement	City of Greenville	H	#3	Flood			X
Greenville 4	Mapping of Sinkholes	City of Greenville	M	#3	Sinkholes	X	X	
Piedmont 1	Floodplain Ordinance Enforcement	City of Piedmont	H	#3	Flood	X	X	X
Piedmont 4	Mapping of Sinkholes	City of Piedmont	M	#3	Sinkholes	X	X	
Piedmont 5	Water Restrictions During Drought	City of Piedmont	M	#3	Drought			
Piedmont 10	Firewise Piedmont	City of Piedmont	M	#3	Wildfire	X	X	
Piedmont 13	Burn Bans	City of Piedmont	H	#3	Wildfire			
Williamsville 1	Enforce Floodplain Ordinance	City of Piedmont	H	#3	Flood			X

Williamsville 4	Mapping Potential Sinkhole Locations	City of Piedmont	L	#3	Sinkhole	X	X	
Williamsville 10	Burn Bans	City of Piedmont	H	#3	Wildfire			
Clearwater R-I 10	Wildfire Defense & Maintenance	Clearwater R-I School District	M	#3	Wildfire	X		
Mill Spring 1	Enforce Floodplain Ordinance	Village of Mill Spring	H	#3	Flood			X
Mill Spring 4	Sinkhole Mapping	Village of Mill Spring	M	#3	Sinkholes	X	X	
Mill Spring 7	Storm Spotter Network	Village of Mill Spring	M	#1	Severe Thunderstorms			
Mill Spring 10	Firewise Status	Village of Mill Spring	M	#3	Wildfire	X	X	
	Structure and Infrastructure Projects							
Clearwater R-I 9	Construct Saferoom	Clearwater R-I School District		#1	Tornado		X	
Wayne 11	Low Water Crossing Replacements	Wayne County	L	#2	Flood	X		
Wayne 12	Generator Installation	Wayne County	M	#2	Severe Winter Weather	X		
Wayne 13	Bridge/Roadway Work Prioritization	Wayne County	M	#2	Earthquake	X		
Greenville 3	Earthquake Communications Plan	City of Greenville	M	#2	Earthquake			
Piedmont 12	Low Water Crossing Replacements	City of Piedmont	M	#2	Flood	X		
Williamsville 2	Low Water Crossing Work	City of Williamsville	H	#2	Dam Failure	X		
Williamsville 7	Storm Protection	City of Williamsville	M	#2	Severe Thunderstorm	X	X	
Williamsville 8	Winterization of Critical Facilities	City of Williamsville	H	#2	Severe Winter Weather	X		
Greenville R-II 2	Dam Failure Action	Greenville R-II School District	L	#2	Dam Failure			
Clearwater R-I 1	Flood Prevention	Clearwater R-I School District	H	#3	Flood	X		
	Natural Systems Protection							
Greenville 2	Dam Failure Effect on Water Table	City of Greenville	M	#1	Dam Failure			
Clearwater R-I 5	Drought Tolerant Landscape Design	Clearwater R-I School District		#3	Drought			
Mill Spring 9	Outdoor Notification Siren	Village of Mill Spring	H	#1	Tornado			
	Emergency Services							
Wayne 2	Dam Failure Communications Plan	Wayne County	M	#1	Dam Failure			

Wayne 7	Storm Spotter Network	Wayne County	M	#1	Severe Thunderstorms			
Wayne 8	Assisting Vulnerable Populations with Heat Restoration	Wayne County	M	#1	Severe Winter Weather			
Greenville 8	Assisting Vulnerable Populations with Heat Restoration	City of Greenville	M	#1	Severe Winter Weather			
Piedmont 2	Dam Failure Communications Plan	City of Piedmont	M	#1	Dam Failure			
Piedmont 3	Earthquake Communications Plan	City of Piedmont	M	#1	Earthquake			
Piedmont 7	Storm Spotter Network	City of Piedmont	M	#1	Severe Thunderstorm			
Piedmont 8	Assisting Vulnerable Populations with Heat Restoration	City of Piedmont	M	#1	Severe Winter Weather			
Wayne 3	Earthquake Communications Plan	Wayne County	M	#2	Earthquake			
Greenville 7	Storm Spotter Network	City of Greenville	M	#3	Severe Thunderstorm			
Mill Spring 2	Clearwater Lake Dam Failure Study	Village of Mill Spring	M	#1	Dam Failure			
Mill Spring 3	Earthquake Communications Plan	Village of Mill Spring	M	#2	Earthquake			
Mill Spring 8	Assisting Vulnerable Populations with Heat Restoration	Village of Mill Spring	M	#1	Severe Winter Weather			
Education and Outreach								
Wayne 6	Education Regarding Dangers Associated with Extreme Heat & Cold	Wayne County	M	#1	Extreme Temperatures			
Wayne 9	Tornado Shelter Public Information	Wayne County	H	#1	Tornado			
Greenville 6	Education Regarding Dangers Associated with Extreme Heat & Cold	City of Greenville	M	#1	Extreme Temperatures			
Greenville 9	Tornado Shelter Public Information	City of Greenville	H	#1	Tornado			
Piedmont 6	Extreme Temperature Education	City of Piedmont	M	#1	Extreme Temperatures			
Piedmont 9	Tornado Shelter Public Information	City of Piedmont	H	#1	Tornado			
Williamsville 5	Conservation of Water	City of Williamsville	M	#1	Drought			
Williamsville 6	Extreme Heat Education	City of Williamsville	M	#1	Extreme Temperatures			
Williamsville 9	Tornado Awareness	City of Williamsville	H	#1	Tornado			
Clearwater R-I 2	Dam Failure Education	Clearwater R-I School District		#1	Dam Failure			
Clearwater R-I 3	Earthquake Awareness & Drills	Clearwater R-I School District		#1	Earthquake			
Clearwater R-I 4	Sinkhole Safety Information	Clearwater R-I School District		#1	Sinkholes			

Clearwater R-I 6	Extreme Heat Education	Clearwater R-I School District		#1	Extreme Heat			
Clearwater R-I 7	Severe Weather Awareness & Drills	Clearwater R-I School District		#1	Severe Thunderstorms			
Greenville R-II 3	Earthquake Education	Greenville R-II School District	M	#1	Earthquake			
Greenville R-II 4	Sinkhole Education	Greenville R-II School District	M	#1	Sinkholes			
Greenville R-II 10	Wildfire Education	Greenville R-II School District	L	#1	Wildfire			
Greenville R-II 5	Drought Education	Greenville R-II School District	L	#2	Drought			
Wayne 10	Firewise Wayne County	Wayne County	M	#3	Wildfire			
Greenville 5	Drought Communications Preparations	City of Greenville	M	#3	Drought			
Greenville 10	Firewise Wayne County	City of Greenville	M	#3	Wildfire			
Mill Spring 5	Drought Education Program	Village of Mill Spring	M	#2	Drought			
Mill Spring 6	Extreme Temperature Danger Education	Village of Mill Spring	M	#1	Extreme Temperatures			

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 F, 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.

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 the (local governing body/school district); and

WHEREAS the (local governing body/school district) has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the (plan name), hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the *Plan* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the (local governing body/school district) from the impacts of future hazards and disasters; and

WHEREAS the (local governing body) recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the (local governing body/school district) will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the (local governing body/school district) demonstrates their 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:

In accordance with (local rule for adopting resolutions), the (local governing body/school district) adopts the final FEMA-approved *Plan*.

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

By (Sig): _____

Print name: _____

ATTEST:

By (Sig.): _____

Print name: _____

1 INTRODUCTION AND PLANNING PROCESS

1	INTRODUCTION AND PLANNING PROCESS	1.1
1.1	Purpose.....	1.1
1.2	Background and Scope.....	1.2
1.3	Plan Organization.....	1.3
1.4	Planning Process	1.4
1.4.1	Multi-Jurisdictional Participation.....	1.6
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1.1 PURPOSE

Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of natural disasters. For hazard mitigation to be effective, mitigation actions must be taken prior to disaster, thereby reducing negative impacts to people and property. The purpose of this plan is for the jurisdictions and special districts of Wayne County to proactively identify their extent of exposure to natural hazards as well as attainable goals and specific actions designed to minimize harm to people and property following a disaster. Furthermore, the exercise of mitigation planning results in a document—such as the current document—which outlines strategies for the implementation of prioritized mitigation actions.

The Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288), which was later amended by *The Disaster Mitigation Act of 2000* (Public Law 106-390), and implementation 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 establish the requirements for local hazard mitigation plans. (Hereafter, the amended law and implementing regulations will be referred to collectively as the Disaster Mitigation Act or DMA). The DMA sets forth the requirement for jurisdictions and special districts to adopt a hazard mitigation plan to be eligible to receive federal hazard mitigation grant funding. On October 1, 2002, FEMA published a change to the Interim Final Rule at 67 FR 61512, extending the effective date for state and local hazard mitigation plan adoption requirements to November 1, 2004. Since this date, participation within and adoption of a FEMA-approved hazard mitigation plan has been required for state, municipalities, and special districts to receive non-emergency Stafford Act assistance including hazard mitigation grant funding.

Prior to 2002, the Missouri State Emergency Management Agency (SEMA) was able to assist Missouri communities located within federally-declared disaster areas with federal mitigation grant funding provided by the Federal Emergency Management Agency (FEMA). Today, while communities like these remain eligible for federal disaster public assistance and individual assistance, they are no longer eligible for mitigation assistance unless they have participated within the development of and adopted a FEMA-approved hazard mitigation plan. For nearly 1,000 municipalities and 114 counties in Missouri, mitigation plans are required. All Missouri jurisdictions that participate in the development of the hazard mitigation plan and adopt the completed plan are eligible to receive federal mitigation grant funding. Any jurisdictions that do not participate in the development or adoption of the plan are ineligible for such mitigation funding.

To assist jurisdictions and special districts in creating or updating their hazard mitigation plan,

FEMA has created guidance documents. These documents, specifically FEMA’s *Local Mitigation Planning Handbook, May 2023* and FEMA’s *Local Mitigation Plan Review Guide, October 1, 2011*, were consulted by Wayne County and its participating jurisdictions during the update of its *2019 Wayne County Hazard Mitigation Plan*.

The Community Rating System (CRS) is a voluntary program for which communities participating within the National Flood Insurance Program (NFIP) are eligible. The CRS provides a range of flood insurance premium reductions (0% to 45%) for certain properties located within participating communities. In this way, the program encourages communities to implement floodplain management practices beyond those required by the NFIP. Buildings located within certain flood zones of a CRS-participating community are eligible for flood insurance premium discounts depending upon the community CRS-assigned “class.” The community’s class may range from “10” to “0” with a class of “0” providing the most flood mitigation benefit. The table below shows the CRS classes and associated insurance premium discounts. A description of the types of properties eligible for flood insurance premium discounts can be found within Table 1.1 below, which was taken from the FEMA CRS community listing document. Unfortunately, as of the update of this plan, neither Wayne County, nor its four municipalities participated within the CRS.

Table 1.1. CRS Classes and Insurance Premium Discounts

<u>CLASS</u>	<u>DISCOUNT</u>	<u>CLASS</u>	<u>DISCOUNT</u>
1	45%	6	20%
2	40%	7	15%
3	35%	8	10%
4	30%	9	5%
5	25%	10	0%

Source: Community Rating System, FEMA, https://www.fema.gov/media-library-data/1476294162726-4795edc7fe5cde0c997bc4389d1265bd/CRS_List_of_Communities_10_01_2017.pdf

1.2 BACKGROUND AND SCOPE

This plan is an update of the current *Wayne County Hazard Mitigation Plan* that was approved during August 2019. FEMA approved hazard mitigation plans are required to be updated every five years to remain compliant and valid, and to ensure the plan is addressing current trends and needs of the participating jurisdictions.

The *Wayne County Hazard Mitigation Plan*, approved in 2019 and this update were prepared by the Ozark Foothills Regional Planning Commission (OFRPC). The OFRPC, a member of the Missouri Association of Councils of Government (MACOG) was created in 1967. The commission serves the five-county region that includes Butler, Carter, Wayne, Reynolds, and Ripley Counties, as well as all municipalities within those five counties.

In the *2019 Wayne County Hazard Mitigation Plan*, the following jurisdictions participated within and adopted the plan:

- Wayne County
- City of Greenville

- City of Piedmont
- City of Williamsville
- Village of Mill Spring
- Clearwater R-I School District
- Greenville R-II School District.

Those entities with representatives fully participating in the current plan update included the following:

- Wayne County
- City of Greenville
- City of Piedmont
- City of Williamsville
- Clearwater R-I School District
- Greenville R-II School District.

All of the municipalities listed above are fully located within Wayne County. Headquarters of both the Clearwater R-I School District and the Greenville R-II School District are located within the county but have small portions of service area located within neighboring counties. Both districts participated within the plan update process. The East Carter R-II School District attended at least one planning meeting. None of the other three school districts serving county residents—the Puxico R-VIII School District, the South Iron County R-1 School District, and the Woodland R-IV School District—though invited, chose to participate in the Wayne County plan update process. Regarding entities with assets and service areas located within multiple counties, only those assets located within Wayne County are considered part of this plan.

Information in this plan should be used as a guide for the coordination of mitigation activities and decisions regarding local land use planning in the future. The actions included in this plan are not final solutions but should be thought of as ongoing efforts that will have long-term strategic impact when implemented.

1.3 PLAN ORGANIZATION

This plan updated is organized into five chapters and an assembly of appendices. Following is a list of the chapters and their respective title:

- 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 (A-E)

There were no document format changes made from the previously approved (2019) plan, though updated outlines as provided by SEMA were utilized for each section. Some of the types of content updates are noted within the below table.

Table 1.2. 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	Updated statistics and census data were incorporated as available.
Chapter 3 - Risk Assessment	Extreme heat and extreme cold were combined into one hazard: Extreme Temperatures
Chapter 4 - Mitigation Strategy	A hazard-specific mitigation action was identified by each jurisdiction per FEMA requirements.
Chapter 5 - Plan Implementation and Maintenance	Assigned specific dates for MPC meetings during which the plan would be evaluated and updated.

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.

The county’s regional planning commission—the Ozark Foothills Regional Planning Commission (RPC)—was contracted by Wayne County to facilitate update of the county’s 2019 hazard mitigation plan. In this role the RPC conducted the following actions:

- assisted in establishing a Mitigation Planning Committee (MPC) as defined by the Disaster Mitigation Act;
- determined if the MPC established for the previously approved (2019) plan was a standing committee that met in the interim and documented changes in the MPC membership and procedures since adoption of the previous plan;
- assessed adherence to the plan maintenance process set forth in the previously approved plan;
- ensured 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);
- facilitated the entire plan development process;
- identified data that MPC participants could provide and conducted research to augment

- that data;
- assisted in soliciting public input;
- produced the draft and final plan update in a FEMA-approvable document; and,
- coordinated the Missouri State Emergency Management Agency (SEMA) and (FEMA) plan reviews.

Adherence to the plan maintenance process established in 2019 did not occur due to a change in directorship of the Wayne County Emergency Management Department and lack of funding for a process facilitator. All of the participating jurisdictions listed within the table actively and directly participated within the plan update process. The governing bodies of all participating jurisdictions, but the Village of Mill Spring, formally adopted the updated planning document. **Table 1.3** lists the MPC members and the entities they represent, along with their titles. The MPC was not formally adopted or recognized by action of the participating jurisdiction’s governing bodies.

Table 1.3. Jurisdictional Representatives of the Wayne County Mitigation Planning Committee

Name	Title	Department	Jurisdiction/Agency /Organization
Sharon Eudaley	Citizen	City of Williamsville, MO	Local Government
Leeanna Quick	City Clerk	City of Greenville, MO	Local Government
Steve Foster	Western District Commissioner	Wayne County, MO	County Government
Brian Polk	Presiding Commissioner	Wayne County, MO	County Government
Doug Wood	Eastern District Commissioner	Wayne County, MO	County Government
Rhonda Crum	County Clerk	Wayne County, MO	County Government
Tammy Thurman	City Clerk	City of Piedmont, MO	Local Government
Rick Clubb	Superintendent	Greenville R-II Schools	Public Education
Archie Derboven	Superintendent	Clearwater R-I Schools	Public Education

The table below indicates the area of expertise of each jurisdictional representative participating on the MPC within one or more of six mitigation categories (Preventive Measures, Property Protection, Natural Resource Protection, Emergency Services, Structural Flood Control Projects and Public Information) 1(b).

Table 1.4. MPC Capability with Six Mitigation Categories1(b)

Community/ District	Preventive Measures	Structure and Infrastructure Projects		Natural Resource Protection	Public Informa- tion	Emer- gency Services
		Property Protection	Structural Flood Control Projects			
Wayne County	X	X	X	X	X	X
City of Greenville	X	X	X	X	X	
City of Piedmont	X	X	X	X	X	X
City of Williamsville	X	X		X	X	
Clearwater R-II School District					X	
Greenville R-I School District					X	

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.

The Ozark Foothills Regional Planning Commission (OFRPC), on behalf of Wayne County, invited all cities, school districts, special districts, transportation, healthcare, and private nonprofit entities headquartered within or serving the planning area to participate in this update of the Wayne County Hazard Mitigation Plan. DMA 2000 requires that jurisdictions represented by a multi-jurisdictional plan participate in the planning process and formally adopt the plan. Each participating jurisdiction was required to meet plan participation requirements as defined by the MPC at the beginning of the planning process. Minimum participation requirements were defined by the planning committee as follows:

- ✓ Designation of a representative from each participating jurisdiction to serve on the MPC;
- ✓ Participation in two of the three centrally located county-wide MPC meetings, by either direct participation or authorized representation—either in-person, by telephone, or virtual attendance;
- ✓ Each participating jurisdiction must provide to the MPC sufficient information to support plan development by completion and return of Data Collection Questionnaires and validating/ correcting critical facility inventories;
- ✓ 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 otherwise not feasible;
- ✓ Review and comment on plan drafts;
- ✓ Actively solicit input from the public, local officials, and other interested parties about the planning process and provide an opportunity for them to comment on the plan;
- ✓ Provide documentation to show time donated to the planning effort as requested; and,
- ✓ Formally adopt the mitigation plan prior to final FEMA approval.

Reminders of the Project Kick-Off Meeting and the importance of the planning effort were emailed to invitees prior to the date of the meeting. Reminder text notifications were also sent to the MPC members. Meeting documentation can be located within Appendix C.

The Initial Coordination Meeting was held on March 23, 2023, at the Ozark Foothills Regional Planning Commission conference room. Written invitations were mailed to all persons attending the Initial Coordination Meeting as well as to those agencies and stakeholders identified during the Initial Coordination Meeting. A copy of the invitation letter and meeting sign-in sheets are included within Appendix C of this document.

The first planning meeting (the Project Kick-Off Meeting) was held on June 13, 2023, in the Wayne County Courthouse, Commission Chambers. Those in attendance offered suggestions of additional stakeholders who were invited to participate within the planning process. An explanation of the purpose and format of the hazard mitigation plan, hazard identification, HMP participation requirements, ideas for public participation, introduction of the Data Collection Questionnaires, and identification of critical facilities were the focus of the meeting. A virtual attendance meeting option was offered, but not utilized. Meeting minutes can also be located within Appendix C.

The second planning meeting (the Risk Assessment Meeting) was held on October 31, 2023, in the Wayne County Courthouse, Commission Chambers. A virtual attendance option was offered, but not utilized. All members of the MPC and previously identified stakeholders were invited to the meeting via electronic letter followed by email reminders. Finalization of project goals, review of public comment via community surveys, identification of jurisdictional capabilities and jurisdictional risk assessments were the focus of the meeting. All meeting Documentation (invitation/reminder correspondence, meeting minutes, and sign-in sheets) can be located within Appendix C.

The final planning meeting (the Mitigation Strategy Meeting) was held on January 23, 2024, in the Wayne County Courthouse, Commission Chambers. The topic of the meeting was to update and identify jurisdiction-specific mitigation actions. All members of the MPC and previously identified stakeholders were invited to the meeting via electronic letter followed by email reminders. A virtual attendance meeting option was offered. All meeting documentation—invitation letters, meeting minutes, and sign-in sheets—can be located within Appendix C.

Members of the MPC actively participated within the planning process. These planning partners possess the expertise to develop the plan, and their organizations have the authority to implement the developed mitigation strategy. Per the FEMA guide Local Mitigation Planning Handbook, May 2023, “active leadership from elected officials with an interest in improving safety and disaster resiliency ensures the planning process has visibility and encourages stakeholder participation.”

The following jurisdictions met all participation requirements:

- ✓ Wayne County;
- ✓ City of Greenville;
- ✓ City of Piedmont;
- ✓ City of Williamsville;
- ✓ Clearwater R-I School District; and,
- ✓ Greenville R-II School District.

The Village of Mill Spring was the only jurisdiction not meeting all of the participation requirements.

Public input was solicited via word-of-mouth, as well as through a public survey distributed via social media and in-person. Due to the rural nature of the jurisdictions, the planning area’s lack of resources, and public indifference, public participation in the planning process, though solicited, was lackluster. None of the participating jurisdictions have the resources needed to fund a full-time public information/marketing officer. Furthermore, broadband and internet connectivity within the planning area—including cell service—is either significantly limited or nonexistent, consequently, limiting the reach of the public survey. Long travel distances across expansive geographies, and lack of computer access/proficiency further limit public participation.

The table below shows the representation of each participating jurisdiction at the planning meetings, the provision of responses to the Data Collection Questionnaire, the update/development of mitigation actions, and the documentation of donated time, as applicable. Sign-in sheets and other contribution/participation documentation can be found within Appendix C.

Table 1.5. Jurisdictional Participation in Planning Process

Jurisdiction	Project Kick-Off Meeting	Risk Assessment Meeting	Mitigation Strategy Meeting	Data Collection Questionnaire Response	Update/Develop Mitigation Actions
Wayne County	x	x	x	x	x
City of Greenville	x	x	x	x	x
City of Piedmont	x	x	x	x	x
City of Williamsville	x	x	x	x	x
Village of Mill Spring		x	x		x
Clearwater R-I School District		x	x	x	x
Greenville R-II School District		x	x	x	x

1.4.2 The Planning Steps

The sources for the plan update framework and development process included the following:

- FEMA’s Local Mitigation Planning Handbook (May 2023)
- Local Mitigation Plan Review Guide (October 1, 2011)
- Local Mitigation Planning Policy Guide (April 19, 2023); and,
- Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials (March 1, 2013).

The planning process for the *2024 Wayne County Hazard Mitigation Plan* began during the spring of 2023, with presentations to elected officials, community members, and other interested parties. These individuals were invited to attend planning meetings, with a special effort to invite participants representing various business and service interests throughout the planning area.

Participants were asked to identify critical infrastructure, ranking the likelihood of disaster occurrence, perform a risk assessment based on these factors, and determine/update appropriate mitigation strategies for each individual disaster. This data was recorded and assimilated into the current plan update by staff of the Ozark Foothills Regional Planning Commission.

Background and statistical data for this plan were collected from a variety of sources, including Data Collection Questionnaires, the United States Census Bureau, the United States Geological Survey, the United States Army Corps of Engineers, the Missouri Department of Natural Resources, the Missouri Department of Conservation, and the National Climatic Data Center. The Missouri State Hazard Mitigation Plan--last updated in 2023 --provided information regarding tornado, earthquake, and flood hazards affecting Wayne County.

The most recent flood insurance study for Wayne County was completed in 2011 with production of a new DFIRM. Flood hazard data from the most recent HAZUS-MH loss run for Wayne County was incorporated into the plan providing updated information on vulnerable structures, shelter requirements, and loss estimates. Other sources of information including Comprehensive Plans, Zoning Ordinances, Building Codes, and local Storm Water Regulations when available.

Development of the current plan update followed the 10-step planning process adapted from FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. This 10-step process allows the plan to meet funding eligibility requirements of the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities, and Flood Mitigation Assistance Program, as well as qualify for points under Activity 510 for Mitigation Plans, within 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 1.6. County Mitigation Plan Update Process

Community Rating System (CRS) Planning Steps (Activity 510)	Local Mitigation Planning Handbook 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 4: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Step 4. Assess the hazard	Task 5: 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)

The chief officers of Wayne County, the City of Greenville, the City of Piedmont, the City of Williamsville, the Village of Mill Spring, as well as the Clearwater R-I And Greenville R-II School Districts were invited to the Initial Coordination Meeting held on March 23, 2023, at the Wayne County Courthouse. Invitations were sent via written letter, with follow-up email reminders issued. Those in attendance are listed upon the attendance roster found in Appendix C of this document.

During the Initial Coordination Meeting, additional potential MPC members and key stakeholders were identified by the attendees. In addition, the plan’s purpose was outlined, a tentative plan update schedule was set, and the general process methodology was discussed, as well as information to be included on the public community survey.

The first planning meeting was held on June 13, 2023, at the Wayne County Courthouse. Written invitations were mailed to all persons attending the Initial Coordination Meeting as well as to those agencies and stakeholders identified during the Initial Coordination Meeting. A copy of the invitation letter and meeting sign-in sheets are included within Appendix C of this document.

During the first planning meeting, the focus of the meeting was establishment of participation requirements, identification of hazards, as well as introduction/distribution of the Data Collection Questionnaires and discussion of the critical facilities inventory. Reminders of the first planning meeting and the importance of the planning effort were emailed to invitees prior to the date of the meeting. Reminder email notifications were also sent to the MPC members.

Throughout the planning process, MPC members communicated via phone and email correspondence.

Table 1.7. Schedule of MPC Meetings

Meeting	Topic	Date
Initial Coordination Meeting	Discussion of the plan update requirement and identification of necessary and potential mitigation planning committee members.	3/23/2023
Kick-off Meeting	Introduction of the plan update process to mitigation planning committee members; identification of hazards discussion of public participation options.	6/13/2023
Risk Assessment Meeting	Identification and discussion of community capabilities, jurisdictional-specific risk to each of the ten identified natural hazards, and plan goals.	10/31/2023

Mitigation Strategy Meeting	Discussion and identification of mitigation actions. Development of a plan maintenance strategy.	1/23/2024
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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.

Public input was collected during the risk assessment process and during draft review. During the Project Kick-Off Meeting held on June 13, 2023, attendees discussed and finalized the most effective way to solicit and collect public input. A survey prepared by the web-based platform known as SurveyMonkey was used to solicit public input regarding hazard risk throughout the planning area. The electronic survey was advertised via direct email contact and a regional Facebook page. The survey was also printed in hard copy and provided to the HMP for distribution.

Twenty-one responses were received and reviewed for inclusion within the plan update. Analysis of the survey results indicates that the public’s perception of natural hazards—regarding both frequency and magnitude—aligned strongly with the perceptions of MPC members. A copy of the survey and the results are included in Appendix D. Three comments were received via the survey and were as follows:

- “Public signage for existing tornado safe rooms and local information as to when those facilities are available.”
- “We need ways to help the far corners of Wayne County maybe a Fema building at Zalma and at lake...response time to these areas if a tornado or flood hits, how does help get here on the back roads..She we involve our local volunteer fire department to help with response of the very rural areas and how do we get to them fast..”
- “Water lines in city limits.”

The hazards ranked by respondents as most likely to occur are listed as follows from most likely to occur to least likely to occur:

Thunderstorm/Lightning/High Wind/Hail
Winter Weather/Snow/Ice/Extreme Cold
Extreme Heat
Drought
Flooding
Tornado
Earthquake
Wildfire

Dam Failure
Sinkholes

The hazards ranked by respondents as most likely to result in damage (i.e. potential magnitude) are listed as follows from most likely to occur to least likely to occur:

Tornado
Flooding
Earthquake
Winter Weather/Snow/Ice/Extreme Cold
Dam Failure
Drought
Wildfire
Extreme Heat
Thunderstorm/Lightning/High Winds/Hail
Sinkhole

The planning process and update status was discussed at four public meetings held **on** March 21, 2023, June 13, 2023, October 31, 2023, and January 23, 2024. The agendas of each meeting were advertised publicly. During each meeting discussion, public input was requested and a point of contact provided. A special effort was made to advertise the public meetings to vulnerable populations through social media postings and direct solicitation to social service agencies serving such populations in an attempt to receive input from the identified vulnerable populations. Furthermore, the meetings included representatives of organizations representing such groups as the United Gospel Rescue Mission, the Williamsville Nutrition Center, the Clearwater Youth Center, the Piedmont Senior Center, and Missouri Highlands Healthcare—the Federally Qualified Health Center serving the region, as well as educational sector representatives.

The final public comment opportunity—prior to plan approval—was held during the months of February, March, and April 2024. The completed plan draft was posted on a regional website located at www.ofrpc.org and advertised via social media and word-of-mouth. During the month of February 2024, Wayne County and its three incorporated cities, included information regarding the plan draft and its adoption upon their official commission/council meeting agendas. Comments from the public were encouraged and could be made either by telephone, email, or in written form to the Wayne County Commission. A hard copy was offered to members of the public lacking access computer/internet access. The deadline for the receipt of public comment was April 30, 2024.

All documentation of public input solicitations is included within Appendix D.

There were no projects proposed by members of the public or reports of damages such as flooded basements. Outside of “closed-ended” survey responses, there was no input provided by members of the general public. This could be for many reasons, but is likely due to an apathetic, but realistic attitude among residents of the planning area regarding a lack of influence to affect change. Given limited resources, public funds are most often expended in a reactive fashion. Implementing pre-planned projects is a luxury. Consequently, planning how to spend money that doesn’t exist is typically deemed futile.

Any and all feedback obtained was communicated to the HMP for consideration of inclusion

within the updated plan. All applicable public input was incorporated into the plan either directly through the creation of specific mitigation actions or by quotation of the comment within this section.

Step 3: Coordinate with Other Departments and Agencies and Incorporate Existing Information ***(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: (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.

Stakeholders identified during the plan update process for Wayne County included the following:

- Neighboring communities
- Local and regional agencies involved in hazard mitigation activities
- Agencies with the authority to regulate development
- Businesses
- Academia
- Other private and non-profit interests.

The persons listed below were stakeholders identified by the MPC as having goals and/or interests which may interface with hazard mitigation in the planning area. All were invited via written letter to participate within the plan update process and were directly asked to comment on the plan draft. A copy of the invitation can be found within Appendix C of this document. Plan draft review request documentation can be found within Appendix D. Stakeholders that actively participated within the plan update process are included in the table in the “Contributors” Section of the Executive Summary. Planning process stakeholders were as follows:

- Waylon Freeze, Butler County Emergency Management Director
- Tina Burchard, Administrator, Wayne County Health Center
- Mike Irons, East Wayne County Ambulance District
- Pastor Brian Abbott, Clearwater Ministerial Alliance
- Superintendent Adrian Eftink, Woodland R-IV School District
- Superintendent Cindy Crubb, Puxico R-VIII School District
- David Schremp, Ozark Border Electric Cooperative
- Superintendent Donald Wakefield, South Iron R-I School District
- Stephanie Arbison, Piedmont Chamber of Commerce
- Jesse Roy, Presiding Commissioner, Ripley County
- J.C. Gobel, Koppers Tie Yard, Williamsville
- Lawanna Baugus, Operator, Wayne County PWSD #2
- Sue Bridgman, Wayne County PWSD #4
- John Singleton, Black River Electric Cooperative

- Superintendent Richard Sullivan, East Carter County R-II School District
- Director, Clearwater Ambulance District
- Matt Wilkerson, Area Engineer, MODOT, Southeast District
- Robert Daniel, DOPM, USACE, Clearwater Dam
- Administrator, Williamsville Nutrition Center
- Julie Gronski, Wayne County ARPA Coordinator
- Alan Lutes, Ozark Foothills Regional Planning Commission
- Courtney Zimmerman, Mitigation Planner, State Emergency Management Agency
- Brian Polk, Floodplain Manager, Wayne County
- Ryan Stack, Chief Engineer, Dam and Reservoir Safety Program, MO Department of Natural Resources
- Sydney Roberts, CTP Program Manager, State Emergency Management Agency
- Jacob Wornson, Floodplain Mapping Technical Assistant, State Emergency Management Agency

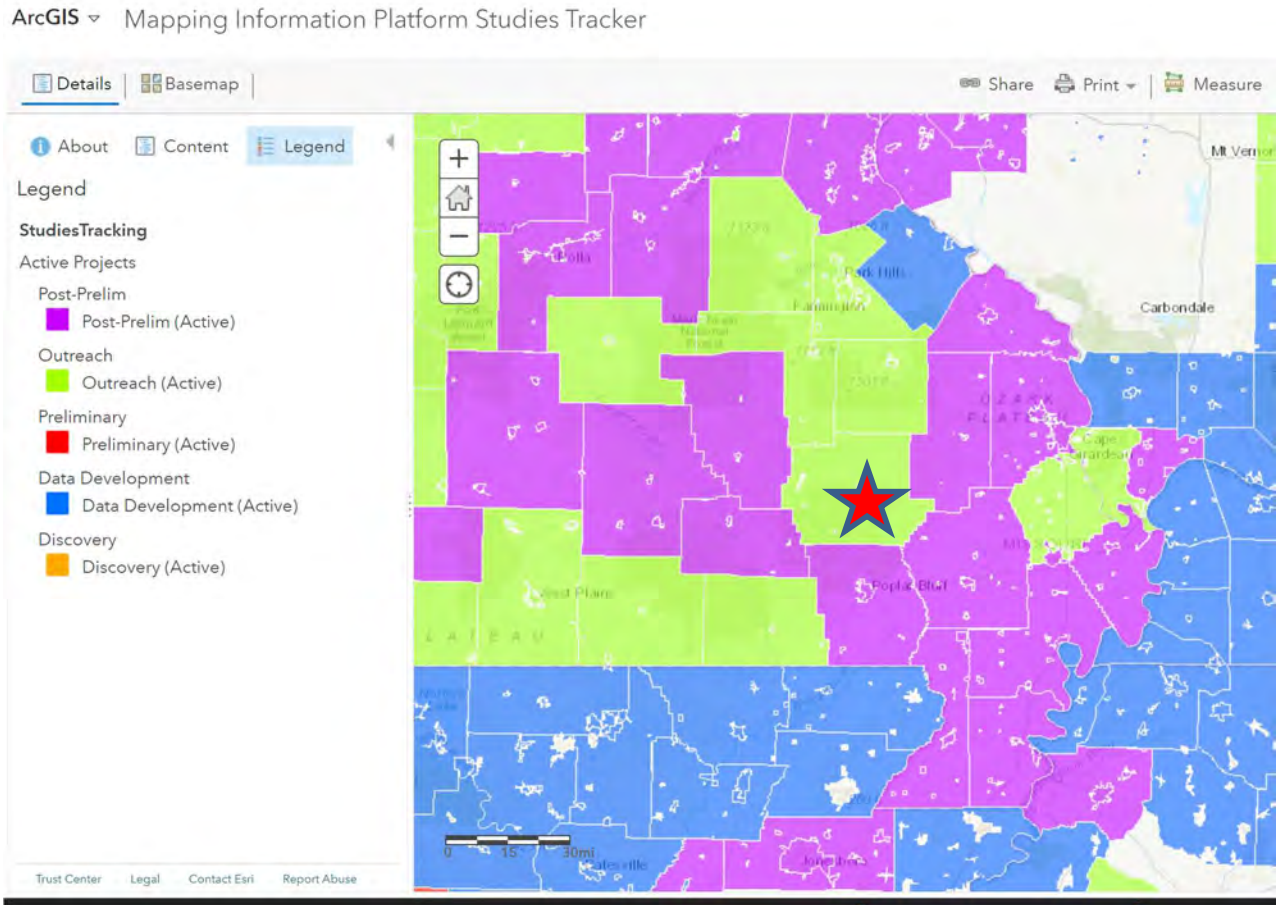
Coordination with FEMA Risk MAP Project

FEMA has established the Risk Mapping, Assessment and Planning (Risk MAP) program to identify flood risk and promote informed planning and development practices that reduce the risk of property damage due to flooding.

Figure 1.1 below shows locations of RiskMAP projects throughout Missouri. Wayne County—indicated by the red star—is located in the southeastern corner of the state and is depicted in green. Those counties in green (as Wayne County) should be interpreted as “RiskMAP Outreach Active.” Of the seven counties surrounding Wayne County, two—Iron and Madison—are also classified as “Outreach Active.” The remaining five counties are further along in the RiskMAP process and are designated as “Post-Preliminary Active.” While all eight examined counties are nearing completion of their RiskMAP projects, these five counties will likely receive newly updated Flood Insurance Rate Maps prior to Wayne County.

For the planning area, the DFIRM released June 16, 2011, was used as the best available data to inform the flood risk assessment (Section 3 of this document).

Figure 1.1. RiskMAP Study Status Map



Source: FEMA RiskMAP, Mapping Information Platform Studies Tracker

Integration of Other Data, Reports, Studies, and Plans

Data was collected from a variety of sources (e.g. FEMA, the U.S. Census Bureau, etc.) for which no representatives attended planning meetings. Direct contact was made with the director of the Local Planning and Development District, as well as the Dam Safety Division of the Missouri Department of Natural Resources in an attempt to obtain data regarding critical facilities located in the planning area, dam inspection reports, and inundation maps. Furthermore, the U.S. Geological Survey was consulted to obtain data needed for the dam failure and flood risk assessment—specifically the surface area of water located within the county. USGS was unfamiliar with the measure and unable to provide the data.

The *2023 Missouri Hazard Mitigation Plan* was consulted numerous times for a variety of technical data—specifically when completing the risk assessment portion of the plan update. Specific sources of technical data included the county’s 2011 Flood Insurance Rate Map (FIRM), the Missouri Department of Natural Resources, the Missouri Department of Conservation, the National Inventory of Dams (NID), SILVIS Lab— Department of Forest Ecology and Management within the University of Wisconsin, National Centers for Environmental Information of the National Oceanic and Atmospheric Administration, and the

USDA Risk Management Agency's Crop Insurance Statistics.

Relevant information from the above-listed sources was reviewed by the planner as appropriate and included within the updated planning document. Data was either manually entered by the planner, or "copied and pasted" from the online data source to the document. Sources for each data insertion were cited where appropriate.

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

The MPC identified and profiled their hazards during the Risk Assessment Meeting. In doing so, the MPC reviewed the following:

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

Jurisdictional representatives of the MPC also reviewed their jurisdiction's completed Data Collection Questionnaires to incorporate additional risk assessment information specific to their portion of the planning area. Data from existing plans, studies, reports, and information available through internet research and GIS analyses was reviewed and incorporated as appropriate. Additional detail regarding the conclusions drawn from the data can be found within Chapter 3.

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

The assets at risk for each jurisdiction were identified using a variety of data. The 2023 State plan was reviewed along with U.S. Census Data, GIS data, HAZUS data, and the completed Data Collection Questionnaires distributed to all jurisdictions. Once assets were identified, losses were estimated utilizing information in the 2023 state plan, as well as other available data such as dam inundation maps and prior loss history for events.

Section 2 of this plan provides area profiles and information regarding each jurisdiction's capabilities. This section includes information on the participating jurisdictions' regulatory, personnel, fiscal, and technical capabilities. The information was collected through a review of local ordinances, staff members, and annual budgets. Completed Data Collection Questionnaires were also consulted to complete the jurisdiction-specific capability analysis.

Chapter 3 of this plan includes a discussion of jurisdiction-specific vulnerabilities relative to each hazard identified in the plan. The data used for the vulnerability estimates were taken from either the 2023 state plan or other best data, as appropriate.

Step 6: Set Goals (Handbook Task 6)

The MPC reviewed the goals of the previously approved plan and determined while there were no changes in priorities throughout the planning area, modification to the 2019 goals was needed. Following review and discussion, it was determined that the fourth goal was

merely a redundant summary of the first three goals. The prior plan goals were reviewed and discussed, and the updated goals solidified during the Risk Assessment Meeting. A listing of the three updated plan goals can be found within Chapter 4.

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

The third planning meeting occurred on January 23, 2024, at the Wayne County Courthouse in Greenville. At this meeting, MPC members reviewed the mitigation strategies from the 2019 county plan and proposed new and updated strategies. Each jurisdiction was required to identify at least one mitigation action for each hazard. Members were asked to consider actions that substantially addressed long-term risks identified within the risk assessment in Section 3 of the updated plan.

During this final planning meeting, each jurisdiction representative reported upon progress made by their jurisdiction upon the previously proposed mitigation actions. MPC members analyzed each action, the progress (of lack thereof) made with regard to each action since 2019, and either, continued, deleted or modified the action for the 2024 plan update. A RiskMAP project was currently ongoing at the time of the plan update.

The FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* (January 2013) was used as a reference in the development of the mitigation actions. Participants were encouraged to focus on long-term mitigation solutions and consideration was given to the potential cost of each project in relation to the anticipated future cost savings. The MPC used a modified STAPLEE method to prioritize the mitigation actions included within Section 4 of this plan update. The STAPLEE worksheet used for the analysis is included within this section. The completed worksheets can be found in Appendix E.

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

The action worksheets, including the plan for implementation, submitted by each jurisdiction for the updated Mitigation Strategy are included in Chapter 4.

Step 9: Adopt the Plan
(Handbook Task 8)

All participating jurisdictions considered and adopted the updated hazard mitigation plan during February of 2024. Adoption documentation can be found within Appendix F.

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

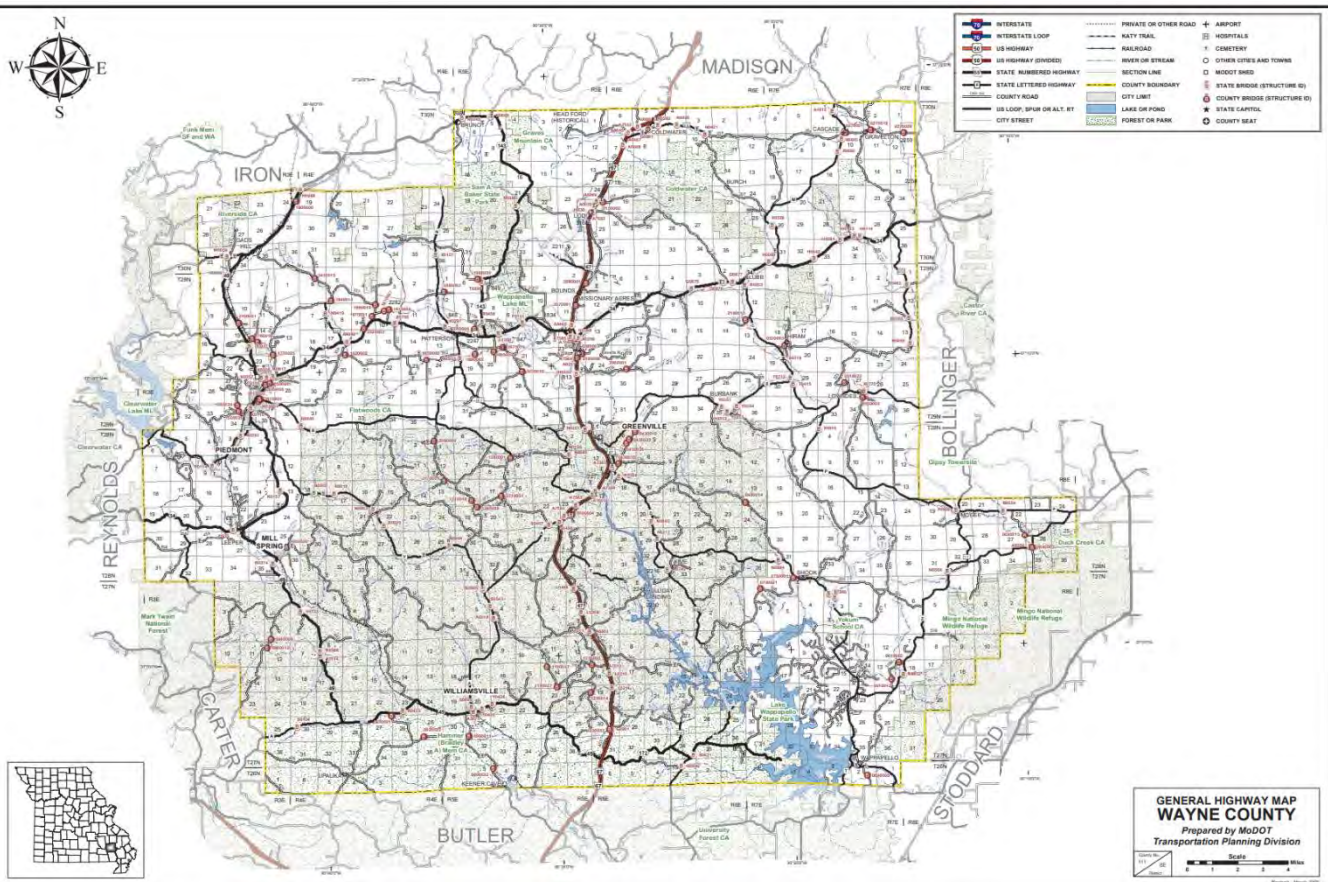
The MPC developed and agreed upon an overall strategy for plan implementation, as well as monitoring and maintenance of the plan during the Mitigation Strategy Meeting held on January 23, 2024. Chapter 5 of the plan includes more detailed information regarding plan implementation and maintenance.

2 PLANNING AREA PROFILE AND CAPABILITIES

2	PLANNING AREA PROFILE AND CAPABILITIES	2.1
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2.1.2	Climate	2.4
2.1.3	Population/Demographics	2.4
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2.1 WAYNE COUNTY PLANNING AREA PROFILE

Figure 2.1. Map of Wayne County, Missouri



Source: MODOT County Maps

The population of Wayne County, as reported in the *2020 U.S. Decennial Census*, was 10,974, a decline of 2,547 residents, or -23.2% , from the 2010 U.S. Census of 13,521. In reviewing this census data, Wayne County experienced a population decline, while the State of Missouri and the country as a whole grew during the same time period. Missouri saw a growth of 2.8% (5,988,927 To 6,154,913, while the U.S. increased by 7.4% (308,745,539 to 331,449,281).

Wayne County is also a county with a low median household income (MHI), as compared to the State of Missouri and the nation. According to the 2022 American Community Survey (ACS) 5-Year Estimates, the MHI for Wayne County is \$42,758 a 2.7% increase from the 2010 Census reported value of \$33,473. Using the same 2022 ACS 5-year estimate, the MHI reported for the state was \$57,290 up from \$44,301—a 2.9% increase since 2010. In the nation, MHI estimate increased by 3.0% to \$50,046 to \$64,994 over the ten-year period.

Housing values also reflect wealth disparities between the planning area, the state, and nation. Per the 2010 ACS 5-Year Estimates, the median housing value in Wayne County was \$72,200, but increased to \$110,000 per the 2022 ACS 5-Year Estimate. For the same time periods, the U.S. and State of Missouri reported \$188,400/\$281,900 and \$137,700/\$199,400, respectively. The increases in median housing value from 2010 to 2022 amounted to 52.4% for Wayne County,

44.8% for Missouri, and 49.6% for the United States.

2.1.1 Geography, Geology and Topography

Located at the eastern edge of the Ozark Mountains, Wayne County, Missouri, consists of 774 square miles or 495,360 acres. According to the U.S. Census of Agriculture, the county has approximately 202,267 acres of harvested land, 12,270 acres of deciduous upland mixed oak forest, 67,471 acres of non-native, cool season grasslands, and 11,564 acres of deciduous seasonally flooded river front forest. A large portion of the Mark Twain National Forest is scattered throughout the county.

As a rural county with no planning or zoning, single family residences and mobile homes are sprawled throughout the county, usually tucked away in the dense forested areas and accessible by county-maintained gravel roads. There are only four incorporated cities within the county limits. Wayne County's geology includes Tertiary- and Quaternary- Age Materials and Ordovician-Age Bedrock, while its topography consists of half Highly Dissected Plateaus. Two rivers run through the planning area—the Black River and the St. Francis River. The Black River is the source of Clearwater Lake to the east of the planning area. The St. Francis River is the source of Wappapello Lake in the southeastern portion of the county. In addition, there are several creeks and multiple freshwater springs throughout the planning area.

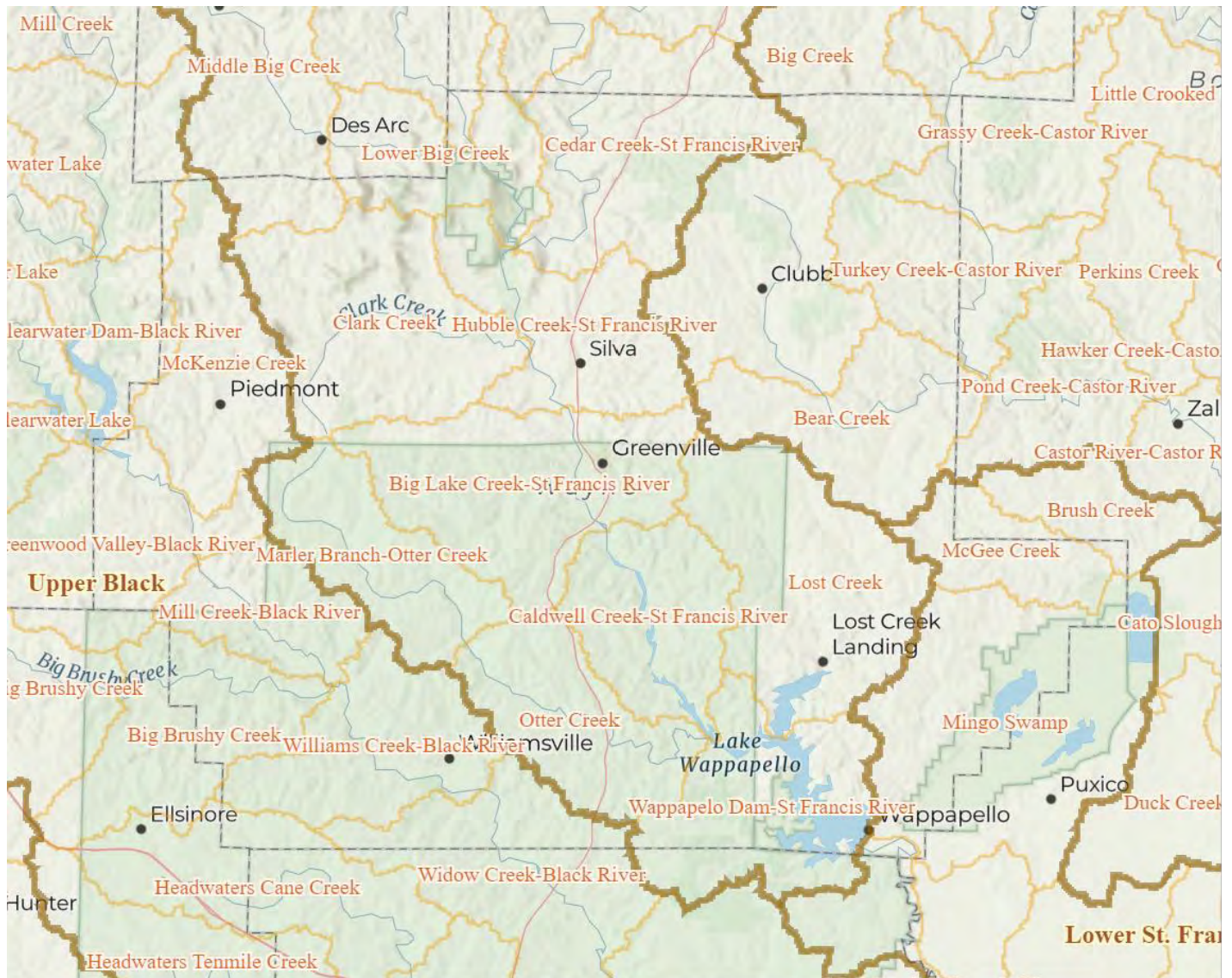
Wayne County is mostly rural with a large portion of its land area included within the Mark Twain National Forest. There are 10,088 surface acres of water in the county. Per the NRCS Soils Survey, soil types in the county are varied and range from silt loam to rock outcroppings to “extremely bouldery.”

Figure 2.2, below, shows the four watersheds located within the planning area. The Upper Black Watershed—in the western portion of the planning area—The Upper St. Francis Watershed—in the central portion of the county—The Lower St. Francis Watershed—in the southeastern corner of the county—and The Whitewater Watershed—in the northeastern portion of the county. Incorporated communities in the planning area and their watersheds are listed below.

City of Greenville – Upper St. Francis Watershed
City of Piedmont – Upper Black Watershed
City of Williamsville – Upper Black Watershed
Village of Mill Spring – Upper Black Watershed

There are no Wayne County incorporated municipalities located in either the Lower St. Francis or the Whitewater Watersheds.

Figure 2.2. Wayne County, Missouri Watershed Map



Source: [Missouri Watersheds \(arcgis.com\)](http://MissouriWatersheds.com)

2.1.2 Climate

According to the National Weather Service (NWS) the average annual precipitation within the planning area is 49.65 inches, higher than the United States average of 37 inches. It is reported that of these 49.65 inches of precipitation, 10 inches of that is snowfall annually. The number of days with any measurable precipitation is 97 annually. On average, there are 212 sunny days per year in Wayne County. The High Plains Regional Climate Center provides monthly climate averages based on data collected from 1981-2010. According to this data, the maximum average monthly temperature in Wayne County occurs in July and the minimum occurs in January.

2.1.3 Population/Demographics

The City of Piedmont is the largest incorporated city in Wayne County with a population of 1,897

as reported in the 2020 Decennial Census. Other incorporated cities in the county include the City of Greenville—the county seat—with a population of 443 persons, the City of Williamsville with a population of 279, and the Village of Mill Spring with a population of 159 persons. There are no areas of active growth within the planning area. The county and all four of its incorporated municipalities demonstrated population decline from 2010 to 2020 with the unincorporated portion of the county experiencing the most decline at 22.0%.

Table 2.1, below, provides the populations for each city, village, and the unincorporated county for 2010 and 2020 with the number and percentage change. The unincorporated area population was estimated by subtracting the populations of the incorporated areas from the overall county population.

Table 2.1. Wayne County Population 2010-2020 by Jurisdiction

Jurisdiction	2010 Population	2020 Population	# Change (2010-2020)	% Change (2010-2020)
Wayne County - Unincorporated Portion	10,502	8,196	-2,306	-22.0%
City of Greenville	511	443	-68	-13.3%
City of Piedmont	1,977	1,897	-80	-4.1%
City of Williamsville	342	279	-63	-18.4%
Village of Mill Spring	189	159	-30	-15.9%
Total	13,521	10,974	-2,547	-18.8%

Source: U.S. Bureau of the Census, 2010 & 2020 Decennial Census

Based on the 2022 American Community Survey 5-Year Estimates, the planning area has a lower proportion of children under five years of age and a greater proportion of adults older than 65 years of age. For example, the proportion of children under five years of age in the county was estimated at 4.5%, while in the state and nation, the figure was 5.7% and 5.5%, respectively. At the same time, residents over 65 years of age within the county comprised 24.6% of the total population, while in the state and nation, these figures were 18.0% and 17.3%, respectively.

Per the US. Census Bureau, there are 6,215 housing units within the planning area. Of that number 4,490 units are occupied. The average household size in Wayne County among owner-occupied units is 2.43 persons. Among renter-occupied households within the county, an average of 2.44 persons comprise a household. In Missouri, these values equal 2.54 and 2.06, respectively. And, in the U.S., 2.63 and 2.27, respectively.

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. The hazard-specific vulnerability analyses included in Chapter 3 (Risk Assessment) consider data from this source. A low SoVI score indicates the county is more resilient to hazard events, while a high number means that the county is less resilient.

Table 2.2, below, provides additional demographic and economic indicators for the planning area from the 2022 American Community Survey 5-year estimates.

Table 2.2. Unemployment, Poverty, Education, and Language Percentage Demographics, Wayne 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
Wayne County	9,207	8.3%	25.1%	42.1%	6.9%	1.2%
City of Greenville	356	4.0%	8.8%	38.0%	2.3%	0.0%
City of Piedmont	2,150	5.8%	46.8%	38.3%	8.3%	0.2%
City of Williamsville	238	16.2%	29.0%	41.7%	6.8%	0.0%
Village of Mill Spring	95	0.0%	45.9%	29.9%	0.0%	0.0%
State*	4,940,395	3.7%	12.8%	30.1%	19.7%	6.6%
Nation*	266,411,973	2.7%	12.5%	26.1%	21.6%	22.0%

Source: U.S. Census, 2022 American Community Survey, 5-Year and 1-Year* Estimates

2.1.4 History

Wayne County is located in the northeastern portion of the Ozark Foothills Region. Prior to its formation on December 11, 1818, Wayne County was part of Cape Girardeau and Lawrence Counties. Initially, Wayne County consisted of a large territory—one which now comprises all or portions of 32 Missouri counties. While the county was geographically expansive, it was sparsely populated with only 1,443 inhabitants per the census of 1820. The county was named after “Mad” Anthony Wayne—a general in the American Revolution.

Some major industries and employers in Wayne County include Clark Mountain Nursing Home, Impact Fisheries, Fine Labs, and Kerri Industries. Two healthcare clinics offer high-quality medical assistance to county residents, while two primary public districts educate children living in the county. A variety of recreational areas, including Clearwater Lake, Wappapello Lake, Sam A. Baker State Park, Markham Springs, Old Greenville U.S. Historic Site, Mark Twain National Forest, Coldwater State Forest, Black River, and the Saint Francis River are also located in Wayne County.

2.1.5 Occupations

Table 2.3, below, provides occupation statistics for the incorporated cities and the county, as a whole. Percentages are used to allow comparisons between communities.

Table 2.3. Occupation Statistics, Wayne County, Missouri

Place	Management, Business, & Financial (%)	Computer Engineering & Science (%)	Education, Legal, Community Service, Arts & Media (%)	Healthcare Practitioners & Technical (%)	Healthcare Support (%)	Protective Services (%)	Sales & Office (%)	Natural Resources, Construction & Maintenance (%)	Production, Transportation, & Material Moving (%)
Wayne County	7.9	2.3	10.9	6.1	6.7	1.0	19.0	9.6	27.7
City of	17.4	0.0	12.4	0.0	13.2	0.0	11.6	23.1	13.2
City of	28.5	2.6	9.5	11.6	4.6	4.1	20.1	13.7	23.0
City of	28.4	0.0	13.6	3.4	14.8	0.0	13.6	3.4	12.5

Village of Mill Spring	36.4	0.0	21.2	3.0	3.0	0.0	3.0	12.1	27.3
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Source: U.S. Census, 2022 American Community Survey, 5-year Estimates.

2.1.6 Agriculture

According to the United States Department of Agriculture’s *2022 Census of Agriculture*, of Wayne County’s 485,873 total acres, 94,567 acres—or 19.5%—are utilized as farmland. Per the same source, there are 352 farms in the county with an average size of 269 acres. Neighboring counties reported average farm sizes ranging from 291 acres in Madison County to the north to 655 acres in Stoddard County to the east.

Of the 94,567 acres occupied by farms in Wayne County, cropland comprised 18,122 acres in 2022—down from 33,167 acres in 2017. Woodland comprised 40,513 acres in 2022—up from 33,380 acres in 2017. Pasture comprised 29,445 acres in 2022—up from 26,095 in 2017. Overall, conversion of cropland to woodland and pasture appears to be trending in the planning area.

Averages sales per farm in the county decreased from \$37,157 in 2017 to \$28,602 in 2022. In total Wayne County’s 352 farms produced \$10,068,000 in crops, hay, livestock, etc. during 2022. The majority of farms in the county produce hay and/or livestock. During 2022, 91 farms produced hay valued at \$835,000, while 164 farms produced \$7,064,000 in cattle and calves. Sheep and goats were produced by 22 farms during the year at a value of \$134,000.

Wayne County farms produce some row crops—mostly soybeans, some corn, and some wheat. During 2022, nine farms in the planning area produced soybeans valued at \$937,000. Seven farms produced corn and five produced wheat, though both types of farms overall reported deficits. In total, during 2022, fourteen farms produced \$1,682,000 in grains, beans, peas, and oil seeds. In 2017, the value of such crops produced in the county was \$7,209,000—a significant decrease in production value (-76.7%).

Per the *2022 Census of Agriculture*, the industry makes up only a small amount of the workforce in the county. During the year, only 49 of the county’s 352 farms employed farm workers. Sixty-seven workers—including twelve migrant workers—earned \$274,000. This amounts to a mere .6% of the county’s total workforce.

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

The table below lists Hazard Mitigation Assistance grants awarded to political jurisdictions within Wayne County in the past 30 years. Subrecipients in the planning area have received \$7,714,315 in federal funds via three mitigation grant programs.

Table 24. FEMA HMA Grants in Wayne County from 1993-2022

Disaster Declaration	Project Type	Sub-Grantee	Date Approved	Project Total (\$)
995	Acquisition of Private Real Property	City of Piedmont	1997-08-13	297,800
1023	Acquisition of Private Real Property	City of Piedmont	1998-01-16	35,530

1006	Acquisition of Private Real Property	City of Piedmont	1999-02-19	544,139
1054	Acquisition of Private Real Property	City of Piedmont	1998-01-16	355,834
N/A - FMA	Acquisition of Private Real Property	City of Piedmont	1997-10-02	240,000
N/A - FMA	Acquisition of Private Real Property	City of Piedmont	1998-04-26	151,680
N/A - FMA	Acquisition of Private Real Property	City of Piedmont	1997-10-01	56,853
1403	Acquisition of Private Real Property (Structures and Land) - Riverine; Acquisition of Vacant Land	City of Piedmont	2007-11-05	434,166
1676	Acquisition of Private Real Property	City of Piedmont	2013-12-03	779,357
1676	Acquisition of Private Real Property (Structures and Land) - Riverine	Wayne County	2013-08-22	211,723
1749	Acquisition of Public Real Property (Structures and Land) - Riverine	Wayne County	2014-10-30	187,276
N/A - RFC	Acquisition of Private Real Property (Structures and Land) - Riverine	City of Piedmont	2009-09-09	307,500
1980	Safe Room (Tornado and Severe Wind Shelter) - Public Structures	CLEARWATER R-I SCHOOL DISTRICT	2014-04-02	1,562,760
1980	Safe Room (Tornado and Severe Wind Shelter) - Public Structures	GREENVILLE R-II SCHOOL DISTRICT	2015-10-06	1,612,700
N/A - PDM	Safe Room (Tornado and Severe Wind Shelter) - Public Structures	Greenville R-II School District	2017-01-16	936,997
Total				7,714,315

Source: Federal Emergency Management Agency, 2023
[OpenFEMA Data Sets | FEMA.gov](https://www.fema.gov/openfema)

2.1.8 FEMA Public Assistance (PA) Grants in Planning Area

The total dollar figure for previous FEMA Public Assistance (PA) Grants awarded to Wayne County and its participating jurisdictions and special districts from 2002 to 2022 totaled \$4,490,550.17. The table below is organized by the disaster leading to the public assistance. The disaster designations are listed below by type:

- DR-1412—Severe Storm & Tornadoes (2002)
- DR-1749—Severe Storm & Flooding (2008)
- DR-1748—Severe Winter Storm & Flooding (2008)
- DR-1822—Severe Winter Storm (2009)
- DR-1980—Severe Storms, Flooding & Tornado (2011)
- DR-4317—Severe Storms, Flooding & Tornado (2017)
- DR-4451—Severe Storms, Flooding & Tornado (2019).

Within the listing below are 14 debris removal projects (comprising 8.0% of 174 total PA projects), 25 protective measures projects (14.4%), 111 road & bridge projects (63.8%), 11 public utility projects (6.3%), eight public building projects (4.6%), two water control facility projects, one recreational/other project and one state management project.

Table 2.5. FEMA PA Grants in Wayne County from 2002-2023

Disaster Declaration	Project Type	Project Size	Applicant	Project Total
1412	C - Roads and Bridges	Small	Wayne County	\$2,600.00
1412	A - Debris Removal	Small	City of Piedmont	\$2,441.52
1412	C - Roads and Bridges	Small	City of Piedmont	\$12,607.84
1412	C - Roads and Bridges	Small	Wayne County	\$37,420.28
1412	F - Public Utilities	Small	City of Piedmont	\$14,566.08
1412	C - Roads and Bridges	Small	City of Piedmont	\$8,658.05
1412	C - Roads and Bridges	Small	Wayne County	\$8,538.12
1412	C - Roads and Bridges	Small	Wayne County	\$1,573.08
1412	C - Roads and Bridges	Small	Wayne County	\$2,536.80
1412	C - Roads and Bridges	Small	Wayne County	\$5,556.00
1412	C - Roads and Bridges	Small	Wayne County	\$5,985.82
1412	C - Roads and Bridges	Small	Wayne County	\$6,831.02
1412	C - Roads and Bridges	Small	Wayne County	\$33,280.92
1412	B - Protective Measures	Small	Wayne County	\$4,083.81
1412	C - Roads and Bridges	Small	Wayne County	\$40,328.57
1412	A - Debris Removal	Small	Wayne County	\$2,185.00
1412	C - Roads and Bridges	Small	Wayne County	\$16,827.60
1412	C - Roads and Bridges	Small	Wayne County	\$25,428.98
1412	C - Roads and Bridges	Large	Wayne County	\$70,665.96
1412	C - Roads and Bridges	Large	Wayne County	\$64,479.80
1412	C - Roads and Bridges	Large	Wayne County	\$128,000.08
1412	C - Roads and Bridges	Large	Wayne County	\$128,018.20
1412	C - Roads and Bridges	Large	Wayne County	\$98,282.99

1412	C - Roads and Bridges	Large	Wayne County	\$26,840.92
1748	B - Protective Measures	Small	Wayne County	\$1,298.30
1748	A - Debris Removal	Small	Wayne County	\$4,537.06
1748	B - Protective Measures	Small	Wayne County	\$2,260.00
1748	A - Debris Removal	Small	Wayne County	\$8,423.34
1749	A - Debris Removal	Small	City of Piedmont	\$9,533.60
1749	C - Roads and Bridges	Small	Wayne County	\$6,032.65
1749	C - Roads and Bridges	Small	Wayne County	\$7,129.17
1749	C - Roads and Bridges	Small	Wayne County	\$4,769.36
1749	A - Debris Removal	Small	City of Piedmont	\$9,052.63
1749	C - Roads and Bridges	Small	Wayne County	\$23,252.53
1749	C - Roads and Bridges	Small	Wayne County	\$1,875.01
1749	B - Protective Measures	Small	City of Piedmont	\$39,134.52
1749	C - Roads and Bridges	Small	Wayne County	\$2,706.50
1749	F - Public Utilities	Small	223-UFOLH-00	\$4,571.00
1749	B - Protective Measures	Small	City of Piedmont	\$18,048.60
1749	B - Protective Measures	Small	223-UFOLH-00	\$4,779.71
1749	C - Roads and Bridges	Small	Wayne County	\$3,871.92
1749	C - Roads and Bridges	Small	Wayne County	\$4,479.22
1749	A - Debris Removal	Small	Wayne County	\$22,006.06
1749	C - Roads and Bridges	Small	Wayne County	\$4,663.76
1749	C - Roads and Bridges	Small	Wayne County	\$8,600.54
1749	C - Roads and Bridges	Small	Wayne County	\$16,167.42
1749	C - Roads and Bridges	Small	Wayne County	\$12,384.57
1749	C - Roads and Bridges	Small	Wayne County	\$37,217.13
1749	C - Roads and Bridges	Small	Wayne County	\$37,824.21
1749	B - Protective Measures	Small	Wayne County	\$2,447.40
1749	E - Public Buildings	Small	223-UFOLH-00	\$1,000.00
1749	C - Roads and Bridges	Small	Wayne County	\$9,560.87
1749	C - Roads and Bridges	Small	Wayne County	\$20,311.78
1749	C - Roads and Bridges	Small	City of Williamsville	\$4,581.91
1749	A - Debris Removal	Small	City of Williamsville	\$1,136.00
1749	B - Protective Measures	Small	City of Williamsville	\$378.67
1749	C - Roads and Bridges	Small	Wayne County	\$36,509.03
1749	C - Roads and Bridges	Small	Wayne County	\$16,004.33
1749	C - Roads and Bridges	Small	Wayne County	\$12,138.92
1749	C - Roads and Bridges	Small	Wayne County	\$16,064.14
1749	C - Roads and Bridges	Small	Wayne County	\$29,846.18
1749	C - Roads and Bridges	Small	Wayne County	\$51,430.34
1749	C - Roads and Bridges	Small	Wayne County	\$16,133.42
1749	C - Roads and Bridges	Small	Wayne County	\$2,737.03
1749	C - Roads and Bridges	Small	Wayne County	\$4,401.86

1749	C - Roads and Bridges	Small	Wayne County	\$20,778.84
1749	C - Roads and Bridges	Small	Wayne County	\$13,881.66
1749	F - Public Utilities	Small	223-UFOLH-00	\$5,244.00
1749	C - Roads and Bridges	Small	Village of Mill Spring	\$10,199.31
1749	C - Roads and Bridges	Small	Wayne County	\$11,750.82
1749	F - Public Utilities	Large	City of Piedmont	\$139,357.22
1749	F - Public Utilities	Large	223-UFOLH-00	\$0.00
1749	C - Roads and Bridges	Small	Wayne County	\$11,923.89
1749	C - Roads and Bridges	Small	Wayne County	\$7,884.15
1749	C - Roads and Bridges	Small	Wayne County	\$41,267.41
1749	C - Roads and Bridges	Small	Wayne County	\$2,102.51
1749	B - Protective Measures	Small	City of Piedmont	\$40,975.90
1749	C - Roads and Bridges	Small	City of Piedmont	\$14,248.00
1749	C - Roads and Bridges	Small	City of Piedmont	\$29,500.00
1749	C - Roads and Bridges	Small	Wayne County	\$0.00
1749	C - Roads and Bridges	Small	City of Piedmont	\$11,500.00
1749	C - Roads and Bridges	Small	City of Piedmont	\$23,000.00
1749	C - Roads and Bridges	Small	Wayne County	\$33,918.71
1749	C - Roads and Bridges	Small	Village of Mill Spring	\$13,204.85
1749	C - Roads and Bridges	Small	Wayne County	\$15,970.31
1749	C - Roads and Bridges	Small	Wayne County	\$22,488.34
1749	C - Roads and Bridges	Small	Wayne County	\$13,345.89
1749	C - Roads and Bridges	Small	Wayne County	\$6,990.66
1749	E - Public Buildings	Small	City of Piedmont	\$9,537.00
1749	C - Roads and Bridges	Small	City of Piedmont	\$48,267.34
1749	C - Roads and Bridges	Small	City of Piedmont	\$9,218.89
1749	E - Public Buildings	Small	City of Piedmont	\$2,500.00
1749	A - Debris Removal	Small	City of Piedmont	\$1,534.70
1749	B - Protective Measures	Small	City of Piedmont	\$15,001.98
1749	G - Recreational or Other	Small	City of Piedmont	\$0.00
1749	E - Public Buildings	Small	City of Piedmont	\$16,903.75
1749	E - Public Buildings	Small	City of Piedmont	\$4,956.77
1749	F - Public Utilities	Small	City of Piedmont	\$56,248.73
1749	C - Roads and Bridges	Small	Wayne County	\$2,476.52
1749	C - Roads and Bridges	Small	Wayne County	\$32,217.66
1749	C - Roads and Bridges	Small	Wayne County	\$5,040.98
1749	C - Roads and Bridges	Small	Wayne County	\$23,614.23
1749	C - Roads and Bridges	Small	Wayne County	\$49,414.69
1749	C - Roads and Bridges	Small	Wayne County	\$10,628.90
1749	C - Roads and Bridges	Small	Wayne County	\$28,851.63
1749	C - Roads and Bridges	Small	Wayne County	\$14,095.12
1749	C - Roads and Bridges	Small	Wayne County	\$37,292.11

1749	C - Roads and Bridges	Small	Wayne County	\$18,794.05
1749	B - Protective Measures	Small	Wayne County	\$3,251.50
1749	C - Roads and Bridges	Small	Wayne County	\$32,478.80
1749	C - Roads and Bridges	Small	Wayne County	\$10,935.60
1749	C - Roads and Bridges	Small	Wayne County	\$5,446.41
1822	B - Protective Measures	Small	223-USEKB-00	\$2,614.27
1822	B - Protective Measures	Small	City of Piedmont	\$25,294.54
1822	B - Protective Measures	Small	Wayne County	\$38,000.42
1822	B - Protective Measures	Small	Wayne County	\$29,646.38
1822	E - Public Buildings	Small	223-UYZS7-00	\$14,503.76
1980	A - Debris Removal	Small	City of Piedmont	\$1,360.83
1980	B - Protective Measures	Small	City of Piedmont	\$1,988.60
1980	A - Debris Removal	Small	Wayne County	\$17,238.63
1980	B - Protective Measures	Small	East Wayne Amb	\$1,825.96
1980	B - Protective Measures	Small	East Wayne Amb	\$4,078.96
1980	B - Protective Measures	Small	Wayne County PWSD #3	\$2,621.66
1980	E - Public Buildings	Small	City of Piedmont	\$1,000.00
1980	F - Public Utilities	Small	Wayne County PWSD #3	\$8,272.00
1980	B - Protective Measures	Small	City of Greenville	\$35,877.26
1980	B - Protective Measures	Small	City of Greenville	\$19,552.67
1980	A - Debris Removal	Small	Wayne County	\$2,323.45
1980	C - Roads and Bridges	Small	Wayne County	\$53,194.08
1980	C - Roads and Bridges	Small	Wayne County	\$41,098.90
1980	A - Debris Removal	Small	City of Williamsville	\$1,630.00
1980	C - Roads and Bridges	Small	Wayne County	\$25,110.03
1980	C - Roads and Bridges	Small	Wayne County	\$52,879.77
1980	F - Public Utilities	Small	City of Piedmont	\$22,182.39
1980	D - Water Control Facilities	Small	City of Piedmont	\$1,900.00
1980	C - Roads and Bridges	Small	City of Williamsville	\$8,154.94
1980	C - Roads and Bridges	Small	Wayne County	\$48,342.37
1980	C - Roads and Bridges	Small	City of Greenville	\$10,886.27
1980	C - Roads and Bridges	Small	Wayne County	\$54,458.25
1980	C - Roads and Bridges	Small	City of Piedmont	\$9,541.52
1980	F - Public Utilities	Small	City of Greenville	\$18,481.00
1980	C - Roads and Bridges	Small	City of Greenville	\$1,782.00
1980	C - Roads and Bridges	Small	Wayne County	\$40,044.64
1980	E - Public Buildings	Small	City of Greenville	\$8,975.50
1980	C - Roads and Bridges	Small	Wayne County	\$23,731.91
1980	D - Water Control Facilities	Small	City of Williamsville	\$1,397.50
1980	C - Roads and Bridges	Small	Wayne County	\$45,585.80
1980	C - Roads and Bridges	Small	Wayne County	\$19,710.97
1980	A - Debris Removal	Small	City of Greenville	\$3,757.36

1980	C - Roads and Bridges	Small	Wayne County	\$32,526.49
1980	C - Roads and Bridges	Large	Wayne County	\$0.00
1980	C - Roads and Bridges	Small	Wayne County	\$38,024.69
1980	C - Roads and Bridges	Small	Wayne County	\$33,078.05
1980	C - Roads and Bridges	Small	Wayne County	\$25,901.34
1980	C - Roads and Bridges	Small	Wayne County	\$30,388.87
1980	C - Roads and Bridges	Small	Wayne County	\$55,511.99
1980	C - Roads and Bridges	Small	Wayne County	\$54,899.01
4317	F - Public Utilities	Small	223-UFOLH-00	\$3,772.50
4317	B - Protective Measures	Small	East Wayne Amb	\$6,899.18
4317	C - Roads and Bridges	Small	City of Greenville	\$11,340.53
4317	B - Protective Measures	Small	Wayne County	\$3,181.22
4317	B - Protective Measures	Small	City of Greenville	\$8,748.99
4317	C - Roads and Bridges	Large	Village of Mill Spring	\$102,191.60
4317	B - Protective Measures	Small	City of Piedmont	\$28,210.85
4317	C - Roads and Bridges	Small	Village of Mill Spring	\$106,271.25
4317	G - Recreational or Other	Small	City of Greenville	\$5,053.88
4317	C - Roads and Bridges	Small	Village of Mill Spring	\$14,207.74
4317	C - Roads and Bridges	Large	Wayne County	\$239,956.70
4317	C - Roads and Bridges	Small	City of Piedmont	\$20,240.30
4317	F - Public Utilities	Small	City of Piedmont	\$108,482.32
4317	C - Roads and Bridges	Large	Wayne County	\$346,701.85
4317	C - Roads and Bridges	Large	Wayne County	\$270,977.54
4451	C - Roads and Bridges	Small	Wayne County	\$49,660.73
4451	Z - State Management	Small	Wayne County	\$0.00
	Total			\$4,490,550.17

Source: Federal Emergency Management Agency, 2023

2.2 JURISDICTIONAL PROFILES AND MITIGATION CAPABILITIES^{3, 7, AND 8}

This section will include individual profiles for each participating jurisdiction. It will also include a discussion of previous mitigation initiatives 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, and then public school districts.

2.2.1 Unincorporated Wayne County

Wayne County, when mentioned in the following section, consists of all unincorporated areas within the county boundaries. Wayne County is a third-class county administered by a three-member county commission—a presiding commissioner and two associate commissioners. The associate commissioners represent the eastern and western “districts” of the county. The commissioners are elected for a term of four years.

The County Commission meets weekly in the courthouse located in the county seat of Greenville and at other times in special session as needed. The County Clerk is also present for these meetings and serves as the Chief Financial Officer of the Commission.

County property taxes are collected to support the road, school, and library infrastructure of the county. The Commission has general supervision of the county public roads and maintains the courthouse and other county owned buildings. The Commission oversees the budgets of a number of independently elected officers such as the County Clerk, Sheriff, Prosecuting Attorney, Coroner, Public Administrator, Assessor, Collector, Treasurer, and Surveyor.

Within the county governmental system are the following departments:

- County Commissioners
- County Assessor
- Prosecuting Attorney
- County Recorder
- County Sheriff
- County Treasurer
- County Collector
- Public Administrator
- Circuit Clerk
- Emergency Management Director
- Health Department
- Road & Bridge
- Federal Grants Coordinator

Mitigation Initiatives/Capabilities^{3, 7, and 8}

Wayne County is a small, poor, rural county that lacks many staffed positions common to governments in more populated counties. The county’s highway department has a supervisor that manages the maintenance of the county roads and reports directly to the commissioners. The

county also has an emergency management director who works closely with the county commission. There is no zoning within the county. No parks & recreation staff, code enforcement staff, or zoning administration staff exist. Wayne County and its participating jurisdictions cannot expand or improve their reported capabilities due to a lack of financial and human resources.

Due to the size of Wayne County, its small staff and lack of resources, planning is often conducted on a regional basis rather than county level. The county is a member of its regional council of governments—the Ozark Foothills Regional Planning Commission. As such, Wayne County participates in the development and update of a regional Comprehensive Economic Development Strategy, the Regional Transportation Plan and the regional Public Transit-Human Services Transportation Plan. The county is a member of a regional local emergency planning district—the Ozark Foothills LEPD—that includes Butler, Ripley, and Wayne Counties. The planning area is incorporated within the LEPD’s Local Emergency Operations Plan.

Wayne County utilizes its elected prosecuting attorney for legal direction and services. Its Highway Department supervisor is responsible for overseeing the county’s transportation infrastructure, which consists primarily of gravel-surfaced roadways. The county funds a sheriff’s department, which is responsible for maintaining order and enforcing law within the county. The county’s presiding commissioner also serves as the county floodplain manager.

The county’s emergency management director is a part-time minimally funded position. Wayne County—like its neighboring counties—has established no planning and zoning committee or land use designations within the balance of the county. Wayne County participates within the Ozark Foothills Local Emergency Planning District (LEPD), and is, consequently, included within the district’s Local Emergency Operations Plan.

There are seven outdoor warning sirens throughout Wayne County—all are located within the jurisdictional boundaries of incorporated municipalities. The Village Chairperson is responsible for sounding the siren in the Village of Mill Spring. In the Cities of Piedmont (three sirens) and Greenville (two sirens), law enforcement has the responsibility of operating the sirens. In Williamsville, the fire chief is responsible for initiating the alarm.

There are three tornado saferooms located within the planning area. All three saferooms are located upon public school campuses. The addresses of the facilities are as follows:

Clearwater R-I School, 825 North Main Street, Piedmont;
Greenville R-II School, 178 Walnut Street, Greenville; and,
Williamsville Elementary School, Williamsville.

Major employers within the county consist of the Clearwater R-I School District with 170 employees, the Greenville R-II School District with 118 employees, Fine Labs with 100 employees, and Kerry Industries with 40 employees.

The table below lists resources available to the unincorporated portion of the county. The information was pulled from the Data Collection Questionnaire completed by the county during 2023. It should be noted that no building codes or land use ordinances exist within Wayne County.

Table 2.6. Unincorporated Wayne County Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	None
Builder's Plan	None
Capital Improvement Plan	None
City Emergency Operations Plan	N/A
County Emergency Operations Plan	<i>Ozark Foothills Emergency Operations Plan, 2004</i>
Local Recovery Plan	N/A
County Recovery Plan	None
City Mitigation Plan	N/A
County Mitigation Plan	None
Debris Management Plan	None
Economic Development Plan	<i>Ozark Foothills Comprehensive Development Strategy, 2023</i>
Transportation Plan	<i>Ozark Foothills Regional Transportation Plan, 2023</i>
Land-use Plan	None
Flood Mitigation Assistance (FMA) Plan	None
Watershed Plan	None
Firewise or other fire mitigation plan	None
School Mitigation Plan	N/A
Critical Facilities Plan	None
Policies/Ordinance	
Zoning Ordinance	None
Building Code	None
Floodplain Ordinance	Yes, 1987
Subdivision Ordinance	None
Tree Trimming Ordinance	None
Nuisance Ordinance	None
Stormwater Ordinance	None
Drainage Ordinance	None
Site Plan Review Requirements	None
Historic Preservation Ordinance	None
Landscape Ordinance	None
Seismic Construction Ordinance	None
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	Yes, 1987
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	Yes, (varies by fire department service area) Cascade Vol. Fire Dept, 9 Chaonia Vol. Fire Dept, Not Available Clearwater Fire Protection District, 7 Eagle Sky Fire Department, Not Available Lowndes Volunteer Fire & Rescue Dept, 9 Piedmont City Fire Dept, 5 Wappapello Vol. Fire Dept, 9

	Wayne County Vol. Fire Protection District #1, 8.5 Williamsville Vol. Fire Dept, 8.5
Capabilities	Status, Including Date of Document or Policy
Economic Development Program	Member of the Ozark Foothills Regional Planning Commission
Land Use Program	None
Public Education/Awareness	None
Property Acquisition	None
Planning/Zoning Boards	None
Stream Maintenance Program	None
Tree Trimming Program	None
Engineering Studies for Streams (Local/County/Regional)	None
Mutual Aid Agreements	Yes, Among Volunteer Fire Departments & Ambulance Districts
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	N/A
Hazard Analysis/Risk Assessment (County)	Yes, <i>Wayne County Hazard Mitigation Plan, 2024</i>
Flood Insurance Maps	Yes, 6/16/2011
FEMA Flood Insurance Study (Detailed)	Yes, 6/16/2011 Product #: 29223CV000A
Evacuation Route Map	None
Critical Facilities Inventory	None
Vulnerable Population Inventory	None
Land Use Map	None
Staff/Department	
Building Code Official	None
Building Inspector	None
Mapping Specialist (GIS)	None
Engineer	None
Development Planner	None
Public Works Official	None
Emergency Management Director	Waylon Freeze
NFIP Floodplain Administrator	Brian Polk
Emergency Response Team	None
Hazardous Materials Expert	None
Local Emergency Planning Committee	LEPD
County Emergency Management Commission	None
Sanitation Department	None
Transportation Department	Wayne County Road & Bridge Department
Economic Development Department	Federal Grants Coordinator
Housing Department	None
Historic Preservation	Yes
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	East Wayne County Chamber of Commerce
Community Organizations (Lions, Kiwanis, etc.)	Yes, Lions Club, Rotary Club, Kiwanis Club

Source: Data Collection Questionnaire, 2023

2.2.2 City of Greenville

The City of Greenville is located in the central portion of Wayne County and serves as the county seat. The city is overseen by a mayor and city council that includes five alderpersons elected by designated wards and the mayor elected by all voters. A city clerk assists the council and mayor in the management of the city budget and operations.

The City of Greenville contracts with a local attorney for legal direction and services. Its public works director is responsible for overseeing the city’s municipal water and wastewater systems. The city relies on the Wayne Sheriff’s Department for law enforcement and the Greenville Volunteer Fire Department provides fire protection services. The East Wayne County Ambulance District provides emergency medical services for the city’s residents.

The city participates within the Ozark Foothills Local Emergency Planning District (LEPD). Consequently, the city is included within the district’s Local Emergency Operations Plan. Two outdoor warning sirens comprise the public warning siren system, which is operated by the Wayne County Sheriff’s Department. The city has no other community-specific hazard mitigation initiatives.

Per the 2022 American Community Survey, there are no non-English speaking populations included within the city. Disabled persons comprise 19.8% of the city’s population, or 72 persons. The total population of the city declined by 13.3% from 511 persons in 2010 to 443 persons in 2020 per the Decennial Census.

Table 2.7 below is based on the Data Collection Questionnaire distributed to each jurisdiction^{3, 7, and 8}.

Table 2.7. City of Greenville Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	None
Builder’s Plan	None
Capital Improvement Plan	None
Local Emergency Plan	<i>Ozark Foothills Emergency Operations Plan, 2004</i>
County Emergency Plan	N/A
Local Recovery Plan	None
County Recovery Plan	N/A
Local Mitigation Plan	<i>Wayne County Hazard Mitigation Plan, 2023</i>
County Mitigation Plan	N/A
Economic Development Plan	<i>Ozark Foothills Comprehensive Economic Development Plan, 2023</i>
Transportation Plan	<i>Ozark Foothills Regional Transportation Plan, 2023</i>
Land-use Plan	None
Flood Mitigation Assistance (FMA) Plan	None
Watershed Plan	None
Firewise or other fire mitigation plan	None, Ordinance Only
School Mitigation Plan	N/A
Critical Facilities Plan (Mitigation/Response/Reco	None
Policies/Ordinance	
Zoning Ordinance	Yes
Building Code	Yes
Floodplain Ordinance	Yes, June 2011
Subdivision Ordinance	Yes, for mobile home parks only
Tree Trimming Ordinance	No
Nuisance Ordinance	Yes

Capability	Status, Including Date of Document or Policy
Storm Water Ordinance	Yes
Drainage Ordinance	Yes
Seismic Construction Ordinance	No
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	None
Debris Management Plan	None, Ordinance Only
Program	
Zoning/Land Use Restrictions	Yes
Codes Building Site/Design	Yes
National Flood Insurance Program (NFIP)	Yes
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	Yes
Stream Maintenance Program	No
Tree Trimming Program	Yes
Engineering Studies for Streams	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	Yes, 2023
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes, 2011
FEMA Flood Insurance Study (Detailed)	Yes, 2011
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	Yes
Building Inspector	Yes
Mapping Specialist (GIS)	No
Engineer	Yes
Development Planner	Yes
Public Works Official	Yes
Emergency Management Coordinator	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	N/A
Sanitation Department	Yes
Transportation Department	No
Economic Development Department	Yes
Housing Department	No
Historic Preservation	Yes
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No

Capability	Status, Including Date of Document or Policy
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	Yes
Authority to levy taxes for a specific purpose	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 2023

2.2.3 City of Piedmont

The City of Piedmont is located in the western portion of Wayne County and is the county’s largest municipality in both land mass and population. The city is overseen by a mayor and city council that includes four council members elected by designated wards. The mayor is elected by all voters. A city clerk assists the council and mayor in the management of the city budget and operations.

The city contracts with a local attorney for legal direction and services. Its public works director is responsible for overseeing the city’s municipal water and wastewater systems. The city funds a fully operational police department to enforce laws. The Clearwater Fire Protection District provides fire protection services for city residents and business owners. The Piedmont Volunteer Fire Department provides fire suppression services for the city, with mutual aid support from the Clearwater Fire Protection District as needed. The Clearwater Ambulance District provides emergency medical services to the city’s residents. Major employers within the city include the Clearwater School District, Clark’s Mountain Nursing Home, and Z Manufacturing.

The city participates within the Ozark Foothills Local Emergency Planning District (LEPD). Consequently, the city is included within the district’s Local Emergency Operations Plan. Three outdoor warning sirens comprise the public warning system. The Piedmont Chamber of Commerce has a group text alert system informing community members of boil water alerts. The city has no other community-specific hazard mitigation initiatives.

Per the 2022 American Community Survey, there are very few non-English speaking populations included within the city (.2%). Disabled persons comprise 38.5% of the city’s population, or 1,035 persons. The total population of the city declined slightly—relative to the remainder of the planning area—by 4.1% from 1,977 persons in 2010 to 1,897 persons in 2020 per the Decennial Census.

Table 2.8 below is based on the Data Collection Questionnaire distributed to each jurisdiction^{3, 7, and 8}.

Table 2.8. City of Piedmont Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
------------	--

Planning Capabilities	
Comprehensive Plan	None
Builder's Plan	None
Capital Improvement Plan	None
Local Emergency Plan	Yes, 1994
County Emergency Plan	<i>Ozark Foothills Emergency Operations Plan, 2004</i>
Local Recovery Plan	None
County Recovery Plan	N/A
Local Mitigation Plan	<i>Wayne County Hazard Mitigation Plan, 2023</i>
County Mitigation Plan	N/A
Economic Development Plan	<i>Ozark Foothills Comprehensive Economic Development Plan, 2023</i>
Transportation Plan	<i>Ozark Foothills Regional Transportation Plan, 2023</i>
Land-use Plan	None
Flood Mitigation Assistance (FMA) Plan	None
Watershed Plan	None
Firewise or other fire mitigation plan	None
School Mitigation Plan	N/A
Critical Facilities Plan (Mitigation/Response/Recovery)	None
Policies/Ordinance	
Zoning Ordinance	Yes, 1983
Building Code	Yes, state code
Floodplain Ordinance	Yes, 2003
Subdivision Ordinance	Yes, 2015
Tree Trimming Ordinance	Yes, 2003
Nuisance Ordinance	Yes, 2003
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	Yes, 2003
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	Yes
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	None
Debris Management Plan	None
Program	
Zoning/Land Use Restrictions	Yes
Codes Building Site/Design	Yes
National Flood Insurance Program (NFIP) Participant	Yes
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	None
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	Yes
Stream Maintenance Program	No
Tree Trimming Program	Yes
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	Yes, 2023

Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes, 2011
FEMA Flood Insurance Study (Detailed)	Yes, 2011
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	Yes
Public Works Official	Yes
Emergency Management Coordinator	Yes
NFIP Floodplain Administrator	Yes
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	N/A
Sanitation Department	No
Transportation Department	No
Economic Development Department	Yes
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	Yes
Authority to levy taxes for a specific purpose	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 2023

2.2.4 City of Williamsville

The City of Williamsville is located in the southern portion of Wayne County along Missouri Highway 34. The city is overseen by a mayor and city council that includes five council members elected by designated wards. The mayor is elected by all voters. A part-time city clerk assists the council and mayor in the management of the city budget and operations.

The City of Williamsville contracts with a local attorney for legal direction and services. Its public works director is responsible for overseeing the city's municipal water and wastewater systems.

The city employs a part-time police officer who functions as the Chief of Police to provide law enforcement for the community. The Williamsville Volunteer Fire Department provides fire protection services. The East Wayne County Ambulance District provides emergency medical services for the city's residents.

The city participates within the Ozark Foothills Local Emergency Planning District (LEPD). Consequently, the city is included within the district's Local Emergency Operations Plan. One outdoor warning siren comprises the public warning system. The city has no other community-specific hazard mitigation initiatives.

Per the 2022 American Community Survey, there are no non-English speaking populations included within the city. Disabled persons comprise 41.7% of the city's population, or 118 persons. The total population of the city declined by 18.4% from 342 persons in 2010 to 279 persons in 2020 per the Decennial Census.

Table 2.7 below is based on the Data Collection Questionnaire distributed to each jurisdiction ^{3, 7, and 8}.

Table 2.9. City of Williamsville Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	None
Builder's Plan	None
Capital Improvement Plan	None
Local Emergency Plan	<i>Ozark Foothills Emergency Operations Plan, 2004</i>
County Emergency Plan	N/A
Local Recovery Plan	None
County Recovery Plan	N/A
Local Mitigation Plan	<i>Wayne County Hazard Mitigation Plan, 2023</i>
County Mitigation Plan	N/A
Economic Development Plan	<i>Ozark Foothills Comprehensive Economic Development Plan, 2023</i>
Transportation Plan	<i>Ozark Foothills Regional Transportation Plan, 2023</i>
Land-use Plan	None
Flood Mitigation Assistance (FMA) Plan	None
Watershed Plan	None
Firewise or other fire mitigation plan	None
School Mitigation Plan	N/A
Critical Facilities Plan (Mitigation/Response/Recovery)	None
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	Yes, June 2011
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	Yes
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	No
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No

Wetlands and Riparian Areas Conservation Plan	None
Debris Management Plan	None
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
National Flood Insurance Program (NFIP) Participant	Yes
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	8.5
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	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	Yes, 2023
Hazard Analysis/Risk Assessment (County)	N/A
Flood Insurance Maps	Yes, 2011
FEMA Flood Insurance Study (Detailed)	Yes, 2011
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	Yes, Part-Time
Building Inspector	Yes, Part-Time
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	No
Public Works Official	Yes, Full-Time
Emergency Management Coordinator	Yes, Part-Time
NFIP Floodplain Administrator	Yes, Part-Time
Emergency Response Team	None
Hazardous Materials Expert	No
Local Emergency Planning Committee	None
County Emergency Management Commission	N/A
Sanitation Department	Yes
Transportation Department	None
Economic Development Department	Yes
Housing Department	None
Historic Preservation	None
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	No

Community Organizations (Lions, Kiwanis, etc.)	Yes, Lions Club
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	Yes
Authority to levy taxes for a specific purpose	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 2023

2.2.5 Summary of Jurisdictional Capabilities^{3, 7, and 8}

The following table summarizes the mitigation capabilities of the county and its incorporated communities.

Table 2.10. Mitigation Capabilities Summary Table

CAPABILITIES	Unincorporated Wayne County	City of Greenville	City of Piedmont	City of Williamsville
Planning Capabilities				
Comprehensive Plan	None	None	None	None
Builder's Plan	None	None	None	None
Capital Improvement Plan	None	None	None	None
Local Emergency Plan	N/A	Yes, 2004	Yes, 2004	Yes, 2004
County Emergency Plan	Yes, 2004	N/A	N/A	N/A
Local Recovery Plan	N/A	None	None	None
County Recovery Plan	None	N/A	N/A	N/A
Local Mitigation Plan	N/A	Yes, 2023	Yes, 2023	Yes, 2023
County Mitigation Plan	Yes, 2023	N/A	N/A	N/A
Debris Management Plan	None	None	None	None
Economic Development Plan	Yes, 2023	Yes, 2023	Yes, 2023	Yes, 2023
Transportation Plan	Yes, 2023	Yes, 2023	Yes, 2023	Yes, 2023
Land-use Plan	None	None	None	None
Flood Mitigation Assistance (FMA) Plan	None	None	None	None
Watershed Plan	None	None	None	None
Firewise or other fire mitigation plan	None	None	None	None
School Mitigation Plan	N/A	N/A	N/A	N/A
Critical Facilities Plan (Mitigation/Response/Recovery)	None	None	None	None
Policies/Ordinance				
Zoning Ordinance	No	Yes	Yes	No
Building Code	No	Yes	Yes	No
Floodplain Ordinance	Yes	Yes	Yes	Yes

CAPABILITIES	Unincorporated Wayne County	City of Greenville	City of Piedmont	City of Williamsville
Subdivision Ordinance	No	No	No	No
Tree Trimming Ordinance	No	No	No	No
Nuisance Ordinance	No	No	No	Yes
Storm Water Ordinance	No	Yes	No	No
Drainage Ordinance	No	Yes	No	No
Site Plan Review Requirements	No	No	No	No
Historic Preservation Ordinance	No	Yes	No	No
Landscape Ordinance	No	No	No	No
Seismic Construction Ordinance	No	No	No	No
Program				
Zoning/Land Use Restrictions	No	Yes	Yes	No
Codes Building Site/Design	No	Yes	Yes	No
National Flood Insurance Program (NFIP) Participant	Yes	Yes	Yes	Yes
NFIP Community Rating System (CRS) Participating Community	No	No	No	No
Hazard Awareness Program	No	No	No	No
National Weather Service (NWS) Storm Ready	No	No	No	No
Building Code Effectiveness Grading (BCEGs)	No	No	No	No
ISO Fire Rating	No	No	No	Yes, 8.5
Economic Development Program	No	No	No	No
Land Use Program	No	No	No	No
Public Education/Awareness	No	No	No	No
Property Acquisition	No	No	No	No
Planning/Zoning Boards	No	Yes	Yes	No
Stream Maintenance Program	No	No	No	No
Tree Trimming Program	No	No	No	No
Engineering Studies for Streams (Local/County/Regional)	No	No	No	No
Mutual Aid Agreements	Yes	Yes	Yes	Yes

CAPABILITIES	Unincorporated Wayne County	City of Greenville	City of Piedmont	City of Williamsville
Studies/Reports/Maps				
Hazard Analysis/Risk Assessment (Local)	N/A	Yes	Yes	Yes
Hazard Analysis/Risk Assessment (County)	Yes	N/A	N/A	N/A
Flood Insurance Maps	Yes	Yes	Yes	Yes
FEMA Flood Insurance Study (Detailed)	Yes	Yes	Yes	Yes
Evacuation Route Map	No	No	No	No
Critical Facilities Inventory	No	No	No	No
Vulnerable Population Inventory	No	No	No	No
Land Use Map	No	No	No	No
Staff/Department				
Building Code Official	No	Yes	Yes	No
Building Inspector	No	Yes	Yes	No
Mapping Specialist (GIS)	No	No	No	No
Engineer	No	No	No	No
Development Planner	No	No	No	No
Public Works Official	No	Yes	Yes	Yes
Emergency Management Coordinator	Yes	Yes	Yes	Yes
NFIP Floodplain Administrator	Yes	Yes	Yes	Yes
Emergency Response Team	No	No	No	No
Hazardous Materials Expert	No	No	No	No
Local Emergency Planning Committee	N/A	Yes	Yes	Yes
County Emergency Management Commission	Yes	N/A	N/A	N/A
Sanitation Department	No	No	No	No
Transportation Department	No	No	No	No
Economic Development Department	No	No	No	No
Housing Department	No	No	No	No
Historic Preservation	Yes	Yes	Yes	No
Non-Governmental Organizations (NGOs)				

CAPABILITIES	Unincorporated Wayne County	City of Greenville	City of Piedmont	City of Williamsville
American Red Cross	No	No	No	No
Salvation Army	No	No	No	No
Veterans Groups	No	No	No	No
Environmental Organization	No	No	No	No
Homeowner Associations	No	No	No	No
Neighborhood Associations	No	No	No	No
Chamber of Commerce	Yes	Yes	Yes	No
Community Organizations (Lions, Kiwanis, etc.)	No	Yes	Yes	Yes

Financial Resources				
Apply for Community Development Block Grants	Yes	Yes	Yes	Yes
Fund projects through Capital Improvements funding	No	No	No	No
Authority to levy taxes for specific purposes	No	No	No	No
Fees for water, sewer, gas, or electric services	No	Yes	Yes	Yes
Impact fees for new development	No	No	No	No
Incur debt through general obligation bonds	No	No	No	No
Incur debt through special tax bonds	No	No	No	No
Incur debt through private activities	No	No	No	No
Withhold spending in hazard prone areas	No	No	No	No

Source: Data Collection Questionnaires, 2023

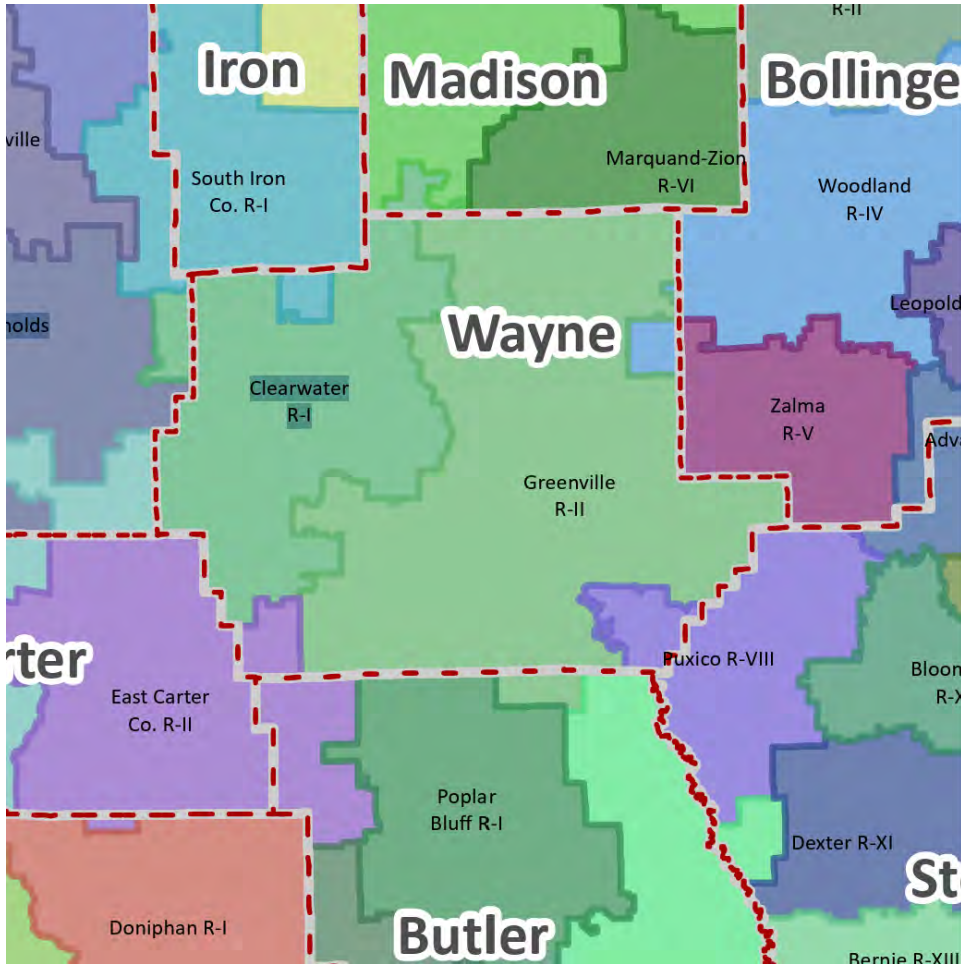
2.2.6 Special District

No special districts participated as contributing jurisdictions within the update of this plan.

2.2.7 School District Profiles and Mitigation Capabilities

Both school districts within Wayne County, Missouri participated within the current plan update. The two school Districts include Clearwater R-I School district and Greenville R-II School District. Clearwater R-I School District is headquartered in Piedmont, Missouri while Greenville R-II is headquartered in Greenville, Missouri. Four other school districts—East Carter R-II, South Iron R-I, Puxico R-VIII, and Woodland R-IV have small portions of service areas located within the county. Though invited to participate in the plan update, only one district—East Carter County R-II—attended the planning meetings. A map of the school districts within Wayne County is depicted below within Figure 2.3.

Figure 2.3. Wayne County, School District Map



Source: [School Districts Map County 2023-24.pdf](#)

Data limitations regarding the school district may exist as both Clearwater R-I and Greenville R-II have small portions of service area located in adjacent counties. For example, Greenville R-II

extends slightly into northern Butler County while Clearwater R-I's service area extends into southeastern Reynolds County and southwestern Madison County.

Table 2.11. School Districts in Wayne County, Buildings and Enrollment Data, Fall 2023

District Name	Building Name	Building Enrolment
Clearwater R-I School District	Clearwater Elementary School (PK-4)	400
Clearwater R-I School District	Clearwater Middle School (5-8)	265
Clearwater R-I School District	Clearwater High School (9-12)	246
Greenville R-II School District	Greenville Elementary School	287
Greenville R-II School District	Greenville Jr. High School	128
Greenville R-II School District	Greenville High School	204
Greenville R-II School District	Williamsville Elementary School	65

Source: <https://dese.mo.gov/school-data>, 2023

Both of the school districts headquartered within the county are overseen by a board of persons residing in the district and elected by residents of each respective district service area. The “school boards” then hire a school superintendent who manages the day-to-day operations of their respective school district including the compilation and update of all planning documents.

Both Districts maintain annual operating budgets, as well as Comprehensive School Improvement Plans (CDIPs) and Capital Improvement Plans. The CSIPs is considered a district’s master plan and focuses upon not only upon maximizing student achievement, but also improving facilities, finances, safety, and staffing. In the process of updating and revising each planning piece, the superintendents have committed to ensuring the mitigation actions identified within this planning document are considered for inclusion as permissibly appropriate.

Each superintendent was invited to join the Wayne County Hazard Mitigation Planning Committee as a representative of their district. Both superintendents met the minimum participation requirements as defined by the committee throughout the plan update process.

Table 2.12 on the following page summarizes the school districts’ capabilities for hazard mitigation. The information in this table was pulled from the completed Data Collection Questionnaires.

Table 2.12. Summary of Mitigation Capabilities-Clearwater R-I and Greenville R-II School Districts

Capability	Clearwater R-I School District	Greenville R-I School District
Planning Elements		
Master Plan/ Date	Yes, 4/11/2023 (District CSIP Plan)	Yes, June 2023 (District CSIP Plan)
Capital Improvement Plan/Date	Yes, 9/13/2022	August 2022
School Emergency Plan / Date	Yes	Yes
Weapons Policy/Date	Yes	Yes
Personnel Resources		
Full-Time Building Official (Principal)	Yes, 3—1 @ each school	Yes, 4—1@ each school
Emergency Manager	Yes, District Safety Coordinator (Elementary Principal)	Superintendent
Grant Writer	No	No
Public Information Officer	Yes (Superintendent)	Superintendent
Financial Resources		
Capital Improvements Project Funding	No	Yes
Local Funds	No	No
General Obligation Bonds	Yes (Limited by vote)	Yes
Special Tax Bonds	No	No
Private Activities/Donations	No	No
State and Federal Funds/Grants	No	Yes
Other		
Public Education Programs	Yes	Yes
Privately or Self- Insured?	Private	Private
Fire Evacuation Training	Yes	Yes
Tornado Sheltering Exercises	Yes	Yes
Public Address/Emergency Alert System	Yes	Yes
NOAA Weather Radios	Yes	Yes
Lock-Down Security Training	Yes	Yes
Mitigation Programs	Yes	Yes
Tornado Shelter/Saferoom	Yes (@ elementary school)	Yes (@ both elementary schools)
Campus Police	Yes – 1.5 FTE SRO's Contracted via County Sheriff's Office	Yes – 1.0 FTE SRO's Contracted via County Sheriff's Office

Source: Data Collection Questionnaires, 2023

3 RISK ASSESSMENT

3	RISK ASSESSMENT	1
3.1	<i>HAZARD IDENTIFICATION</i>	<i>4</i>
3.1.1	Review of Existing Mitigation Plans	4
3.1.2	Review Disaster Declaration History.....	5
3.1.3	Research Additional Sources	7
3.1.4	Hazards Identified.....	9
3.1.5	Multi-Jurisdictional Risk Assessment	10
3.2	<i>ASSETS AT RISK</i>	<i>10</i>
3.2.1	Total Exposure of Population and Structures.....	11
	Unincorporated County and Incorporated Cities.....	11
3.2.2	Critical and Essential Facilities and Infrastructure	12
3.2.3	Other Assets.....	20
3.3	<i>LAND USE AND DEVELOPMENT.....</i>	<i>24</i>
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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.

Following is a community-wide risk assessment for Wayne County, Missouri. The data used to compile this assessment can be found throughout the body of this document, primarily in the profile of each hazard and capabilities of each jurisdiction. The natural hazards discussed throughout this document were examined using available data relevant and necessary for determining the frequency and strength of natural hazards, areas vulnerable to those hazards, potential impacts, and the probability that each hazard will occur.

The goal of the risk assessment is to identify and profile hazards relevant to the county and its communities. For each identified hazard, the potential loss in the planning area, including loss of life, personal injury, property damage, and economic loss, is estimated as resulting from such an 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.

The Wayne County Hazard Mitigation Planning Committee has determined that this updated plan, as with past county plans, will address only natural hazards. Natural hazard has been defined by I. Burton, R. Kates, and G. White in *The Environment as Hazard*, as “those elements of the physical environment, harmful to man and caused by forces extraneous to him.” Consistent with this definition, war, chemical contamination, and other manmade phenomena are excluded from classification as natural hazards. Natural hazards can take many forms (e.g. tornado, wildfire, flood, landslide, and earthquake). Happenings such as those listed above, which occur in a populated area, are, according to the Organization of American States, referred to as hazardous events. It is not until significant property damage and loss of life result from a natural hazard that the phenomena can legitimately be classified as a natural disaster.

3.1.1 Review of Existing Mitigation Plans

The planning committee reviewed the hazards identified in the *2018 Wayne County Hazard Mitigation Plan, 2018*. In the 2018 county-wide plan, ten natural hazards were identified:

- Flooding
- Dam Failure
- Earthquakes
- Sinkholes
- Drought
- Extreme Temperatures
- Severe Thunderstorm, High Winds, Lightning, Hail
- Severe Winter Weather
- Tornadoes
- Wildfire

Furthermore, the planning committee examined those hazards identified as applicable to the State of Missouri per the *Missouri State Hazard Mitigation Plan, 2023*. Those hazards listed above, as well as levee failure were identified. The planning committee reviewed all eleven natural hazards and compared them to the known historical hazards that have impacted jurisdictions within Wayne County. After this review, the committee determined the above list of ten natural hazards to be appropriate for the planning area, thereby requiring no modification.

The updated plan will review and analyze the natural hazards as listed above. Each of the above listed phenomena has either occurred within Wayne County at some point in time or could occur given the geography and other environmental conditions which exist within the county. Some of the above hazards are more likely to occur in this area, while some are less likely.

In the pages that follow, each hazard will be described, its history of occurrence within the planning area, and its probability of recurrence assessed.

Due to the location and geography of Wayne County, the occurrence of certain natural hazards, which may take place elsewhere in the world, is virtually impossible. The following list contains natural hazards, which have been determined to be insignificant threats within Wayne County:

- avalanche;
- coastal erosion;
- coastal storms;
- expansive soils;
- landslide/rockfall;
- hurricane and other tropical storm-related phenomena;
- tsunamis;
- volcano and other volcanic-related phenomena; and,
- arid and semi-arid-related phenomena.

No identified avalanche risk areas exist within the planning area and there exists no history of occurrence. There are no coastal areas in the state or in the planning area. Per the Missouri Department of Natural Resources, no areas at risk of expansive soils have been identified as located within the county or the state. Landslides and/or rockfalls are considered to be a widespread hazard of concern in neither the planning area, nor the state, per the Missouri Department of Transportation (MoDOT). Any such risk areas, as well as consequential mitigation, fall under the jurisdiction of MoDOT. Per the state plan, “It was determined that additional analysis of these limited areas would duplicate effort.” Hurricanes, tropical storms, and tsunamis do not occur in or near Wayne County due to its central location within North America. The geologic and soil structure found in Wayne County is not conducive to volcanic activity. Because of this, there are no volcanoes within or near the county. Finally, arid and semi-arid-related phenomena do not occur in Wayne County due to its climate and geology. As with the previous plan, levee failure will not be reviewed in this plan. Per the Wayne County Commission, no levees exist within Wayne County. Furthermore, there are no mapped levees nor associated levee protected areas within or immediately upstream of Wayne County.

In Missouri, local plans customarily include only natural hazards. The planning committee discussed including man-made hazards in the Wayne County Hazard Mitigation Plan. However, as only natural hazards are required by FEMA regulations, the committee decided to only include natural hazards.

3.1.2 Review Disaster Declaration History

The federal government may, at times, issue disaster declarations. 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.

Missouri State of Emergencies are Executive Orders 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. If an Executive Order resulted in a Federal Disaster Declaration, the Federal Declaration will be listed in Table 3.1.

The Stafford Act provides for two types of federal disaster declarations: emergency declarations and major disaster declarations. Declarations discussed within this plan include both types. The emergency declarations authorize the President to provide supplemental disaster assistance. Major disaster declarations provide for a wide range of federal assistance programs for

individuals and public entities for both emergency and permanent repairs.

Individual assistance includes assistance to individuals and households for things such as crisis counseling, case management, unemployment assistance, legal services and 3.6 supplemental nutrition assistance program. Public assistance provides monetary resources to states, tribes, and local governments for things such as debris removal, emergency protective measures, roads and bridges, water control facilities, buildings and equipment, utilities, and park, recreational and other facilities.

As noted above, 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.

The following table (**Table 3.1**) lists the federal FEMA disaster declarations that included the planning area from 1965 to present. The table lists twenty-five disasters including the disaster number, a short description, the date of declaration, the period of incident, and the amounts of Individual Assistance (IA) and Public Assistance (PA) distributed.

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

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
DR-4741	Severe Storm	9/21/2023 7/29/2023-8/14/2023	PA Only
DR-4636	Severe Storm	1/10/2022 12/10/2021-12/10/2021	PA Only
DR-4552	Severe Storm	7/9/2020 5/3/2020-5/4/2020	PA Only
DR-4490	Biological	3/26/2020 1/20/2020-5/11/2023	PA Only
EM-3482	Severe Storm	3/13/2020 1/20/2020-5/11/2023	PA Only
DR-4551	Flood	7/9/2019 4/29/2019-7/5/2019	PA Only
DR-4317	Flood	6/2/2017 4/28/2017-5/11/2017	PA Only
EM-3374	Flood	01/02/2016 12/22/2015-1/9/2016	PA Only
EM-3317	Severe Storm	2/3/2011 1/31/2011-2/5/2011	PA Only
EM-3303	Severe Ice Storm	1/30/2009 1/26/2009-1/28/2009	PA Only
EM-3281	Severe Ice Storm	12/12/2007 12/8/2007-12/15/2007	PA Only
EM-3232	Hurricane	9/10/2005 8/29/2005-10/1/2005	PA Only
EM-3017	Drought	9/24/1976 9/24/1976-9/24/1976	PA Only
DR-1980	Severe Storm	5/9/2011 4/19/2011-6/6/2011	PA Only
DR-1847	Severe Storm	6/19/2009 5/8/2009-5/16/2009	PA Only

DR-1822	Severe Storm	2/17/2009 1/26/2009-1/28/2009	PA Only
DR-1809	Severe Storm	11/13/2008 9/11/2008-9/24/2008	PA Only
DR-1749	Severe Storm	3/19/2008 3/17/2008-5/9/2008	IA & PA
DR-1748	Severe Ice Storm	3/12/2008 2/10/2008-2/14/2008	PA Only
DR-1412	Severe Storm	5/6/2002 4/24/2002-6/10/2002	PA & IA
DR-1006	Severe Storm	12/1/1993 11/13/1993 - 11/19/1993	IA & PA
DR-995	Flood	7/9/1993 6/10/1993-10/25/1993	IA Only
DR-672	Flood	12/10/1982 12/10/1982	IA & PA
DR-516	Flood	7/21/1976 7/21/1976	IA & PA
DR-372	Severe Storm	4/19/1973 4/19/1973-4/19/1973	IA & PA

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

3.1.3 Research Additional Sources

Multiple sources of data were consulted during the assessment of hazard risk to each participating jurisdiction and included the following:

- Missouri Hazard Mitigation Plan, 2023
- Wayne County Hazard Mitigation Plan (2018)
- 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
- 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);
- Wayne County Emergency Management Agency
- Wayne 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 with citations provided within the body of the plan

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. 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. 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 are broad estimates. 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.

Injuries and deaths caused by a storm event are reported by the NOAA on an area-wide basis. Any death or injury listed in connection with a hazard event may or may not have occurred within the participating jurisdiction.

3.1.4 Hazards Identified

Not all of the hazards included in this plan impact the entire planning area in the same manner; yet, some hazards do have the potential to impact the entire planning area. For example, winter weather will impact the entire planning area as the county, all cities and school districts will be impacted to some degree when severe winter weather strikes the county. The table below lists each jurisdiction and each hazard significantly impacting that jurisdiction in alphabetical order. An “x” indicates that the hazard has the potential to impact a jurisdiction and has been chosen for further analysis, whereas, an “-“ indicates the hazard is not applicable to the 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
Wayne County	x	x	x	x	x	x	-	x	x	x	x
City of Greenville	x	-	x	x	-	x	-	x	-	x	x
City of Piedmont	x	-	x	x	x	x	-	x	-	x	x
City of Williamsville	-	-	x	x	-	x	-	x	x	x	x
Clearwater R-I School District	x	-	x	x	-	-	-	x	x	x	x
Greenville R-II School District	-	-	x	x	-	-	-	x	x	x	x

3.1.5 Multi-Jurisdictional Risk Assessment

Following is a multi-jurisdictional hazard profile for Wayne County, Missouri and all the jurisdictions within the boundaries of Wayne County. The data used to compile this assessment can be found throughout the body of Section 3 as well as the tables included in this section.

This plan is an update of the *Wayne County Natural Hazard Mitigation Plan* approved in 2019. The data and information included reflect changes and updates in the five years since the 2019 plan approval.

Each of the hazards has a profile that includes an assessment of the risks to the local participating jurisdictions. Some hazards, such as flooding, vary in risk across the planning area. These variations in risk are discussed within the profile of each hazard.

Wayne County is located in the northeastern portion of the Ozark Foothills Region. The climate in Wayne County is consistent throughout the year; temperatures and precipitation are fairly uniform. There are some variations of topography throughout the county. These topographical differences and the relative impact of hazards will be discussed in more detail throughout the hazard profiles. A variety of recreational areas, including Clearwater Lake, Wappapello Lake, Sam A. Baker State Park, Markham Springs, Old Greenville U.S. Historic Site, Mark Twain National Forest, Coldwater State Forest, Black River, and the Saint Francis River are located in the county. There are no urbanized areas within the county.

In addition to topographical differences there are other variations across the county that will be discussed in greater detail throughout the hazard profiles. Some of these differences include the locations of dams that can impact certain areas, flooding along rivers that will impact different areas of the county to various extents, sinkholes, and concentrations of agricultural lands and forests. Such differences throughout the planning area will be discussed in greater detail in the vulnerability sections of each hazard under a separate heading.

3.2 ASSETS AT RISK

This section assesses the planning area population, structures, critical facilities and infrastructure, and other important assets that may be at risk of damage from natural hazards. There have been limited changes to the planning areas since the approval of the 2019 *Wayne County Hazard Mitigation Plan*.

The best data available for the planning area was used to describe all assets at risk. Regarding the Flood Risk Datasets, data falls within the following categories which may or may not be available for the planning area:

- **Good:** If a digital FIRM (DFIRM) is not available for the flood risk analysis, use the census block exposure data out of Hazus or available as a Tiger/Line (note links above). If this method is chosen, apply corporate boundaries of jurisdictions in the plan to the GIS data available to parse out assets at risk for each jurisdiction. If this method is chosen, use this exposure data for all hazards so that the analysis is consistent.
- **Better:** If a DFIRM is available for the flood risk assessment AND parcel data is available in GIS format w/ associated building values—but not in a format that can be imported into Hazus, analysis can be done to show parcels and associated values in the planning area compared against the actual regulatory floodplain. The limitation with this is that your potential loss estimates will not be based on a depth/damage function as they are in Hazus.

But, this is still a much more accurate picture of what is vulnerable to flooding than using the Hazus estimated floodplain and census block. If you use this method for the flood risk assessment, it is best to use the parcel data for the total exposure for all hazards so that the analysis is consistent. Contents values are not usually included w/ parcel data structure values. However, using the formulas that Hazus uses, they can be calculated. Residential (50%), Commercial (100%), Industrial (150%), Agricultural (100%).

- **Best:** If DFIRM with depth grids are available, as produced during the Risk MAP process, AND parcel data is available in GIS format AND parcel data is in a format compatible w/ Hazus' user-defined data, this gives the best analysis. This provides the actual parcels and associated values in the planning area against the actual regulatory floodplain and will also take into account the depth-damage function in Hazus.

3.2.1 Total Exposure of Population and Structures

Unincorporated County and Incorporated Cities

In the following three tables, population numbers are based on data collected during the 2020 Decennial Census. Building counts and building exposure values are based on parcel data developed by the State of Missouri Geographic Information Systems (GIS) database. This data, organized by County, is available on Google Drive at <https://drive.google.com/drive/folders/0Bzq99s866kWocFB5Y3hCRIRuWWM> . 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 within the source documentation for **Table 3.3** below.

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. 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 Decennial Census	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
City of Greenville	443	164	30,199,000	17,636,000	47,835,000
City of Piedmont	1,897	792	114,264,000	64,126,000	178,390,000
City of Williamsville	279	134	15,067,000	7,894,000	22,961,000
Village of Mill Spring	159	79	8,133,000	4,057,000	12,190,000
Unincorporated Wayne	8,196	7,850	624,276,000	342,514,000	966,790,000

Total	10,974	9,019	791,939,000	436,227	1,228,166,000
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Source: U.S. Bureau of the Census, Decennial Census, Building Count and Building Exposure, Missouri GIS Database from SEMA Mitigation Management; Contents Exposure derived by applying multiplier to Building Exposure based on Hazus MH 2.1 standard contents multipliers per usage type as follows: Residential (50%), Commercial (100%), Industrial (150%), Agricultural (100%). Government, school, and utility were calculated at the commercial contents rate.

Table 3.4. Building Values/Exposure by Usage Type

Jurisdiction	Residential (\$)	Commercial (\$)	Educational (\$)	Governmental (\$)	Industrial (\$)	Agricultural (\$)	Total (\$)
City of Greenville	24,727,000	17,155,000	4,315,000	1,633,000	0	5,000	30,199,000
City of Piedmont	135,421,000	32,072,000	5,394,000	3,266,000	2,195,000	43,000	114,264,000
City of Williamsville	21,443,000	1,492,000	0	0	0	26,000	15,067,000
Village of Mill Spring	12,170,000	0	0	0	0	20,000	8,133,000
Unincorporated	863,138,000	44,752,000	539,000	52,682,000	52,682,000	4,046,000	624,276,000
Total	1,057,093,000	95,470,000	10,248,000	6,532,000	54,877,000	4,139,000	791,939,000

Source: Missouri GIS Database, SEMA Mitigation Management Section

Table 3.5. Building Counts by Usage Type

Jurisdiction	Residential Counts	Commercial Counts	Educational Counts	Governmental Counts	Industrial Counts	Agricultural Counts	Total
City of Greenville	128	23	8	1	0	4	164
City of Piedmont	701	43	10	2	1	35	792
City of Williamsville	111	2	0	0	0	21	134
Village of Mill Spring	63	0	0	0	0	16	79
Unincorporated Wayne	4,468	60	1	1	24	3,296	7,850
Totals	5,471	128	19	4	25	3,372	9,019

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	Enrollment	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
Clearwater R-I School District	911	9	38,924,537	5,274,239	44,208,776
Greenville R-II School District	701	No Response	No Response	No Response	No Response

Source: <http://mcids.dese.mo.gov/quickfacts/Pages/District-and-School-Information.aspx>, Data Collection Questionnaires

3.2.2 Critical and Essential Facilities and Infrastructure

This section will include information from the Data Collection Questionnaires 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 Questionnaires provided by each participating jurisdiction as well as the following sources:

Facilities housing chemicals (fueling stations, etc.) are categorized by the Environmental Protection Agency (EPA) as either Tier I or Tier II facilities. Any EPA-regulated facility in the U.S. that stores or handles more than 10,000 pounds of hazardous chemicals are subject to annual Tier II inventory reporting requirements. Although few in number relative to other counties in the state, such facilities do exist within Wayne County. A listing of Tier II Facilities located within the planning area is provided below and was sourced from the SEMO Regional Local Emergency Planning District (LEPD)--the multi-county LEPD serving the county.

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 Greenville	0	0	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1	0	1	3	0	2	1	14
City of Piedmont	1	1	1	1	1	0	1	1	0	0	1	1	0	0	1	1	1	1	1	2	0	49	1	17
City of Williamsville	0	0	0	1	1	0	1	2	0	0	0	0	0	0	0	0	1	1	1	0	0	12	1	9
Village of Mill Spring	0	0	0	1	1	0	1	2	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	8
Wayne County -	0	0	0	2	1	0	5	2	0	0	1	0	0	0	1	1	1	1	0	2	0	13	0	17
Totals	1	1	2	6	5	0	9	8	0	0	3	1	0	0	3	3	5	4	4	7	0	76	3	65

Source: Missouri State Hazard Mitigation Plan, 2023 and Hazard Mitigation Viewer; Data Collection Questionnaires; Hazus, SEMO Regional LEPD

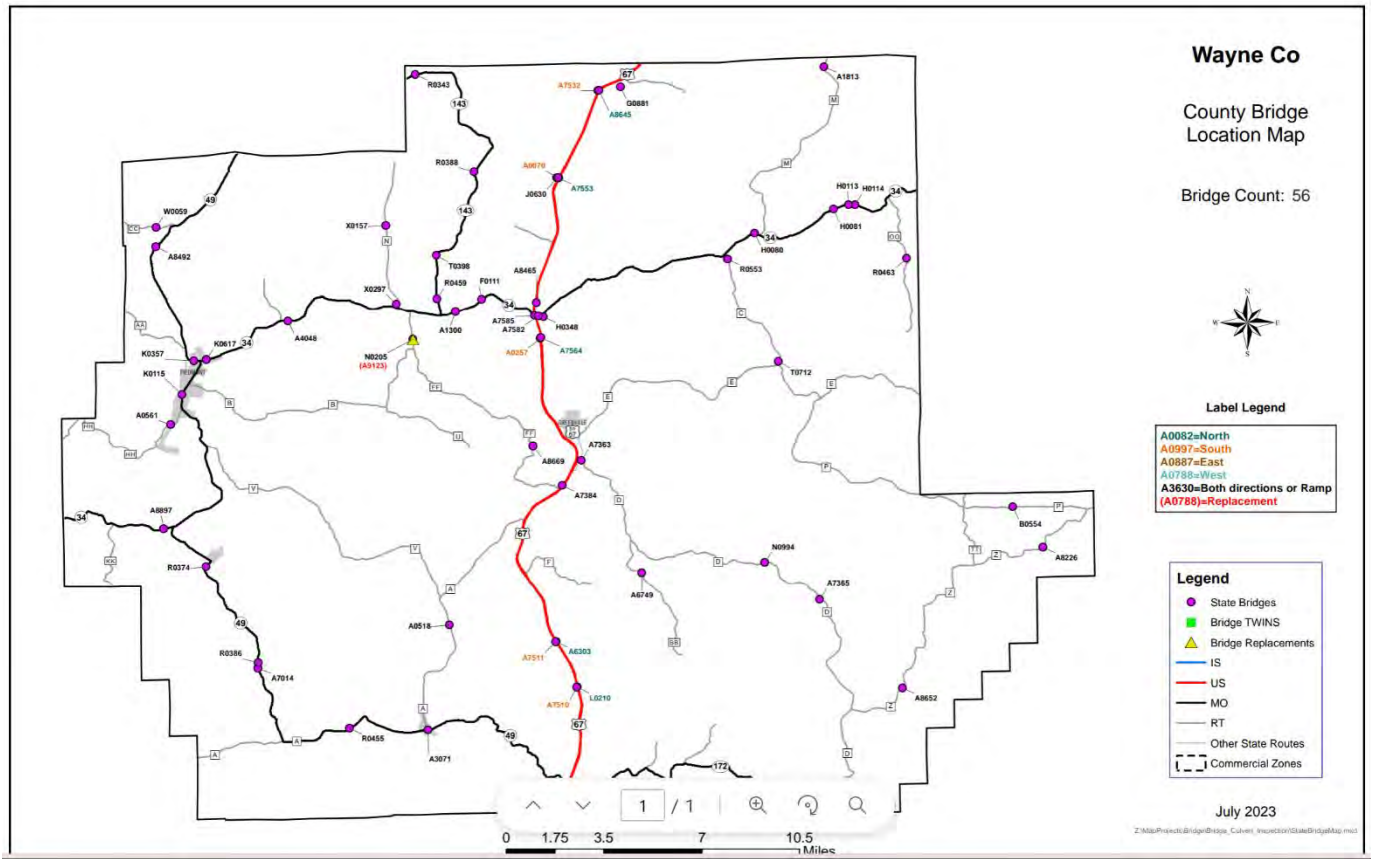
According to the National Bridge Inventory found at <http://www.fhwa.dot.gov/bridge/nbi/no10/county.cfm>, there are 198 bridges located within Wayne County and its incorporated jurisdictions. The condition of 71 of bridges located within the planning area are rated as “Good,” 118 rated as “Fair,” and 9 rated as being in “Poor” condition. Four of the county’s 198 bridges are federally owned and maintained—all are in “Good” condition. Federally maintained bridges in Wayne County comprise less than 1% of total bridge square footage in the county. The remaining 194 bridges are owned and maintained by either the county, municipalities, or private landowners.

There are four maps included within Figure 3.1. The first two maps show the location of all bridges in Wayne County. The first map shows state-owned/maintained bridges, while the second map shows non-state-owned structures including both bridges and culverts. The third map shows the location of bridges and culverts within the county’s largest municipality (the City of Piedmont).

The final map in Figure 3.1 identifies the bridges that are “scour critical.” This term refers to one of the database elements in the National Bridge Inventory and is quantified using a “scour index.” The “scour index” 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.

A scour critical bridge is susceptible to scouring or the removal of sediments, such as sand and rocks from around the bridge abutments or piers by swiftly moving water. The Missouri Department of Transportation uses a classification system of A-D to indicate the potential for scour on the bridges it maintains. Those bridges in the “A” class are those that are most vulnerable and those in the “D” class are the least vulnerable to scour. As can be seen upon the final map in Figure 3.1, six bridges within the planning area are rated as scour critical—four state-owned bridges and two non-state bridges. The four state-owned scour critical bridges are rated C and D. Fortunately, no scour critical bridges are located within the limits of municipal jurisdictions within the county.

Figure 3.1. Wayne County Bridges



NON STATE STRUCTURES
PIEDMONT

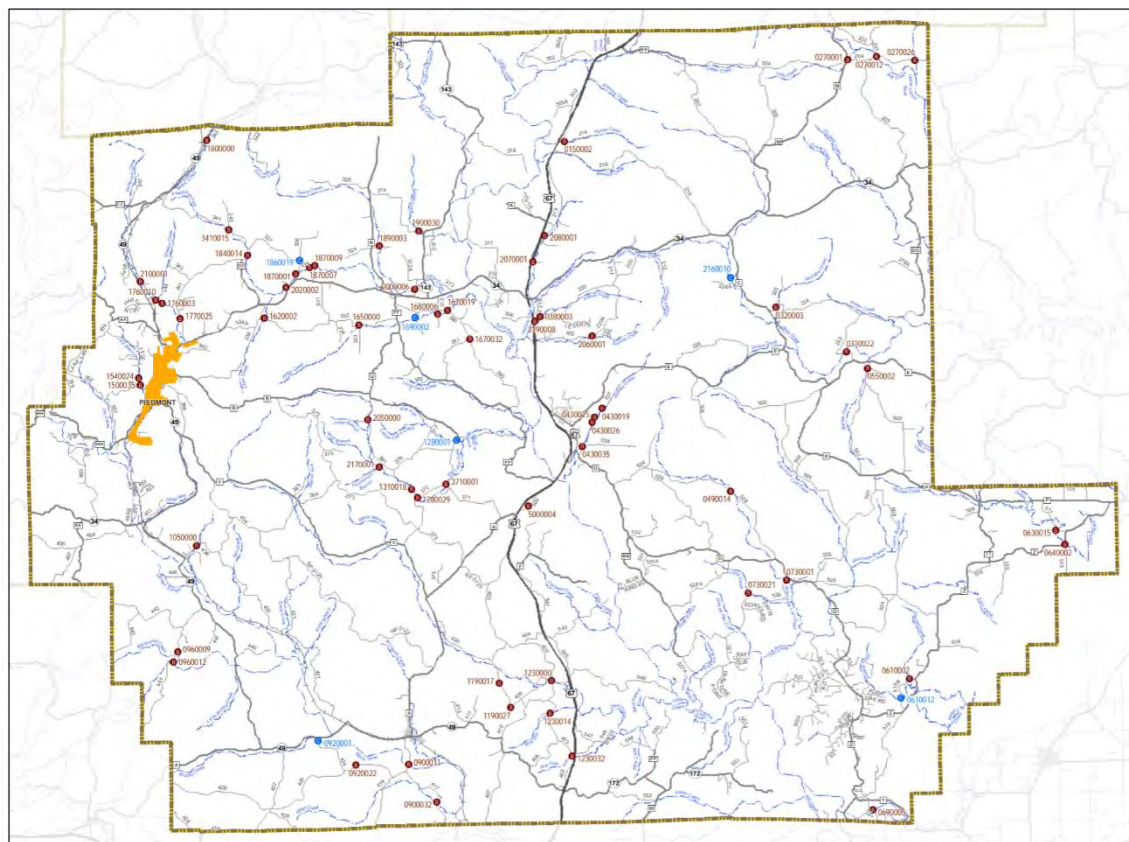


- Bridge
- Culvert



Date: 5/3/2023

**NON STATE
STRUCTURES**
WAYNE
County
111

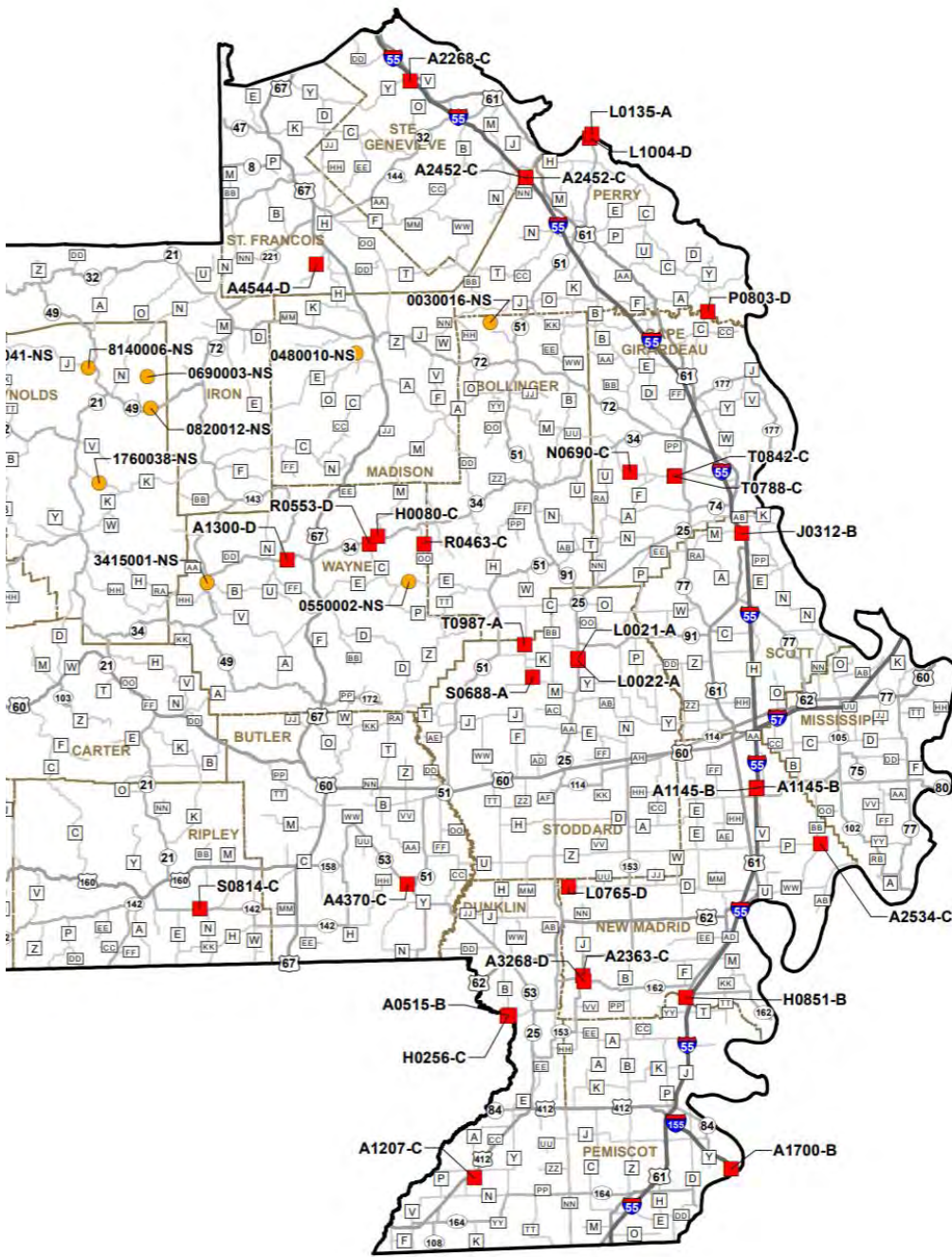


- Bridge
- Culvert
- See Inset Maps



Date: 4/27/2023

2022 SOUTHEAST DISTRICT Scour Critical Map



- State System
- Non State System



Missouri Department of Transportation
Transportation Planning
1-888-ASK-MODOT
WWW.MODOT.ORG
September 23, 2022



An interactive website developed by Transportation for America purportedly allows users to locate and map structurally deficient bridges in their area. Transportation for America is an alliance of elected, business, and civic leaders from communities across the country, united to encourage states and the federal government to invest in smart, homegrown, locally-driven transportation solutions. Unfortunately, the mapping tool found <http://t4america.org/maps-tools/bridges/> is unusable.

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.

(Table 3.8) below shows Federally Threatened, Endangered, Proposed and Candidate Species in the planning area.

Table 3.8. Threatened and Endangered Species in Wayne County

Common Name	Scientific Name	Status
Gray Bat	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	Proposed Threatened
Curtis Pearlymussel	<i>Epioblasma florentina curtisii</i>	Endangered
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered
Western Fanshell	<i>Cyprogenia aberti</i>	Threatened
Hine's Emerald Dragonfly	<i>Somatochlora hineana</i>	Endangered
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate
Big Creek Crayfish	<i>Faxonius peruncus</i>	Threatened
St. Francis River Crayfish	<i>Faxonius quadruncus</i>	Threatened
Mead's Milkweed	<i>Asclepias meadii</i>	Threatened

Source: U.S. Fish and Wildlife Service, <https://ecos.fws.gov/ipac/>

The 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 county.

Table 3.9. Parks in Wayne County

Park / Conservation Area	Address/Location/Driving Directions	City
Sam A. Baker State Park	MO Highway 143, Des Arc, MO 63636	Unincorporated Portion of
Lake Wappapello State Park	MO Highway 172, Williamsville, MO 63967	Unincorporated Portion of
Rotary Park	300 Pittsburg Street	Piedmont
Handy Park	200 East Elm	Piedmont
Chapman Park	N 2 nd & W Green Streets	Piedmont
Ash Park	210 Ash Street	Piedmont
Clearwater Lake Management Lands	7914map.eps (mo.gov)	Unincorporated Portion of Wayne County
Riverside Conservation Area	4643map.eps (mo.gov)	Unincorporated Portion of Wayne County
Lon Sanders Canyon Conservation Area	8827map.pdf (mo.gov)	Unincorporated Portion of Wayne County
Clearwater District Headquarters	5309map.eps (mo.gov)	Unincorporated Portion of Wayne County
Graves Mountain Conservation Area	4621map.eps (mo.gov)	Unincorporated Portion of Wayne County
Coldwater Access	9239map.eps (mo.gov)	Unincorporated Portion of Wayne County
Flatwoods Conservation Area	Flatwoods Conservation Area Map (mo.gov)	Unincorporated Portion of Wayne County
Coldwater Conservation Area	4634map (mo.gov)	Unincorporated Portion of Wayne County
Wappapello Lake, Greenville Recreation Area	Wappapello Lake, Greenville Recreation Area (U.S. Army Corps of Engineers) Missouri Department of Conservation (mo.gov)	Unincorporated Portion of Wayne County
Bradley A. Hammer Memorial Conservation Area	9629map.eps (mo.gov)	Unincorporated Portion of Wayne County
Iron Bridge Access	9227map.eps (mo.gov)	Unincorporated Portion of Wayne County
Wappapello Lake Management Lands	6627map.eps (mo.gov)	Unincorporated Portion of Wayne County
Wappapello Lake, Chaonia Landing Recreation Area	From the junction of Highways 67 and 172, take Highway 172 east, then north on Route W to the lake.	Unincorporated Portion of Wayne County
Yokum School Conservation Area	6530map.eps (mo.gov)	Unincorporated Portion of Wayne County
University Forest Conservation Area	8850map.eps (mo.gov)	Unincorporated Portion of Wayne County
Wappapello Lake, Spillway Recreation Area	From the junction of Highway 51 and Route T south of Puxico, take Route T west to the	Unincorporated Portion of Wayne County

	spillway.	
Duck Creek Conservation Area	Duck Creek Conservation Area (mo.gov)	Unincorporated Portion of Wayne County

Source: Data Collection Questionnaires; Missouri Department of Natural Resources, [Park and Site Status Viewer \(arcgis.com\)](http://www.mdnr.com); Missouri Department of Conservation ([Find Places To Go | Missouri Department of Conservation \(mo.gov\)](http://www.mdc.com))

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.

According to Andrew Rumbach—a professor of planning at the University of Colorado, Denver, “Many historic resources were built before modern flood regulations and modern building codes, so they’re located in areas that are prone to these kinds of disasters.” In some communities, historic structures may be integral to the area’s local economy via the tourism industry. In others, such structures may provide a sense of identity and heritage to a community’s residents. Two programs—the National Park Service’s Certified Local Government Program and the National Main Street Program can assist local governments in identifying ways to mitigate damage to historic resources

The National Main Street Program helps member communities outline a clear deliberate path to revitalize and strengthen their downtown or commercial districts. The program is implemented by the National Mainstreet Center—a subsidiary of the National Trust for Historic Preservation. Through the program, communities develop a revitalization plan based upon market data and organized around economic vitality, design, promotion, and organization. There are no Main Street communities within the planning area.

The Certified Local Government Program is a partnership between national, state, and local governments developed to help communities save the irreplaceable historic character of places. Local communities must become certified as a CLG through a process overseen by the National Park Service, communities make a local commitment to historic preservation. Communities that have these programs typically have infrastructure designed to protect historic sites. There are no Certified Local Governments within Wayne County.

The properties listed in the below table are located within the planning area and are on the National Register of Historic Places (**Table 3.10**).

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

Property	Address	City	Date Listed
Fort Benton	3.5 miles south of US 67 and MO 34	Patterson	10/21/2002
Old Greenville	Address Restricted	Greenville	2/17/1990
Sam A. Baker State Park Historic District	St. Francis Mountains bounded roughly	Patterson	2/27/1985

Source: Missouri Department of Natural Resources – Missouri National Register Listings by County
<http://dnr.mo.gov/shpo/mnrlist.htm>

Economic Resources:

Table 3.11 shows major non-governmental employers in the planning area.

Table 3.11. Major Non-Government Employers in Wayne County

Employer Name	Main Location	Product or Service	Employees
McAllister Software	Piedmont	Technology	180
Clearwater School	Piedmont	Education	170
Greenville R-II School District	Greenville	Education	118
Fine Laboratories, Inc.	Piedmont	Aircraft Component Fabrication	100
Kerry Industries	Piedmont	Food Production	
Z Manufacturing Inc.	Piedmont	Sewing Products & Screen Printing	150
Clark Mountain Nursing	Piedmont	Healthcare	42

Source: Data Collection Questionnaires; Piedmont Area Chamber of Commerce; East Wayne Chamber of Commerce

Agriculture: Agriculture plays a somewhat important role in Wayne County and consists primarily of livestock farming. According to the United States Department of Agriculture 2012 Census of Agriculture, there were 411 farms in Wayne County and 116,617 acres of land in farms. The market value of agricultural products sold that were produced within Wayne County in 2012 was \$7,788,000. Twenty percent of this total was crop sales at \$1,555,000; while, 80% was livestock sales at \$6,233,000. Per USDA’s Missouri Cattle County Estimates (May 2023), 11,500 head of cattle were farmed in Wayne County—a figure relatively low when compared to other Missouri counties, the highest of which is Lawrence County with 115,000 head. **Table 3.12** provides a summary of the agriculture-related jobs in Wayne County.

Table 3.12. Agriculture-Related Jobs in Wayne County

Agricultural Identifier	Number/Amount
Farms with Workers	62
Total Farm Workers	128
Total Annual Payroll	\$761,000
Farms with Unpaid Workers	147
Unpaid Farm Workers	326

Source: USDA, Census of Agriculture, 2017

3.3 LAND USE AND DEVELOPMENT

3.3.1 Development Since Previous Plan Update^{5(e)}

There have been few developmental changes in the planning area since the previously approved plan was adopted. Consequently, there has been little change to hazard risk within the planning area. Building permit data from the U.S. Census Bureau (found at <https://www.census.gov/construction/bps/>) is not available by county or place. Wayne County does not issue building permits.

Table 3.13 provides the population growth statistics for all cities in Wayne County as well as the county as a whole. Due to the size of the cities within the county, the most accurate and recent data available is that collected during the 2020 Decennial Census.

Table 3.13. County Population Change, 2010-2020

Jurisdiction	Total Population 2010	Total Population 2020	2010-2020 # Change	2000-2020 % Change
Wayne County	13,521	10,974	-2,547	-18.8
City of Greenville	511	443	-68	-13.3
City of Piedmont	1,977	1,897	-80	-4.0
City of Williamsville	342	279	-63	-18.4
Village of Mill Spring	189	159	-30	-15.9

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

Population growth or decline is generally accompanied by increases or decreases 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
Wayne County	8,083	6,109	-1,974	-24.4
City of Greenville	234	194	-40	-17.1
City of Piedmont	993	926	-67	-6.8
City of Williamsville	188	143	-45	-23.9
Village of Mill Spring	106	93	-13	-12.3

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

There have been little changes in development within the planning area since the last plan update. Given this, “changes in development” have not impacted the community’s vulnerability to hazards overall. Within each hazard section that follows, there is a heading entitled “Previous and Future Development.” Further discussion of how changes in development have impacted the community’s vulnerability to a specific hazard, as applicable, is described at these locations.

3.3.2 Future Land Use and Development

No plans are currently in existence for future development within Wayne County, the City of Greenville, City of Piedmont, City of Williamsville, or Village of Mill Spring. Future land use within the participating jurisdictions is anticipated to remain unchanged. Decline in the population throughout the planning area will lessen each jurisdiction's susceptibility to damage from natural hazard events across all hazard types. This is because as a jurisdiction's population decreases, so does its vulnerability regarding personal injury and loss of life. Despite this, however, the likelihood of damage to a jurisdiction's existing infrastructure could be expected to remain unchanged as infrastructure is not typically removed due to population loss. Consequently, the community's vulnerability to property damage is less likely to be impacted due to population loss.

Climate change can also impact the vulnerability of a jurisdiction to certain hazards. The portions of Wayne County that are susceptible to flooding can anticipate an increase in such events as climate change progresses. This, in turn, will increase the county's susceptibility to dam failure—a significant hazard in Wayne County. A connection between increasing water levels and earthquakes also exists and should be evaluated. Jurisdictions should be aware of the impact of climate change upon their susceptibility to certain hazards and balance such risk with increased vulnerabilities resulting from population change.

School District's Future Development

Little future development is expected in each school district. The population of students within each of the two school districts is expected to stay the same or show only a slight increase. The facilities and classrooms currently in use will be sufficient for the planned future student population. Neither school district reports proposed construction, bonds, renovation, student growth/decline, employment growth/decline, nor facilities improvement plans.

Special District's Future Development

No special districts participated in the update of this hazard mitigation plan.

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

Requirement §201.6(c)(2)(i): [The risk assessment shall include a] description of the...location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Each hazard identified in Section 3.1.4 will be profiled individually in this section in alphabetical order. 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 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. Events for the previous 20 years are provided when hazards are random in occurrence, such as tornadoes. Data of occurrence for the previous 10 years is provided when the hazard event occurs more often such as severe thunderstorms. In some cases, searches will be limited by criteria such as magnitude. Regardless, previous events occurring since the last plan update will be included for each hazard.
- **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 are also considered, including the effects of long-term changes in weather patterns and climate on the identified hazards. A data tool provided by the National Oceanic & Atmospheric Administration (NOAA) and found at <https://toolkit.climate.gov/tools/climate-explorer> proved useful for this purpose.

Vulnerability Assessments

Requirement §201.6(c)(2)(ii) :[The risk assessment shall include a] **description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.**

Requirement §201.6(c)(2)(ii)(A) :The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

Requirement §201.6(c)(2)(ii)(B) :[The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

Requirement §201.6(c)(2)(ii)(C): [The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

Requirement §201.6(c)(2)(ii): (As of October 1, 2008) [The risk assessment] must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged in floods.

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/MoHazardMitigationPlanViewer2018>.

The vulnerability assessments in the County A 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:**

The plan will provide an overall summary of each jurisdiction's vulnerability to the identified hazards. The overall summary of vulnerability will identify structures, systems, populations or other community assets as defined by the community that are susceptible to damage and loss from hazard events.

- **Potential Losses to Existing Development:**

For each participating jurisdiction, the plan will describe the potential impacts of the hazard. Impact means the consequences of effect of the hazard on the jurisdiction and its assets. Assets were determined by the community and include, for example, people, structures, facilities, systems, capabilities, and/or activities that have value to the community.

- **Previous and Future Development:**

This section will include information on how changes in development have impacted the community's vulnerability to the hazard being evaluated. Changes in vulnerability resulting from development in known hazard prone areas since the prior plan update will be discussed. In addition, anticipated future development in the county, if any, and its effect upon hazard risk will be discussed.

- **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 will 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 will be provided. The focus of the problem statements sub-section is to synthesize the “problems” revealed through the risk assessment and then through the process of updating the mitigation strategy, develop mitigation actions that are aimed at “solving” the identified problems. Problem statements will relate to specific jurisdictions as well as specific assets or areas of the planning area that are problematic.

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 levee and dam failure is discussed in Section 3.4.2 and Section 3.4.3, 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. Historically there are three frequent sources of common flooding within Wayne County: Mckenzie Creek near Piedmont, the Black River, and the St. Francis River. The areas surrounding Wappapello Lake are also subject to flooding. The riverine flooding history below was gathered from the National Climatic Data Center (NCDC) for a twenty-year period spanning January 1, 2003 to December 31, 2022. Riverine flooding is most likely to occur in SFHAs. It should be noted that Wayne County’s existing FIRM is dated 2011. The county is currently in the “Developing of Hydraulics” status of map update & development. Floodplain maps showing the special flood hazard areas (SFHA’s) for each jurisdiction can be located within Appendix A. School district assets located in SFHA’s are noted where applicable.^{4(a)(1)}

Table 3.15 shows the flood event history for Wayne County between 2003 and 2022. There were 71 flood events occurring within the planning area during this twenty-year period.

Table 3.15. Wayne County NCEI Flood Events by Location, 2003-2022

Location	# of Events
Unincorporated County	56
-unspecified – 5 flood events	
-Patterson - 5 flood events	
-Leeper – 1 flood event	
-Silva – 36 flood events	
-Lodi – 3 flood events	
-Wappapello – 2 flood events	
-Hiram – 1 flood event	
-Taskee Station – 1 flood event	
-Shook – 1 flood event	
-Old Greenville – 1 flood event	
City of Greenville	10
City of Piedmont	4
City of Williamsville	1
Village of Mill Spring	0

Source: National Centers for Environmental Information, 2003-2022

Flash flooding occurs in SFHAs and those locations in the planning area that are low-lying. It can also occur in areas without adequate drainage to carry away the amount of water that falls during intense rainfall events. **Table 3.16** shows the number of flash flood events (14) by location as recorded in NCEI for the 20-year period between January 1, 2003 and December 31, 2022.

Table 3.16. Wayne County NCEI Flash Flood Events by Location, 2003-2022

Location	# of Events
Unincorporated County	9
-unspecified - 4 flood events	
-Cascade – 1 flash flood event	
-Lake Wappapello – 1 flash flood event	
-Old Greenville – 1 flash flood event	
-Wappapello – 1 flash flood event	
City of Greenville	1
City of Piedmont	2
City of Williamsville	1
Village of Mill Spring	1

Source: National Centers for Environmental Information, 2003-2022

Strength/Magnitude/Extent

Missouri has a long and active history of flooding over the past century, according to the 2018 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

Table 3.17 shows NFIP participation status for the communities in the planning area. **Table 3.18** shows the number of flood insurance policies in force, the amount of insurance in force, the number of closed losses, and the total payments for each jurisdiction, where applicable. The data presented covers the period between 1983 and 2019.

Sanctioned communities are those communities that are not currently participating in the NFIP and where a Flood Hazard Boundary Map or Flood Insurance Rate Map has been issued. As of the compilation of this plan update, there were no sanctioned communities within the planning area.

All participating jurisdictions have completed the following tasks as required by their participation within the NFIP:

- ✓ Adoption of NFIP minimum floodplain management criteria via local regulation;

- ✓ Adoption of the latest effective FIRM date June 16, 2011;
- ✓ Implementation and enforcement of local floodplain management regulations regulating and permitting development in Special Flood Hazard Areas (SFHAs); and,
- ✓ Appointment of a designee to implement NFIP requirements.

In each municipality, NFIP requirements are administered by the mayor of each jurisdiction; in the balance of the county, the county’s presiding commissioner serves as the floodplain administrator. In all jurisdictions, the floodplain administrator is responsible for monitoring development within the Special Flood Hazard Areas (SFHA). This is done via permitting in all participating jurisdictions.

As NFIP participants, jurisdictions are required to assess damage to structures located within the Special Flood Hazard Area (SFHA) regardless of the cause of damage prior to repairs being made. If the cost to repair such a structure is found to be more than 50% of the structure’s pre-flood value, the property must be declared substantially damaged. Once a property receives this declaration, the owner is required to elevate the structure’s first finished floor above the base flood elevation.

Properties located within the SFHAs in only Wayne County and the City of Piedmont have been damaged by floodwaters in the past. Following such events, each jurisdiction’s floodplain administrator examined the properties as required and rendered the appropriate designations regarding the severity of damage. Those properties determined to be substantially damaged were most often demolished. On rare occasions the substantially damaged properties were elevated above the base flood elevation as required.

Table 3.17. NFIP Participation in Wayne County

Community ID #	Community Name	NFIP Participant (Y/N/ Sanctioned)	Current Effective Map Date	Program Entry Date	Minimum Criteria Adoption?	FIRM Adoption ?	SFHA Regulation?	NFIP Designee?
290449	Wayne County	Yes	6/16/2011	2/01/1987	Yes	Yes	Yes	Yes
290450	Greenville	Yes	6/16/2011	8/01/1986	Yes	Yes	Yes	Yes
290451	Piedmont	Yes	6/16/2011	9/30/1988	Yes	Yes	Yes	Yes
290452	Williamsville	Yes	6/16/2011	8/01/1986	Yes	Yes	Yes	Yes
290499	Village of Mill Spring	Yes	6/16/2011	6/16/2011	Yes	Yes	Yes	Yes

Source: NFIP Community Status Book, 2023; [Community Status Book | FEMA.gov](#)

Table 3.18. NFIP Policy and Claim Statistics as of November 30, 2023

Community Name	Policies in Force	Insurance in Force	Closed Losses	Total Payments
Wayne County	57	7,889,000	16	369,425.59
City of Greenville	0	0	2	51,852.73
City of Piedmont	37	4,066,000	32	1,151,380.98
City of Williamsville	6	338,000	4	85,000
Village of Mill Spring	1	11,000	1	75,000

Source: National Flood Insurance Program, 11/30/2023; PIVOT, 1983 to 2019

The City of Piedmont had the most closed losses with thirty-two total claims and payouts totaling \$1,151,380.98. Closed losses are those flood insurance claims resulting in payment.

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 fourteen repetitive loss properties. As of October 2023, two properties have been mitigated, leaving twelve un-mitigated repetitive loss properties.

Table 3.19 provides a summary of the repetitive loss properties in the planning area.

Table 3.19. Wayne County Repetitive Loss Properties

Jurisdiction	# of Properties	Type of Property	# Mitigated	Building Payments	Content Payments	Total Payments	Average Payment/Loss	# of Losses
Piedmont, City of	5	residential	1	\$287,456.46	\$307,552.52	\$595,008.98	\$45,769.92	13
Wayne, County of	9	residential	1	\$434,118.49	\$307,552.52	\$741,671.01	\$32,246.57	23

Source: Flood Insurance Administration as of October 2023

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.

Of the repetitive loss properties within Wayne County and its four participating municipalities, there is one validated residential SRL structure. The SRL property is located within the city of Piedmont and has not been mitigated. As of October 2023, \$142,993.42 has been paid in claims for this property by the NFIP across seven losses, resulting in an average loss of \$20,428.

Previous Occurrences

There have been five Presidential disaster declarations including the planning area that involved flood. They are listed below.

- DR-4551-MO, Flood, 7/9/2019, 4/29/2019-7/5/2019, PA Only
- DR-4317, Flood, 6/2/2017, 4/28/2017-5/11/2017, PA Only
- EM-3374, Flood, 01/02/2016, 12/22/2015-1/9/2016, PA Only
- DR-995, Flood, 7/9/1993, 6/10/1993-10/25/1993, IA Only
- DR-672, Flood, 12/10/1982, 12/10/1982, IA & PA
- DR-516, Flood, 7/21/1976, 7/21/1976, IA & PA

None of the above-listed events coincide with a flood event as recorded within the NCEI storm event database. Per this data source reconciliation, any impacts resulting from the events would not have been attributed to flooding.

Table 3.20 and **Table 3.21** summarize NCEI information for the last 20 years for flash and riverine flooding in the planning area, respectively.

Table 3.20. NCEI Wayne County Flash Flood Events Summary, 2003 to 2022

Year	# of Events	# of Deaths	# of Injuries	Property Damages (\$)	Crop Damages (\$)
2003	1	0	0	0	0
2004	1	0	0	5,000	0
2005	2	0	0	500,000	0
2006	1	0	0	0	0
2007	1	0	0	0	0
2008	1	0	0	0	0
2009	1	0	0	0	0
2010	1	0	0	0	0
2011	1	0	0	20,000,000	0
2013	1	0	0	10,000	0
2015	1	0	0	0	0
2017	1	0	0	0	0
2020	1	0	0	0	0

Source: NCEI, July 2023

Table 3.21. NCEI Wayne County Riverine Flood Events Summary, 2003 to 2022

Year	# of Events	# of Deaths	# of Injuries	Property Damages (\$)	Crop Damages
2003	1	0	0	0	0
2004	1	0	0	0	0
2005	3	0	0	0	0
2006	2	0	0	0	0
2007	4	0	0	0	0
2008	6	0	0	9,275,000	0
2009	10	0	0	0	0
2011	4	0	0	203,000	0
2013	6	0	0	0	0
2015	7	0	0	7,000	0
2016	5	0	0	0	0
2017	4	0	0	1,400,000	0
2018	5	0	0	0	0
2019	6	0	0	0	0
2020	2	0	0	0	0
2021	2	0	0	0	0
2022	3	0	0	0	0

Source: NCEI, July 2023

Probability of Future Occurrence

There have been fourteen flash flood events in the 20-year period between 2003-2022. This equates to .7 events per year. Given this, it is reasonable to assume that one flash flood event will occur every seventeen months somewhere within the planning area.

There have been 71 riverine flood events in the 20-year period between 2003-2022. This equates to 3.55 riverine flood events per year.

It is reasonable to assume that as the global climate evolves, the probability of the future occurrence of flood events occurring within the planning area will increase. As stated below, the average annual precipitation in the midwestern portion of the U.S. has increased by 5-10% in the past 50 years—an average increase of .53% per year. Assuming the rate of increase in annual precipitation can be equated to the rate of increase in flood events, the number of flash flood and riverine flood events occurring within the planning area will increase by .00371 events per year and .018815 events per year, respectively.

Changing Future Conditions Considerations

If increased precipitation intensity continues, frequency of floods in Missouri is likely to increase as well. Over the last half century, average annual precipitation in most of the Midwest has increased by 5 to 10 percent. But rainfall during the four wettest days of the year has increased about 35 percent, and the amount of water flowing in most streams during the worst flood of the year has increased by more than 20 percent. It is likely (66-100% probability) that the frequency of heavy precipitation or the proportion of total rainfall from heavy falls will increase in the 21st century across the globe. More specifically, it is “very likely” (90-100% probability) that most areas of the United States will exhibit an increase of at least 5% in the maximum 5-day precipitation by the late 21st century. As the number of heavy rain events increases, more flooding and pooling water can be expected.

Flooding occasionally threatens navigation and riverfront communities; greater river flows could increase these threats. In April and May 2011, a combination of heavy rainfall and melting snow caused a flood that closed the Mississippi River to navigation, threatened Caruthersville, and prompted evacuation of Cairo, Illinois, due to concerns that its flood protection levees might fail. The expected increases in rainfall frequency and intensity are likely to put additional stress on natural hydrological systems and community stormwater systems.

Heavier snowfalls in the winter will lead to intensified spring flooding, and groundwater levels will remain high even in non-floodplain areas. Such changes in climate patterns can lead to the development of compounding events that interact to create extreme conditions. Flooding caused by high groundwater levels typically recedes more slowly than riverine flooding, slowing the response and recovery process. Groundwater-fed rivers and streams are also likely to experience heightened flooding when groundwater levels are high.

Jurisdictions updating or installing stormwater management systems should consider potentially larger future discharge amounts when sizing culverts and drainage ways; storage capacity can also be increased by building retention basins to hold excess stormwater. Communities already prone to flooding should be prepared for a potential increase in facility closures and/or damages, as well as an increase in public demand for flood response and assistance.

Natural features that experience repeated flooding may manifest changes in the form of stream bank instability and changing shoreline, floodplain, and wetland boundaries. Communities may wish to plan for the potential loss of cropland and damage to both private property and public infrastructure such as bridges.

The environmental impacts of flooding include erosion, surface and groundwater contamination, and reduced water quality. The threat of more frequent flood events may thus be a concern particularly for

communities who depend on lakes and rivers for tourism. Too, rural communities may experience increases in well contamination and road washouts, while more populated and developed areas may be particularly vulnerable to flash flooding as heavy rain events quickly overwhelm the ability of a more impermeable environment to absorb excess stormwater.

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.

The vulnerability overview for Wayne County comes primarily from HAZUS data included in the *2023 Missouri State Hazard Mitigation Plan*. HAZUS uses GIS technology to estimate the impacts of disasters. HAZUS-MH produces a flood polygon and flood depth grid that represents the base flood. Data for Wayne County utilized HAZUS flood data. The 2023 state plan includes flood analysis for all 114 Missouri counties. This data is coupled with DFIRM depth grids and enhanced building inventory.

DFIRM data is not available for Wayne County, and impact estimates in counties where DFIRM data was integrated typically increases the losses when compared to counties such as Wayne County where only HAZUS-generated flood data was utilized. The damage building counts generated by HAZUS are susceptible to rounding errors and are likely the weakest output of the model due to the use of HAZUS census blocks for analysis

Potential Losses to Existing Development

Within the *2023 Missouri State Hazard Mitigation Plan*, the state describes its usage of a consistent methodology to estimate property and economic losses resulting from a 100-year flood event. The analysis used the best available data specific to each county—digital effective FIRM data and LiDAR-derived building footprints. With computer modeling, state planners were able to quantify risk along known flood-hazard areas. The analysis provided estimates of the number of buildings impacted, building repair costs, and associated contents and inventory losses. For the purposes of estimating losses in Wayne County, the state used depth grids derived from the National Flood Hazard Layer (NFHL) XS plus BFA's.

For the purposes of its analyses, the state classified property by function as either agricultural, commercial, educational, governmental, industrial, religious, or residential. Damage to a structure was assumed to be directly related to the depth of water during a 100-year flood event. At a depth of two feet, 20% of the property is considered damaged per FEMA’s depth-damage function; therefore, 20% of the property’s value was assigned as a “direct loss.”

Tables 3.26 A and 3.26 B within the state planning document display the direct building and income loss estimates for each county within the State of Missouri in the event of a 100-year flood. Per the data presented within Table 3.26 A, Wayne County has the second highest estimated direct building loss ratio of all 114 counties behind McDonald County. The analysis compares the value of the county’s overall building inventory (estimated at \$1,527,737,022) to the value of anticipated flood-induced direct property damage during a 100-year flood event. In Wayne County, the state estimated \$114,537,420 in direct structural damage resulting from such an event. The flood loss ratio can be viewed as an indicator of impact severity upon a community’s sustainability.

Additionally, the data analyses resulted in the following estimates as resulting from a 100-year flood event:

- 614 damaged structures
- 367 Substantially damaged structures
- 2,927 displaced persons
- 1,397 persons in need of shelter.

The HAZUS analysis conducted by the state estimated classified structure damage by property type. Per Table 3.26 B, 576 residential, 461 agricultural, 33 commercial, and 9 educational properties would be damaged as a result of a county-wide 100-year flood event. The total loss resulting from such an event was estimated at \$255,240,158. It should also be noted that there are six scour critical bridges located in Wayne County as shown in Figure 3.1.

In reviewing available data and discussing with school districts, there are no school district assets located in floodplains, and no prior damage reports from the schools resulting from flooding. In discussion with county personnel and local residents, there has been no damage to any critical facilities in the county that resulted from flooding.

The City of Greenville—as the county seat—would be the community with the highest risk of loss due to the infrastructure located there. Of the four participating municipal jurisdictions, only portions of Piedmont and Mill Spring are at slight risk of flooding. The City of Piedmont has implemented numerous mitigation projects (primarily voluntary residential flood buyouts) to lessen the impact of flooding upon its jurisdiction. Piedmont has no populations or critical facilities at risk of flooding.

Vulnerability of the Village of Mill Spring is minimal as few structures exist near the flood source—a tributary to the Black River. The village, with less than six residential structures at risk of flooding, has no critical facilities at risk of flooding. The Cities of Williamsville and Greenville have no structures, populations, or critical facilities at risk of a flooding event.

Risk Mapping, Assessment, and Planning (RiskMAP) is a new FEMA program that provides communities with flood information and tools they can use to enhance their mitigation plans and better protect citizens. Through more accurate flood maps, risk assessment tools, and outreach RiskMap builds on Map Modernization and strengthens local ability to make informed decisions about reducing risk. There exist two RiskMap products including information pertinent to Wayne County: a Flood Risk Report—Lower St. Francis River, Arkansas (December 2017) and its associated Flood

Risk Map—Lower St. Francis Watershed, 08020203. Per the map, the southeastern-most corner of the county is at “low” and very low” risk of flooding. A small section (approximately one square mile) of land due west of Puxico, Missouri near the Mingo Wildlife Reserve was identified as at “medium” risk of flooding. The map can be found at [FRM_08020203_20171229.pdf \(fema.gov\)](https://www.fema.gov/frm/08020203_20171229.pdf).

Impact of Previous and Future Development

As there is little future development anticipated within Wayne County or any of the jurisdictions within the planning area, the impact of flooding is not anticipated to increase in the county or any of the incorporated cities.

Hazard Summary by Jurisdiction

Vulnerability to flooding varies greatly across the county. Areas near Lake Wappapello, Clearwater Lake, and along the Black River are the those most prone to flooding. Tables 3.15 and 3.16 above show the riverine and flash flood events by location within the planning area. Per the historic event data, Silva and Patterson—both unincorporated areas of Wayne County—and the City of Greenville experience more frequent riverine flood events than do other portions of the county. The floodplain maps located within Appendix A show the portions of the planning area most susceptible to riverine flooding.

Wayne County— The majority of areas vulnerable to flooding are located within the balance of the county. It should be noted that the county has participated in two residential flood buyouts within the Black River Retreat community, thereby lessening potential property losses due to flooding along the Black River. Per the Missouri Mitigation Viewer, twelve residential properties have been mitigated within the unincorporated portion of Wayne County. The portion of the county most frequently cited within Table 3.15 as subject to riverine flooding is the community of Silva. As shown in the table, thirty-six of fifty-six incidents have occurred in this location. To better depict the area’s risk, detailed floodplain maps of the community comprise the last two pages of Appendix A.

City of Greenville – Riverine and flash flooding are not primary concerns within the City of Greenville. Per the Missouri Hazard Mitigation Viewer, there have been no flood buyouts within the jurisdiction.

City of Piedmont -- The City of Piedmont utilized mitigation grant funding and local resources to acquire and demolish many residential properties susceptible to flooding. Because of this, the city is at lessened risk of damage from riverine and flash flooding. Per the Missouri Hazard Mitigation Viewer, approximately 66 residential properties have been mitigated by the city. Despite this, however, additional properties remain located in the floodplain, some of which have experienced repetitive losses.

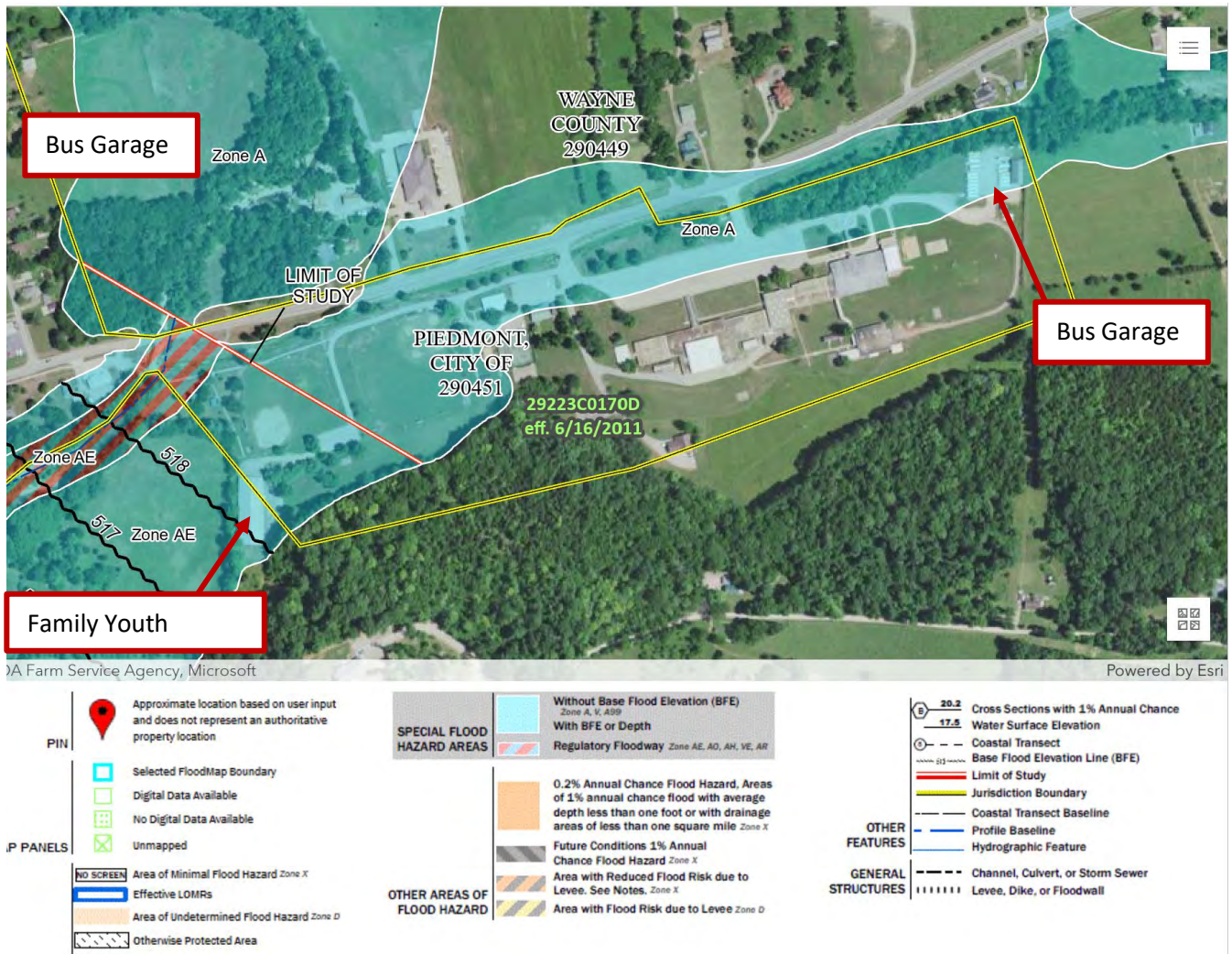
City of Williamsville -- Riverine and flash flooding are not primary concerns within the City of Williamsville, although the city does participate within the National Flood Insurance Program. Per the Missouri Hazard Mitigation Viewer, there have been no flood buyouts within the jurisdiction.

Village of Mill Spring -- The Village of Mill Springs is somewhat susceptible to flooding with five city streets (a total length of less than one mile) and a few residential structures at risk of minimal flooding. Per the Missouri Hazard Mitigation Viewer, there have been no flood buyouts within the

jurisdiction.

Clearwater R-I School District – During the 2022-2023 school year, the district’s elementary school sustained damage due to flooding. Administrative officials were unaware of any other damage incidents resulting from flood events. The district has one primary facility located within the 100-year floodplain—its bus garage. As shown on the map in Figure 3.2 below, outbuildings, parking areas, transportation routes, and recreational facilities are subject to flooding during a 100-year flood event. In addition, the primary highway accessing the district campus (MO Highway 34) lies within the floodplain. This would significantly hinder—if not prevent—access to the school during such an event. Furthermore, some students may not be able to access the school campus during flash flood events due to flooded low water crossings located in the balance of the county.

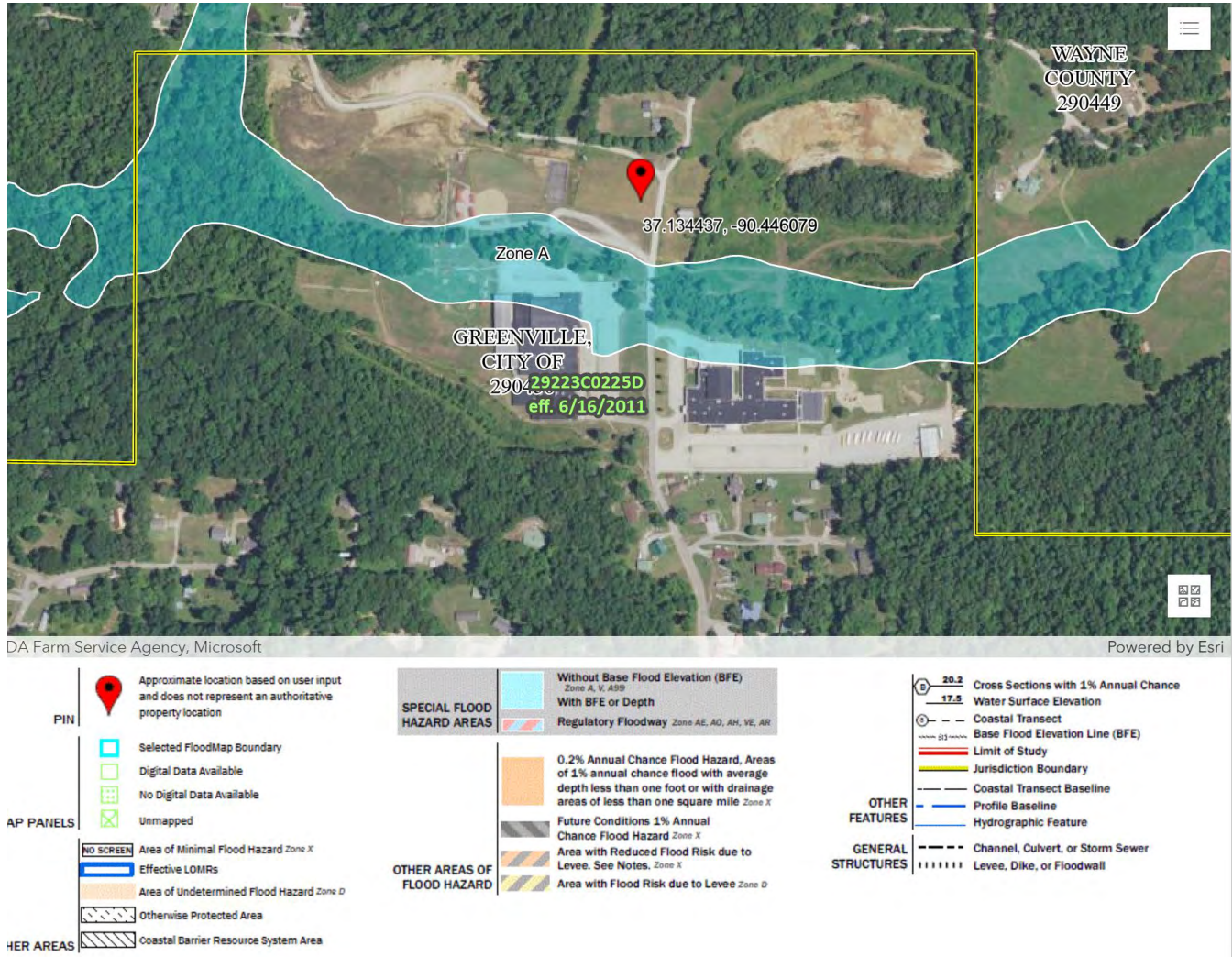
Figure 3.2. Clearwater R-I School District Assets Located within the 100-Year Floodplain



Greenville R-II School District-- School facilities have not incurred damage due to riverine

flooding within the past twenty years as no district assets are located within the boundaries of the 100-year floodplain. In addition, some students residing in the balance of the county may not be able to access the school campus during flash flood events. District assets located within the 100-year floodplain are shown within Figure 3.3 below.

Figure 3.3. Greenville R-II School District Assets Located within the 100-Year Floodplain



Problem Statement

Both Wayne County and the City of Piedmont have un-mitigated repetitive loss properties located within their jurisdictional boundaries. In addition, both school districts headquartered in the county have facilities located within the 100-year floodplain.

- The unincorporated area of Wayne County near the community of Silva experiences more riverine flood events than any other community in the planning area. Possible solutions

include the purchase and demolition of residential properties located within the floodplain.

- The City of Piedmont has multiple repetitive loss properties located within its jurisdictional boundaries. The purchase and demolition of such properties would mitigate future damage resulting from flood events.
- The Clearwater R-I School District is surrounded by 100-year floodplain along the northern and western boundaries of its campus. Access to the district campus is from MO mitigation Highway 34 located adjacent to the campus at the north. Per the graphic in Figure 3.2, the district campus will be inaccessible during a 100-year flood event. The identification of ingress and egress routes located outside of the floodplain would prove useful during 100-year flood events.
- A portion of the Greenville R-II School District's primary campus is located within the 100-year floodplain. To prevent flooding of the district's facilities, the city and school district could partner to explore the installation of earthen structures which could divert floodwaters away from school facilities.

3.4.2 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.

Both the Missouri Department of Natural Resources (MoDNR) and the U.S. Army Corps of Engineers maintain inventories of dams. The National Inventory of Dams (NID) is maintained by the U.S. Army Corps of Engineers (USACE). The MoDNR database contains information for dams located within the State of Missouri.

In Missouri, dams less than 25 feet are generally not inventoried and are unregulated by the Missouri Department of Natural Resources. Dams taller than 25 feet but less than 35 feet are inventoried by the department with some dam data (e.g. height, etc.) provided to the National Inventory of Dams. Dams within this size category, however, remain unregulated in the State of

Missouri. Dams 35 feet or more in height are regulated by the department. Construction and operation of such dams require a permit.

Table 3.22 below, outlines the classification system—defined by inundations areas—Missouri uses to describe dams.

Table 3.23. outlines the classification system used by the U.S. Army Corps of Engineers within its National Inventory of Dams, which defines dams by size and potential loss of life assuming failure.

Table 3.22. MoDNR Dam Hazard Classification Definitions

Hazard Class	Definition
Class I	The area downstream from the dam that would be affected by inundation contains ten (10) or more permanent dwellings or any public building. Inspection of these dams must occur.
Class II	The area downstream from the dam that would be affected by inundation contains one to nine permanent dwellings or one or more campgrounds with permanent water, sewer, and electrical.
Class III	The area downstream from the dam that would be affected by inundation does not contain any of the structures identified for Class I or Class II dams. Inspection of these dams must occur.

Source: Missouri Department of Natural Resources, http://dnr.mo.gov/env/wrc/docs/rules_reg_94.pdf

Table 3.23. NID Dam Hazard Classification Definitions

Hazard Class	Definition
Low Hazard	Loss of one human life is possible if the dam fails.
Significant Hazard	Possible loss of human life and likely significant property or environmental destruction.
High Hazard	Equals or exceeds 25 feet in height and which exceeds 15 acre-feet in storage, or equals or exceeds 50 acre-feet of storage and exceeds 6 feet in height.

Source: U S A C E , National Inventory of Dams

Geographic Location

Dams Located Within the Planning Area

The U.S. Army Corps of Engineers’ (USACE) National Inventory of Dams (NID) lists 41 dams in Wayne County, 24 of which are considered “High Hazard” dams by the USACE classification structure. Of the remaining 17 dams, four are classified as “Significant Hazard” while 13 are considered “Low Hazard.” Eight of the dams are federally regulated—the Clearwater Dam in the northwestern portion of the county, the Wappapello Dam in the southeastern portion of the county, and three additional saddle-dike dams located in the vicinity of Wappapello Lake. Two additional dams—the Puxico Quad No. 1 Dam and the Fox Pond Dam are regulated by the U.S. Fish & Wildlife Service, while the Markham Springs Dam is regulated by the U.S. Department of Agriculture, Forest Service.

Per the 2023 Missouri State Hazard Mitigation Plan, there are six dams located within the planning area and regulated by the State of Missouri. Three of those six regulated dams are considered Class I dams, while two are Class II and one is Class III.

Per the 2023 Missouri State Hazard Mitigation Plan, there are 26 unregulated dams located within the planning area—17 of which are considered “High Hazard” dams by the NID

Table 3.24. High Hazard Dams in the Wayne County Planning Area

Dam Name	Owner	EAP ?	Dam Height (ft)	Normal Storage (acre-ft)	Last Inspection Date	River/ Stream	Nearest Downstream City	Distance to Nearest City (m)
Clearwater Dam	USACE	Yes	155	413,000	4/24/23	Black River	Leeper / Mill Spring	6.8 / 8.6
Wappapello Dam	USACE	Yes	114	1,134,600	4/28/22	St. Francis River	Wappapello	1
Lake Lynn Dam	Private	Yes	59	662	9/21/21	Tr-Lick Creek	McGee	6
Eagle Sky Lake Dam	Eagle Sky Foundation	Yes	57	3,300	8/19/21	Camp Creek	Patterson	5
Seven Lakes #1 Dam	Private	Yes	55	1,360	4/19/22	Goose Creek	Des Arc	1
Seven Lakes Dam #3	Private	Yes	45	1,300	4/19/22	Goose Creek	Des Arc	2
Lake of the Pines Dam	Bobby Turner	No	44	963	1/24/90	Tr-Barnes Creek	Lowndes	2
Lake Ray Dam	Private	Yes	41	733	9/21/21	Tr- Lick Creek	N/A	N/A
Horseshoe Ridge Leerjack	Leerjack, Inc.	No	40.3	0	N/A	St. Francis	Lode	3
Turners Dream Lake Dam	Dick Twitty	No	35	988	5/16/79	Tr-Barnes Creek	Lowndes	2
Lottes Dam	Dr. J Otto	No	34	364	5/17/79	Tr- West Fork	Shook	N/A

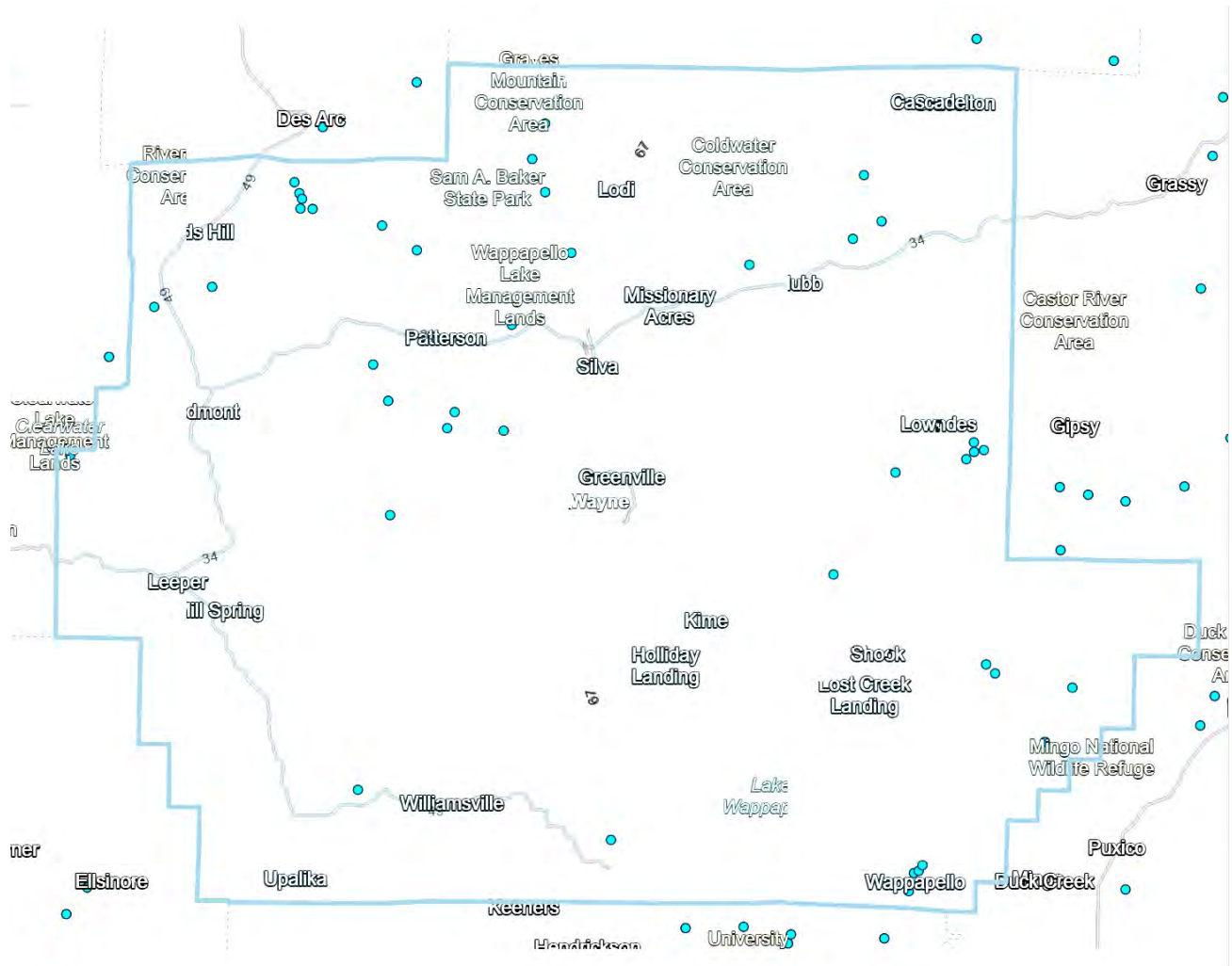
	Lottes					Lost Creek		
Lake Julia Dam	Leisure Lands, Inc.	No	34	382	5/16/79	Tr-Barnes Creek	Lowndes	2
Lake Janna Dam	Leisure Lands, Inc.	No	32	51	5/16/79	Tr-Barnes Creek	Lowndes	2
Rothwell Ranch Lake Dam	Dan Rothwell	No	31	50	N/A	Tr-McKenzie Creek	Piedmont	N/A
Seven Lakes #2	Paul Shy, Jr.	No	28	138	4/4/78	Goose Creek	Des Arc	2
A.O. Shearrer Lake Dam	A.O. Shearrer	No	28	150	10/7/80	Little Lake Creek	Patterson	2
Lake Potashnik Dam	SE MO Council Boy Scouts	No	26	97	10/7/80	Tr-St. Francis River	Greenville	12
Collins Lake Dam Section 31	Bill & Penny Collins	No	25	67	N/A	Little Lake Creek	Wappapello	22
Sunrise Lake Dam	Mt Lk Hunt-Fish League	No	24	116	7/12/78	Tr-Rings Creek	Patterson	3
Mountain Lake Dam	Mt Lk Hunt-Fish League	No	24	244	7/11/78	Tr-Rings Creek	Greenville	11
Lake Jeano Dam	C.A. Ricketts	No	23	172	8/23/79	Greasy Creek	Piedmont	4
Porter Dam	R. Porter c/o Janet Clark	No	23	234	N/A	Tr-Wet Fork Otter Creek	Wappapello	14
Collins Lake Dam—Section 16	James Collins	No	20	128	N/A	Tr-Big Creek	Greenville	13
Williams	Charles		20	86	N/A	Tr-Bear	Clubb	3

Lake- Section 31 Dam	A. Williams					Creek		
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Source: National Inventory of Dams, http://nid.usace.army.mil/cm_apex/f?p=838:12.

Figure 3.44 below provides the locations of high hazard dams located in the planning area. Inundation maps and emergency action plans can be found in Appendix B.

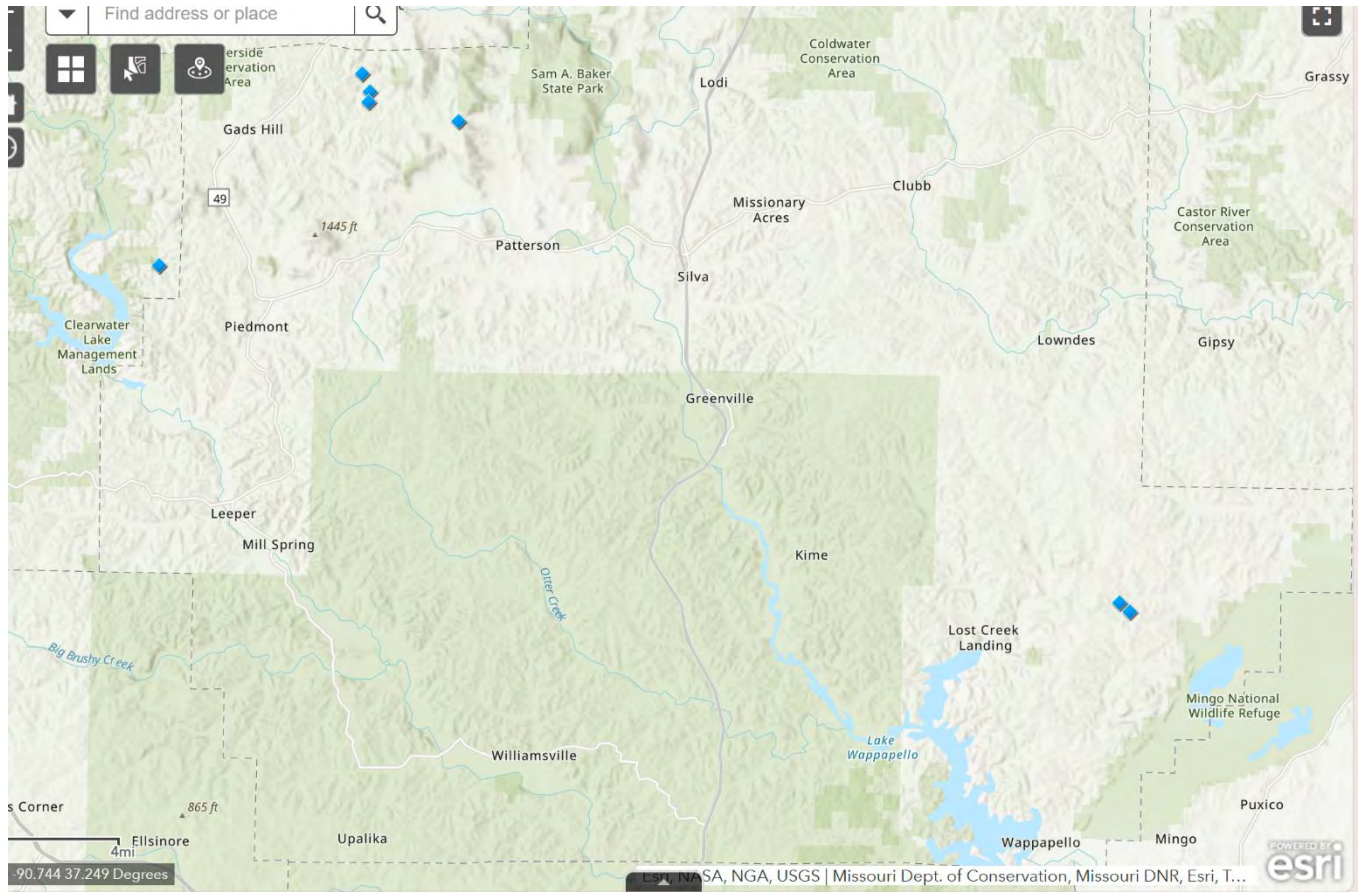
Figure 3.4. High Hazard Dam Locations in Wayne County



Source: U.S. Army Corps of Engineers, National Dam Inventory

Figure 3.4 below provides the locations of state-regulated dams located in the planning area.

Figure 3.5. State Regulated Dams in Wayne County



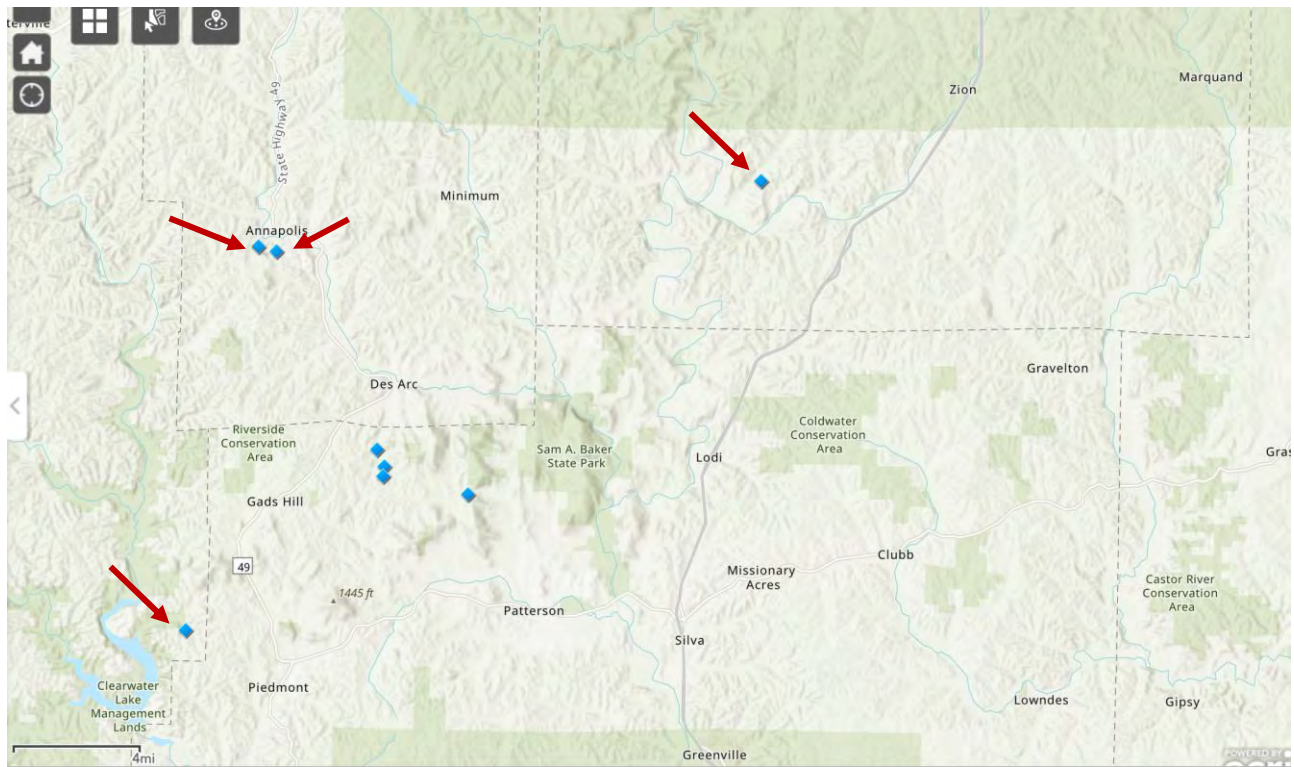
Source: Missouri Department of Natural Resources, Missouri Geological Survey, GeoSTRAT

It is important to note that when identifying areas at risk of dam failure, the geographic location affected is not the location of the dam, but rather the area(s) that would be inundated in the event of dam failure. Dam breach inundation area maps and available Emergency Action Plans can be found in Appendix B of this plan. The vulnerability assessment, below, includes information regarding assets likely impacted in the event of a dam failure in the planning area.

Upstream Dams Outside the Planning Area

The map provided in (Figure 3.6) below shows four state-regulated dams located upstream of the planning area: the Little Clearwater Lake Dam in Reynolds County, the West Peak Quarry Dam #1 in Iron County, the Primary Spoils Dam in Iron County, and the Hinkle Lake Dam in Madison County. After reviewing the available inundation maps for these “upstream” dams, it was determined that no assets other than farmland would be negatively impacted in the event of failure.

Figure 3.6. Upstream Dams Outside Wayne County



Source: U.S. Army Corps of Engineers, Missouri Department of Natural Resources

Strength/Magnitude/Extent

The probable severity of a future dam failure event in Wayne County depends primarily upon two variables – the size and location of the dam in question. As previously stated, there are 26 unregulated dams located in the planning area--all of varying capacities. Should any one of these structures fail, resulting damage could range from negligible to critical depending upon both the dam's location and size.

The strength/magnitude of dam failure would be similar in some cases to a flood event (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. For this reason, dam failures could flood areas outside of mapped flood hazards such as Special Flood Hazard Areas and the 100-Year Floodplain.

For example, many dams in the county are smaller impoundments, located on private property. Should any one of these structures fail, damages to property would most likely be negligible. Yet, the Wappapello Lake Dam and the Clearwater Lake Dam, both located in Wayne County, would inundate sections of both Wayne County and Butler County to the south if either were to fail.

Of the 41 dams located in Wayne County, the National Dam Inventory shows 9 as holding more than 500 acre-feet of water, while 2 (Clearwater Lake Dam and Wappapello Lake Dam) hold 413,000 and 1,134,600 acre-feet, respectively. The remaining 32 dams hold less than 400 acre-feet of water. One acre-foot is equal to the inundation of one acre of water at a depth of one foot. Based solely upon this data with consideration of threats resulting from the Wappapello Lake and Clearwater Lake dams, severity classifications ranging from limited to catastrophic can be assigned to future incidents. A worst-case dam failure scenario within the planning area would be the structural compromise of the Clearwater Dam.

According to the *2023 Missouri State Hazard Mitigation Plan*, there are five state-regulated and two federally-regulated dams for which inundation data is available. Per Figures 3.55 & 3.57 within the plan, 40 structures in the county were identified as vulnerable to failure of a state-regulated dam and 40 structures in the county were identified as vulnerable to failure of a federally-regulated dam. State planners identified the inundation zones of each dam and counted structures within the zones using HAZUS GIS data. A value was then assigned to potential losses resulting from dam failure assuming a flood depth of two feet or damage to 20% of the structures' values. The resulting combined value of potential loss for the planning area was \$3,684,264, while the combined population at-risk was estimated at 82 persons as shown within Table A.8 of the plan.

Dam failures most often occur in isolation, rather than simultaneously. The above-estimates provide a county-wide view of dam failure. The resulting values should be analyzed and considered as an unlikely worse-case scenario. Inundation area maps relative to the planning area and associated Emergency Action Plans can be found within Appendix B of this plan.

Both state and federally-regulated dams are inspected by either U.S. Army Corps of Engineers (USACE) or the Missouri Department of Natural Resources (MDNR) with the frequency of inspection based on dam hazard class. Inspection reports from the MDNR for all high hazard dams regulated by the State were requested when conducting the current plan update. The MDNR denied release of the reports without a Sunshine Request. Furthermore, a chief engineer with the Department expressed concern regarding the age of any findings within the reports citing that findings likely would have been corrected or resolved within months of the report. Consequently, inspection reports were not reviewed.

Previous Occurrences

According to Stanford University's National Performance of Dams Program, there have been 33 dam failure incidents in Missouri **since _____**. Fortunately, no such incidents were reported from 2016 to 2024, and none of the reported events resulted in fatalities. Per the same source, two "other dam incidents" have occurred within the planning area. During the summer of 1994, concrete cracking was identified at Seven Lakes #1 Dam. Two years earlier, an incident was reported at Wappapello Lake Dam, but no detail regarding the event was known to the source.

On May 2, 2011, following spring flooding in the planning area, overtopping occurred at Wappapello Lake Dam emergency spillway resulting in the destruction of an approximate 300-meter portion of T Highway in Wayne County. Fortunately, there were no injuries or loss of life. The dam's emergency spillway functioned as designed. The flood event prompting the event proved significant and widespread resulting in a Presidential Disaster Declaration (DR-1980).

Probability of Future Occurrence

The state-regulated and inspected dams located within Wayne County and their state classifications are listed below.

- Lake Lynn Dam, Class II
- Lake Ray Dam, Class II
- Eagle Sky Lake Dam, Class I
- Seven Lakes Dam #4, Class III
- Seven Lakes Dam #3, Class I
- Seven Lakes Dam #1, Class I

All but Seven Lakes Dam #4 are considered high hazard dams by the U.S. Army Corps of Engineers. The “High Hazard” non-federal dams located within the planning area, but not regulated by the State of Missouri are listed below.

1. Lake of the Pines Dam
2. Horseshoe Ridge Leerjack
3. Turners Dream Lake Dam
4. Lottes Dam
5. Lake Julia Dam
6. Lake Janna Dam
7. Rothwell Ranch Lake Dam
8. Seven Lakes #2
9. A.O. Shearrer Lake Dam
10. Lake Potashnik Dam
11. Collins Lake Dam Section 31
12. Sunrise Lake Dam
13. Mountain Lake Dam
14. Lake Jeano Dam
15. Porter Dam
16. Collins Lake Dam—Section 16
17. Williams Lake-Section 31 Dam

Per Table 3.24, there are seventeen high hazard dams not currently regulated by the State of Missouri. The normal storage capacity of these dams ranges from 50 to 988 acre-feet. This could result in property damage and/or loss of life as the dams are not regularly inspected. The lack of regular inspections may increase the probability of failure as structural damage may go unnoticed and, therefore, not corrected. Regular inspection and maintenance serve to lessen the probability of dam failure.

Fortunately, there has been only one spillway overtopping event (Wappapello Lake Dam—2011) and no dam failures within the planning area. Although, no dam failure events have been reported as occurring within Wayne County, it is unreasonable to assume such events are impossible. Given the number of high hazards dams located in the planning area and the propensity of climate change to promote the occurrence and heighten the severity of dam failure in general (see next paragraph), the likelihood of a dam failure event occurring in the county can be estimated as 2% in any given year, or

one event occurring every 50 years.

Changing Future Conditions Considerations

Studies have been conducted to investigate the impact of climate change scenarios on dam safety. According to the 2023 Missouri State Hazard Mitigation Plan, dam failure is already tied to flooding and the increased pressure flooding places on dams. The impacts of changing future conditions on dam failure will most likely be those related to changes in precipitation and flood likelihood. Changing future conditions 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.

The safety of dams for the future climate can be based on an evaluation of changes in design floods and the freeboard available to accommodate an increase in flood levels. The results from the studies indicate that the design floods with the corresponding outflow floods and flood water levels will increase in the future, and this increase will affect the safety of the dams in the future. Studies concluded that the total hydrological failure probability of a dam will increase in the future climate and that the extent and depth of flood waters will increase by the future dam break scenario.

Vulnerability

Vulnerability Overview

Through the NID dam hazard classification system, the USACE classifies dams according to what impacts could occur within downstream inundation areas. Per the *2023 Missouri State Hazard Mitigation Plan*, “the downstream hazard classification system utilized by the National Inventory of Dams provides the Hazard Classification system as a means to determine overall vulnerability in the event of dam failure.” As described above, the NID reports 41 dams in the planning area. Of those 41 dams, 24 (58.5%) are “High Hazard,” 4 (9.8%) are “Significant Hazard,” and 13 (31.7%) are “Low Hazard.” If any of the 24 “High Hazard” dams in the county were to fail, loss of human life is likely. If any of the four “Significant Hazard” dams were to fail, loss of human life is possible. Failure of any of the thirteen “Low Hazard” dams can result in loss of property, but loss of life is unlikely. However, this system does not indicate the structural integrity of the dam or likelihood of failure. For regulated dams, there are two main processes in place to advance dam safety: 1) Inspection and 2) Emergency Action Planning.

Persons at risk of dam breach may include not only residents downstream, but also farm workers, hunters, anglers, hikers, campers and other recreationists. Figure 3.59 within the *2023 Missouri State Hazard Mitigation Plan* provides the estimated population at risk to dam failure based on the average household size and the number of residential structures located within the dam inundation area. Per the state calculation, 1-104 persons residing in Wayne County are at risk of injury or death resulting from the failure of a state-regulated dam. At the same time, 1-2,913 persons are at risk of injury or death resulting from the failure of the Clearwater or Wappapello Dams. The inundation areas for these two large impoundments span the service areas of both school districts headquartered within the planning area.

The two largest dams in the planning—the Clearwater Lake Dam (along the Black River) and the Wappapello Lake Dam (along the St. Francis River) are maintained and regulated by the U.S. Army Corps of Engineers (USACE). Per risk data found within the Corp’s National Inventory of Dams, a high pool breach at the Clearwater Dam would occur at 609 feet with the number of daytime people at risk of injury or death estimated at 15,562. A high pool breach during the daytime at the Wappapello Dam would occur at 414 feet with 3,848 people at risk.

Potential Losses to Existing Development:

As reported in Table 3.44 in the *2023 Missouri State hazard Mitigation Plan*, the state estimated loss amounts resulting from dam failure for each county in the state. The analysis included both state-regulated and USACE-owned dams. For Wayne County, the state estimated potential loss as a result of dam failure at \$3,684,264. To determine the potential loss, a damage estimation of 20% percent of the total structure value in dam inundation areas was used. This damage amount was based on FIA depth-damage curves for a one-story structure with no basement flooded at two feet.

The four dams located in neighboring Iron and Madison Counties pose negligible threat to assets, life, and resources within the planning area. The potential inundation areas for the dams include rural sparsely populated land area located within the far north and northwestern portion of the planning area. No inundation maps were available for any dams located upstream of Wayne County.

The Missouri Department of Natural Resources (MDNR) provided Emergency Action Plans (EAP’s) for the 5 state regulated dams located within the planning area. Per data found within the documents, the number of residential and/or commercial structures located within the dam breach inundation areas of the 5 dams is as follows:

- Eagle Sky Dam, Class I, High Hazard, 24 structures within the unincorporated portion of Wayne County
- Lake Lynn Dam, Class II, High Hazard, 3 structures within the unincorporated portion of Wayne County, one wildlife refuge
- Lake Ray Dam, Class II, High Hazard, same as Lake Lynn Dam (above)
- Seven Lakes #1 Dam, Both Class I, Both High Hazard, 8 structures located outside planning area in Iron County to the north
- Seven Lakes Dam #3, Class I, High Hazard, same as Seven Lakes #1 Dam (above)

Per the USACE-provided inundation map found in Appendix B (for Clearwater Lake), there are two wastewater treatment facilities, one police station, one fire station, one airport, and one school, a lengthy stretch of the Union Pacific Railroad, and a smaller federal dam (Markham Spring) Furthermore, there are two wastewater treatment facilities located within the Wappapello Lake inundation area.

Inspection reports for state-regulated dams were requested of the Missouri Department of Natural Resources. Department representatives were not readily willing to provide dam inspection reports due to their inclusion of private information. Furthermore, they expressed concerns regarding the age and applicability of data noted by the inspectors. Inundation maps were provided by both the

state and USACE. Following request by the planner for this update, the USACE was not willing to provide Emergency Action Plans (EAP's) for the federally regulated dams within the planning area but did offer to consider EAP data release directly to the State Emergency Management Agency (SEMA).

Impact of Previous and Future Development

Wayne County is very rural and sparsely populated. There is little to no development anticipated within the inundation areas of any of the dams located in the county. The county does not issue building permits.

Hazard Summary by Jurisdiction

Wayne County – portions of the unincorporated parts of the county are located within multiple inundation zones—for both High Hazard and Class I dams. The number of persons at-risk of injury or death due to dam failure—particularly resulting from breach at the Clearwater Lake or Wappapello Lake Dams—are significant.

City of Greenville – The city is not located within the inundation area of any dam for which inundation areas are currently mapped.

City of Piedmont – The southern portion of the city is located within the Clearwater Dam inundation area. Both the city's airport and wastewater treatment facility are located within the area to be flooded anywhere from six to fifteen feet should the dam fail in its entirety. This is depicted within the inundation maps found within Appendix B.

City of Williamsville – A large portion of the city is located within the 2-6 feet inundation zone of the Clearwater Dam. Should this massive structure fail, the city's wastewater treatment facility, its police station, city hall, fire station, elementary school, and wastewater treatment facility are all anticipated to flood.

Village of Mill Spring - The southwestern portion of the village is located within the Clearwater Dam inundation area. While no critical facilities are shown to be located on the map, transportation routes accessing the village and the Union Pacific Railroad would be significantly flooded should the dam fail.

Clearwater R-I School District – the district has no assets in a known inundation area.

Greenville R-II School District – the districts' Williamsville Elementary School campus is located within the Clearwater Dam inundation area and could be flooded up to six feet should the dam fail.

Problem Statement

Variations in risk between geographic areas exist for dam failure. Many critical facilities and a school campus are located within the inundation areas of two USACE dams. The Cities of Piedmont and Williamsville, as well as the Village of Mill Spring will be heavily impacted by failure of the Clearwater Dam. Furthermore, given the number of unregulated "high hazard" dams located within the planning area (17), the unincorporated portion of the county is also subject to significant, yet ill-defined

vulnerability from dam failure.

Emergency Actions Plans (EAP's) for the 5 state-regulated dams were reviewed by the planner in the course of this plan update. It was noted that the inspections did not include the new 911 addresses for the structures located within the dam breach inundation areas. The old rural route addresses can be easily replaced and would significantly expedite emergency response in the event of a dam failure event.

- The City of Piedmont, the City of Williamsville, and the Village of Mill Spring will all be heavily impacted by the failure of the Clearwater Dam. Leaders of the municipalities should obtain and familiarize themselves with the dam's Emergency Action Plan (EAP) and develop local communication plans to be implemented should such an event occur.
- A lack of regular inspection/maintenance of un-regulated high hazard dams was noted by the Mitigation Planning Committee. Possible solutions include the development of a regular maintenance schedule, identification of qualified staff and/or consultant to assist, and maintenance report submittal requirements.
- Wayne County should consult with the Missouri Department of Natural Resources to revise the addresses of structures located downstream of the 5 state-regulated dams for which dam breach inundation maps are available.
- Wayne County should seek funding to identify dam-breach inundation areas of NID-identified "high hazard" dams not regulated by the state and conduct a vulnerability analysis.
- Wayne County should consider a partnership with neighboring Butler County (to the south) and Stoddard County (to the southeast) to educate and familiarize the public with the Emergency Action Plans (EAP's) for both the Clearwater and Wappapello Dams, respectively.

3.4.3 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 energy to buildings and other structures on the earth's surface.

As explained by the Federal Emergency Management Agency, major earthquakes and their accompanying foreshocks and aftershocks can be measured in two different ways. In 1935, the Richter Scale was developed by Charles F. Richter to measure the amount of energy released by an earthquake. The Modified Mercalli Intensity Scale was also developed as a tool to measure the severity of a quake using damage observations. The Mercalli Scale uses Roman numerals I to XII to rate an earthquake's intensity. A description of Modified Mercalli Scale is offered below in Figure 3.8.

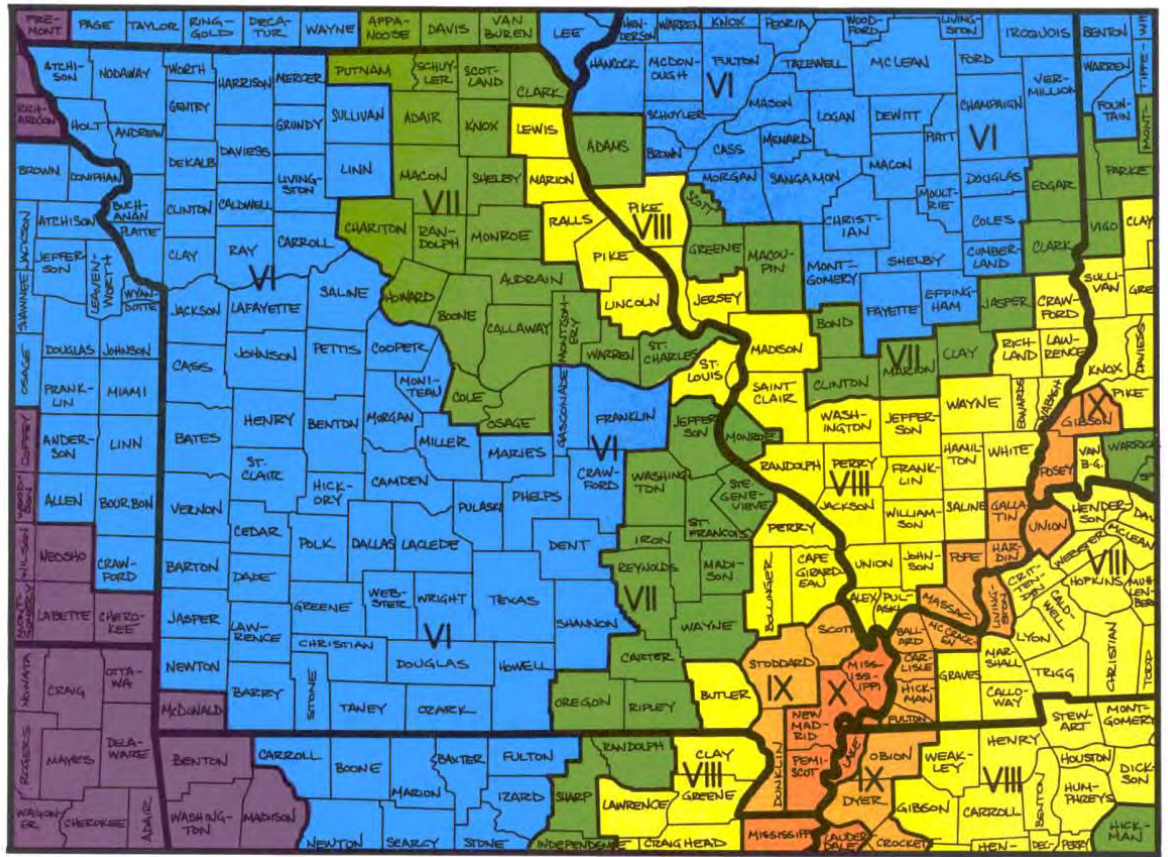
Historically, in Missouri, the most severe earthquakes occurred in the New Madrid Seismic Zone (NMSZ) from December 16, 1811, through March 12, 1812. The two most severe occurred on December 16, 1811, and February 7, 1812. These quakes rank seventh and ninth respectively among the largest earthquakes ever recorded in the United States.

Geographic Location

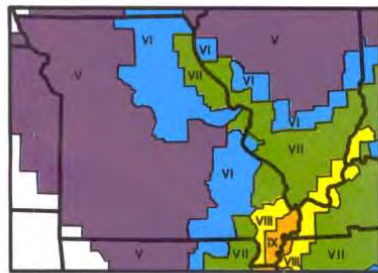
The planning area—located in Southeast Missouri—is subject to earthquakes originating from the New Madrid Seismic Zone. The zone is made up of several thrust faults that stretch throughout Southeast Missouri. The effects of a large earthquake will impact the entire county indiscriminately. All jurisdictions are expected to experience the same intensity across the planning area. Wayne County, like its neighboring counties, is at risk for strong ground movements. The immediate vicinity of the Ozarks is also at risk from earthquakes in the New Madrid Seismic Zone because subsurface conditions of the Mississippi and Missouri River Valleys can amplify ground shaking.

The map below 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. The secondary maps in Figure 3.7 show the same regional intensities for a 6.7 and an 8.6 earthquake. In the below graphic, Wayne County is the only green county in Missouri that directly abuts an orange county (Stoddard).

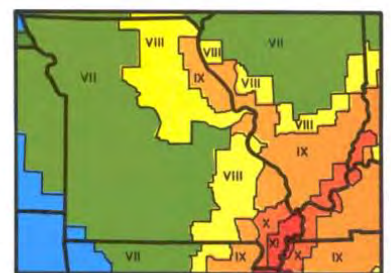
Figure 3.7 Impact Zones for Earthquake Along the New Madrid Fault



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.



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

MODIFIED MERCALLI INTENSITY SCALE

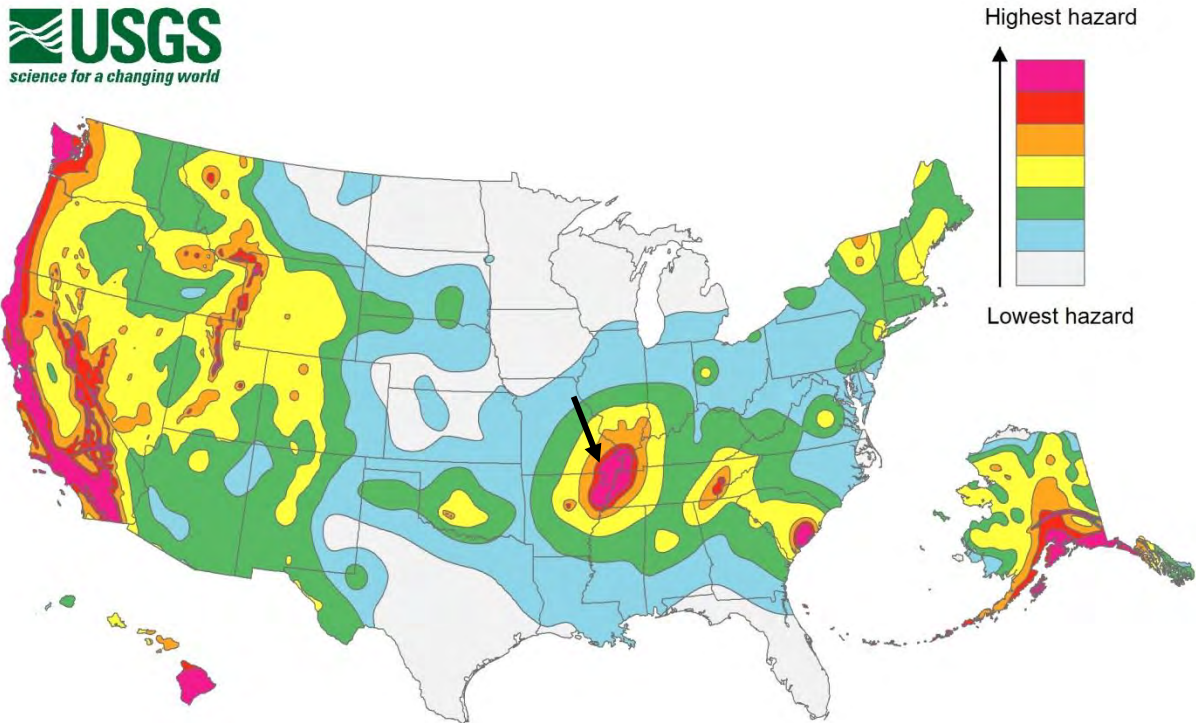
- I** People do not feel any Earth movement.
- II** A few people might notice movement.
- III** Many people indoors feel movement. Hanging objects swing.
- IV** Most people indoors feel movement. Dishes, windows, and doors rattle. Walls and frames of structures creak. Liquids in open vessels are slightly 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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 JEFFERSON CITY, MO 65102
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0 illustrates seismicity in the United States. The planning area lies along the boundary of the bright pink and orange area and is indicated by the black arrow.

Figure 3.9 United States Seismic Hazard Map



Source: United States Geological Survey at https://earthquake.usgs.gov/hazards/hazmaps/conterminous/2014/images/HazardMap2014_lg.jpg

Strength/Magnitude/Extent

As referenced above, 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

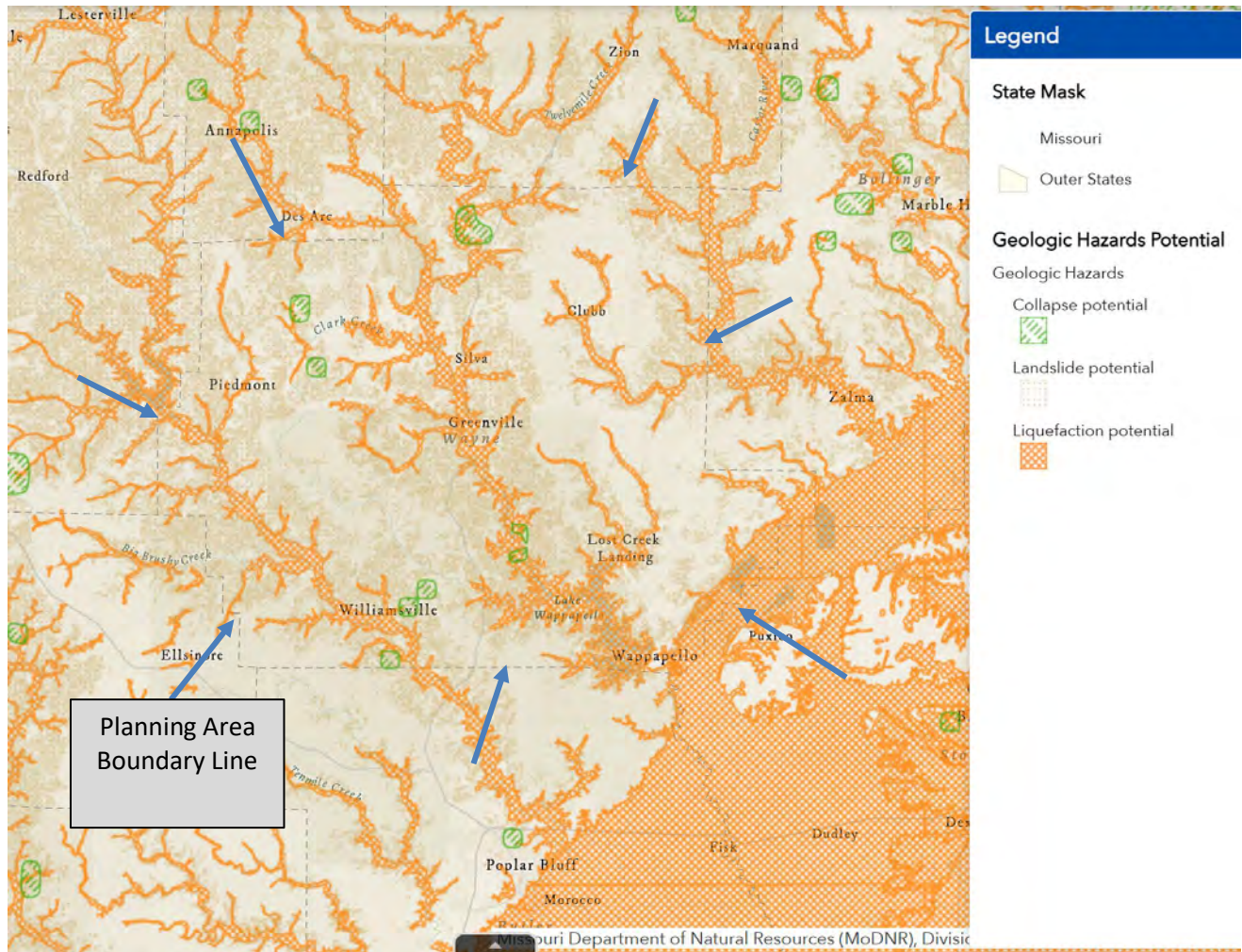
5.3 and a 6.3 earthquake shows that the 6.3 quake is ten times bigger in magnitude. Each whole number increase in magnitude represents a tenfold increase in measured amplitude because of the logarithm. Each whole number step in the magnitude scale represents a release of approximately 31 times more energy.

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.

Using the Missouri Department of Natural Resources, GeoSTRAT tool, a better understanding of earthquake impact upon certain parts of the planning area can be ascertained. In Figure 3.10 below, it can be seen that areas along streams and bodies of water are subject to liquefaction (the orange cross-hatching in the graphic below), while seemingly smaller select portions of the planning area are subject to collapse (see the green hash-marked areas). Landslide potential, though difficult to see in the graphic, is prevalent in the county, particularly outside of the "potential liquefaction" areas. Within the below map, the county boundary is indicated by the light gray dashed line highlighted by the blue arrows.

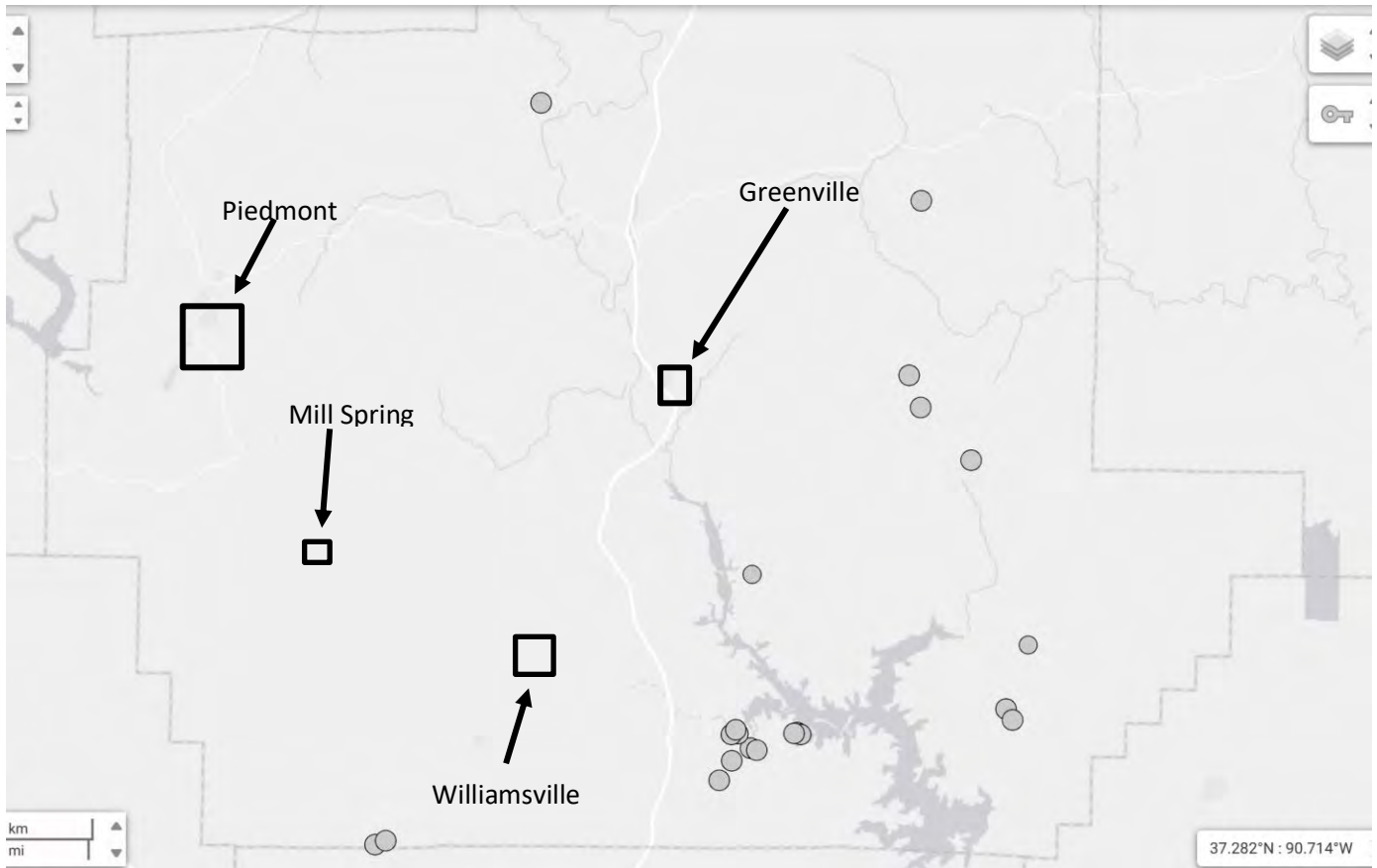
Figure 3.10 Geologic Hazards Potential Within Wayne County, Missouri



Previous Occurrences

Per www.homefacts.com, Greenville—the county seat of the planning area—has a moderate risk of earthquakes. According to the U.S. Geologic Survey (USGS) there have been 7,769 earthquakes Magnitude 0.1 and Magnitude 4.7 within 250 km (156 miles) of Greenville, MO within the past 20 years. In reviewing the specific incidents during that time period, the strongest earthquake (magnitude 4.7) occurred near Greenbriar, AR. Twenty of the 7,760 earthquakes had an epicenter in Wayne County and ranged from magnitude 1.4 to 4.0 on the Richter Scale. The county saw its magnitude 4.0 quake on November 18, 2021.

Figure 3.11 Geologic Hazards Potential Within Wayne County, Missouri



Per the Center for Earthquake Research and Information at the University of Memphis, the most recent earthquake with an epicenter in the planning area occurred on July 28, 2023. The quake measured 2.2 on the Richter Scale and was centered in the southern portion of the county just west of Wappapello.

The largest earthquakes ever felt in the United States occurred along the New Madrid fault line during the winter of 1811-1812. During the course of three months, three earthquakes registering above 8.0 on the Richter Scale were felt by nearly the entire eastern half of the United States. According to the United States Geological Survey, church bells in Boston, Massachusetts rang as a result of the tremendous shaking. In fact, the New Madrid quakes were two to three times stronger than the 1964 Alaska earthquake and ten times more powerful than the 1906 San Francisco Quake.

Probability of Future Occurrence

There are multiple ways to assess the probability of an earthquake occurring within the planning area in any given year. Three such methods are described below.

Per Table A.11 on page 69 of the *2023 Missouri State Hazard Mitigation Plan*, “FEMA’s National Risk Index has calculated the annualized frequency of earthquake events. Annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. This value represents the probability of earthquake occurrences, in events, (at least minor-damage shaking) impacting a location in any given year.” Per this calculation, the earthquake annualized frequency for Wayne County is 0.002760, or 2.76 events per year.

Using the earthquake occurrence data provided by the USGS over the past 20 years, the probability of an earthquake in the planning area can be calculated. Using 20 reported earthquakes with epicenters located in Wayne County between 2004 and 2023 (20 years), the probability of an earthquake occurring in the planning area in any given year is 100% and may or may not be directly influenced by climate change as described below.

The U.S. Geological Survey estimates the probability of a magnitude 7.5 or greater earthquake occurring somewhere along the New Madrid Zone at 7% to 10% within the next 50 years. The probability of an earthquake exceeding magnitude 6.0 occurring within the same time period is estimated by the USGS at 25% to 40%.

Changing Future Conditions Considerations

According to the *2023 Missouri State Hazard Mitigation Plan*, 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

A statement pulled from the 2019 report, *Where Was the 31 October 1895 Charleston, Missouri Earthquake?* claims that “faults associated with the western edge of the Reelfoot Rift appear favorably oriented for failure in the current stress regime.” The report examines what is thought to be the most recent 6.0 or greater earthquake in the U.S. and emphasizes that an elevated seismic hazard extends westerly from the New Madrid Seismic zone into Southeast Missouri. Assuming the validity of the report’s hypothesis, the planning area and its surrounding counties could be at greater risk of more significant earthquakes than traditionally thought.

Per the Missouri Department of Commerce and Insurance, “Missouri is the third largest market for earthquake insurance among the states, exceeded only by California and Washington.” According to the department’s *2022 Residential Earthquake Coverage in Missouri* published in April 2023, the number of insurance policies with earthquake endorsements in the New Madrid Seismic Zone has decreased by 49.3%, from 60.2% in 2000 to 10.9% in 2022. This is due primarily to increases in cost of coverage. Per the report, the average cost of earthquake coverage was \$57 per year in 2000 and \$565 per year in 2022. According to the report, 13.5% of property owners hold

earthquake insurance within the planning area with an average annual premium of \$191.

The data used for this vulnerability overview and potential loss estimation were gathered from the *2023 Missouri State Hazard Mitigation Plan* and are described in more detail within the following section. County level data from Chapter 3 of the state plan provided the best and most recent data available.

Potential Losses to Existing Development

The *2023 Missouri State Hazard Mitigation Plan* describes the analysis of earthquake hazard vulnerability using HAZUS software and assuming two different scenarios—an annualized loss scenario and a probabilistic loss scenario. The two scenarios and relative assumptions are described below.

Annualized Loss Scenario – Annualized loss is defined as the expected value of loss in any one year. A FEMA loss study (*FEMA P-366 HAZUS Estimate Annualized Earthquake Losses for the United States, April 2017*) was combined with analyses using FEMA’s loss estimation software (HAZUS 6.1) to produce an “apples to apples” county comparison of earthquake risk statewide. The HAZUS analyses used a Level 1 building inventory database comprised of demographic data from the 2010 census.

Using this method of loss estimation, economic losses to buildings were annualized over eight earthquake return periods (100; 200; 500; 1,500; 2,000; and, 2,500 years). The software computes annualized loss estimates by aggregating the losses and their exceedance probabilities from the eight “return periods.” Annualized loss is the maximum potential annual dollar loss resulting from the various return periods averaged on a ‘per year’ basis, specifically, the summation of all HAZUS-supplied return periods multiplied by the return period probability (as a weighted calculation).

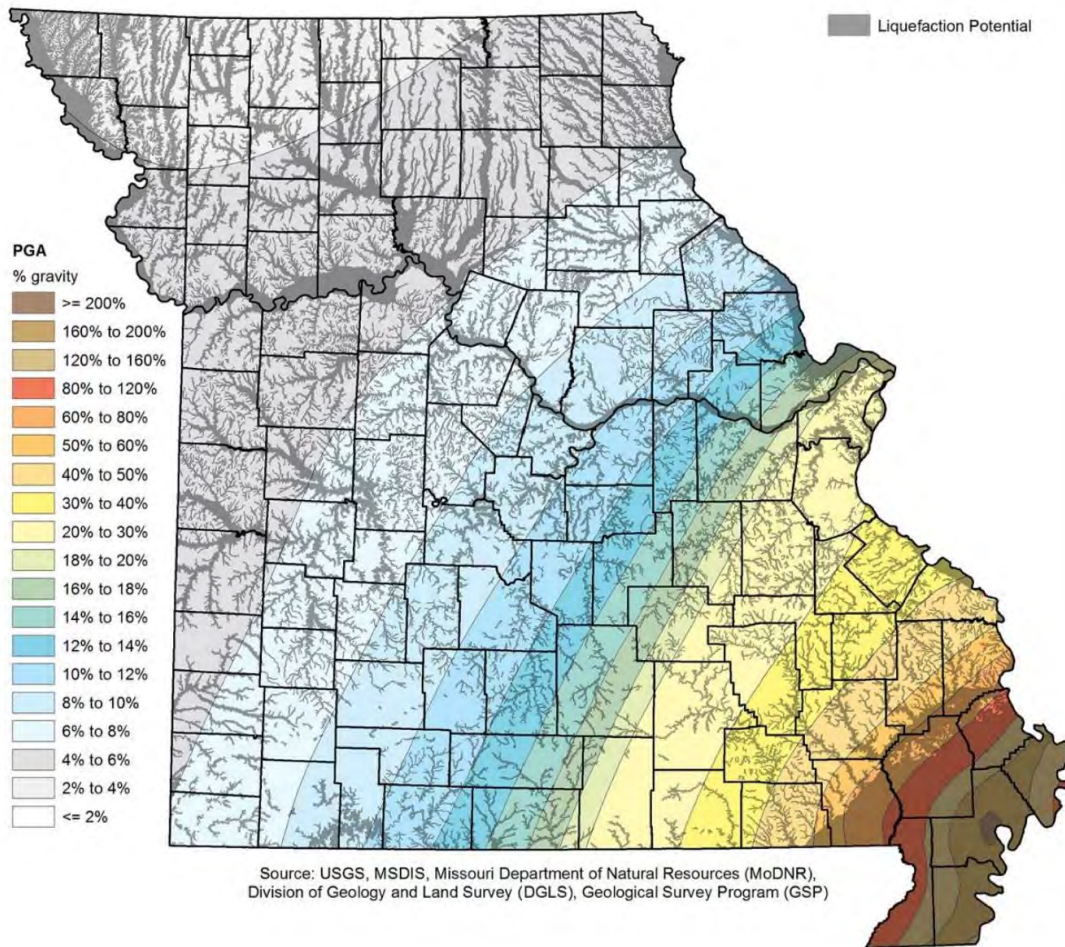
As reported in Table A.10 in the *2023 Missouri State Hazard Mitigation Plan*, total losses—using the annualized loss scenario—total losses due to earthquake are estimated at \$361,000,000 with a loss per capita of \$26.70 and resulting in an annualized loss ratio of \$288 per million. Per the state plan, “the annualized loss ratio represents the ratio of the average annualized losses divided by the entire building inventory by county as calculated by Hazus. The loss ratio is an indication of the economic impacts an earthquake could have, and how difficult it could be for a particular community to recover from an event.”

Probabilistic Loss Scenario – assumes a worst-case earthquake event along the New Madrid Seismic Zone modeled by “an event with a 2% probability of exceedance in 50 years and using ground shaking levels recognized in earthquake resistant design. For the purposes of the analysis, site classification and soil liquefaction characteristics—provided by the National Earthquake Hazards Reduction Program of the Central United States Earthquake Consortium—were used to enhance the accuracy of the hazard modeling.

Using this loss scenario, structural and non-structural damage estimated for Wayne County were \$57,036,000 and \$188,917,000, respectively. The total loss for the planning area—including structural building components, non-structural building components, contents, inventory, relocation, capital-related, wages, and rental income—was estimated at \$372,871,000. The loss ratio for the

county using this method of analysis was 19.57%. Loss ratios for all Missouri counties ranged from .17% in Worth County to 64.73% in New Madrid County. Figure 3.11, below, provides a visual depiction of ground shaking and liquefaction potential during the modeled event.

Figure 3.12 HAZUS Earthquake 2% Probability of Exceedance in 50 Years —Ground Shaking and Liquefaction Potential



FEMA’s National Risk Index provides one other categorization of risk by combining estimated annual losses with a measure of social vulnerability and community resilience. FEMA categorizes an evaluated geography into one of five categories: Relatively High, Relatively Moderate, Relatively Low, Very Low, Undetermined. The social vulnerability measure comes from the University of South Carolina’s Social Vulnerability Index, while the community resilience measure comes from the university’s Hazards and Vulnerability Research Institute. Considering the aforementioned measures, FEMA determined not only Wayne County’s annualized loss rating, but

also its earthquake risk rating to be “Relatively Low.”

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. Fortunately, no future development is anticipated within the planning area.

Hazard Summary by Jurisdiction

The earthquake intensity is not likely to vary greatly throughout the planning area; therefore, the risk will not be significantly different throughout the county. Given the propensity for epicenter variation, no specific area of Wayne County, however, is more susceptible to earthquakes than another area.

It should be noted, however, that damages could differ if there are structural variations in the planning area’s built-environment. For example, aged housing units are likely to suffer more damage than later built units. When occupied, these older units can contribute to injury and even death. Furthermore, because the planning area is located within the New Madrid Seismic Zone, the potential for ground shaking and liquefaction lessens from the southeastern portion of the planning area to the northwestern portion as shown in Figure 3.12 above. Geologic variations throughout the planning area can contribute to the type of destruction caused by an earthquake (e.g. collapse, liquefaction, or landslide). Figure 3.10 depicts the likelihood of each effect throughout the planning area.

Wayne County – Potential for damage due to earthquakes may vary somewhat throughout the county due to the epicenter location of an earthquake event, as well as variations in soil type and geology throughout the planning area. The historic county courthouse and other older masonry-type buildings are more vulnerable to damages from earthquake due to their age. For those 20 earthquakes that have originated in planning area in the past 20 years, the majority of epicenters have been in the southeastern portion of the county around Lake Wappapello.

City of Greenville – Compared to other municipalities in the county, Greenville has lowest proportion of older homes (10.2%) within its jurisdiction. For this reason, the city may be less susceptible to damage from earthquake than other jurisdictions in the planning area.

City of Piedmont – The city has the second highest proportion (19.1%) of older occupied housing units (those built before 1939) of all jurisdictions in the county. This could result in a higher rate of structural damage, injuries, and residential displacement due to earthquake.

City of Williamsville – The city has a high rate of occupied housing units built before 1939 (18.8%), is located within the 40%-50% gravity Peak Ground Acceleration area within Figure 3.12 and is subject to ground shaking as shown within Figure 3.10. In addition, earthquakes in Wayne County tend to have epicenters located in the portion of the planning area nearer to Williamsville as shown in Figure 3.11. For these reasons, the city may experience more destruction during an earthquake event

Village of Mill Spring - The village has the highest proportion of older occupied housing units (those built before 1939) at 25.5% than any other jurisdiction in the planning area.

Clearwater R-I School District – The district has one building constructed before 1939—its old gymnasium. Its service area spans the northwestern portion of the planning area.

Greenville R-II School District – The district has no building constructed before 1939. Its service area spans the central and southeastern portion of the planning area.

Problem Statement

Risk of and vulnerability to earthquake does not vary greatly throughout the region. Certain areas do have older housing stock. The Village of Mill Spring has a high proportion of aged housing stock, yet the City of Williamsville has both a high percentage of aged housing stock and is located near an area more susceptible to ground shaking. It should be noted that per Figure 3.11, the majority of earthquakes with epicenters in Wayne County occur in the southeastern portion of the planning area. The Wayne County Courthouse is a multi-story structure built between 1941 and 1943. Should a strong earthquake occur along the NMSZ, the facility is likely to incur damage, thereby, interrupting county government operations.

- The Wayne County Courthouse, due to its age and multi-story design is susceptible to damage from earthquakes. To minimize interruptions to government operations following an earthquake event, the county could pre-identify an alternative operation base and solidify plans for the relocation of physical operations.
- Housing stock within the Village of Mill Spring is significantly older than other residential structures in the planning area and could be at higher risk. Possible solutions include review by a structural engineer of occupied housing units constructed before 1939 for potential retrofits.
- Housing stock within the City of Williamsville is aged and more subject to ground shaking. The city council may wish to partner with the Village of Mill Spring for engineering reviews of occupied housing units and/or review local ordinances and establish building codes to address seismic provisions.

3.4.4 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.

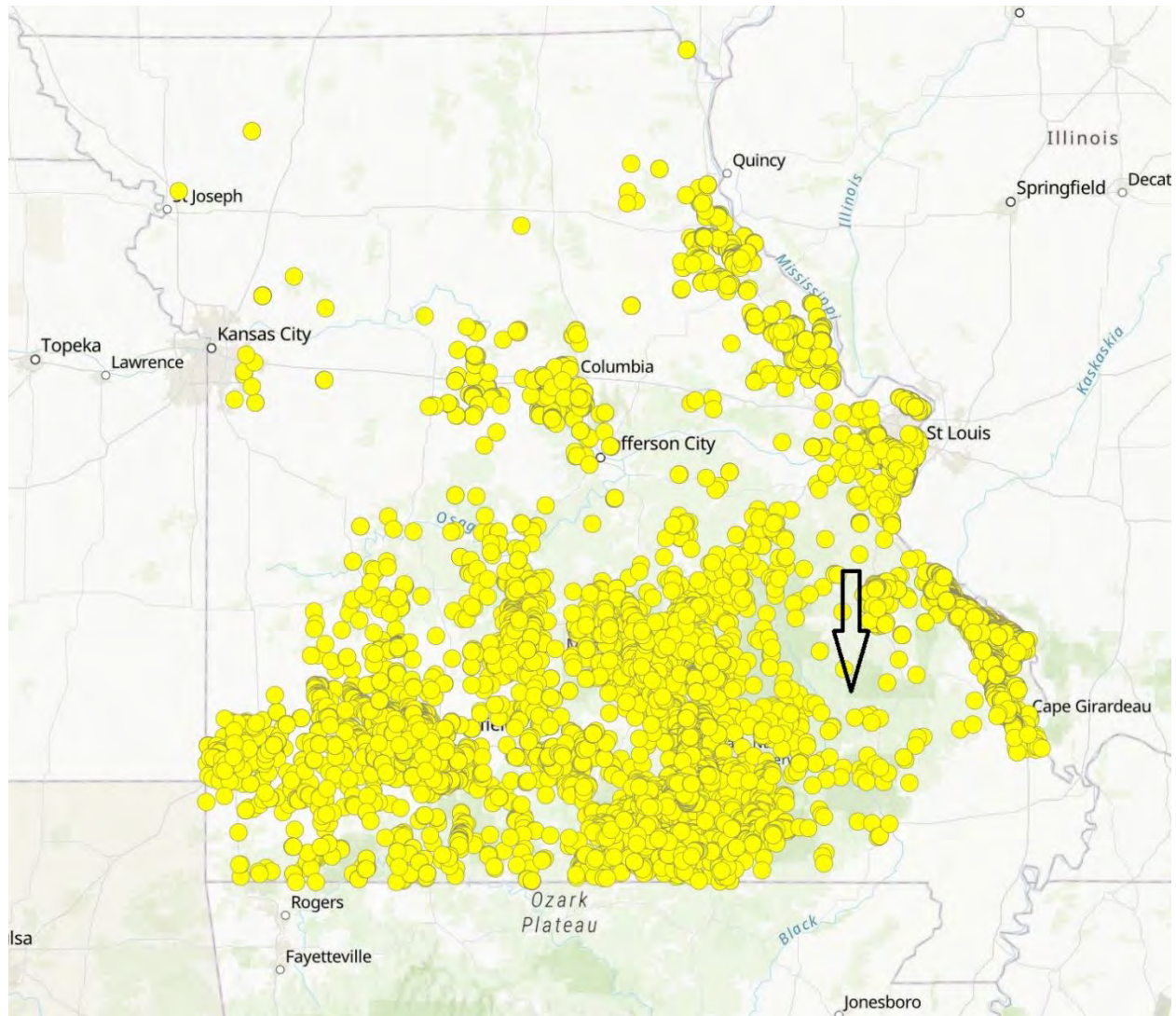
According to the U.S. Geological Survey (USGS), the most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. Fifty-nine percent of Missouri is underlain by thick, carbonate rock that makes Missouri vulnerable to sinkholes. Sinkholes occur 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 others have vertical walls. Some hold water and form natural ponds.

There were no mining activities known to the planning committee at the time of this plan update.

Geographic Location

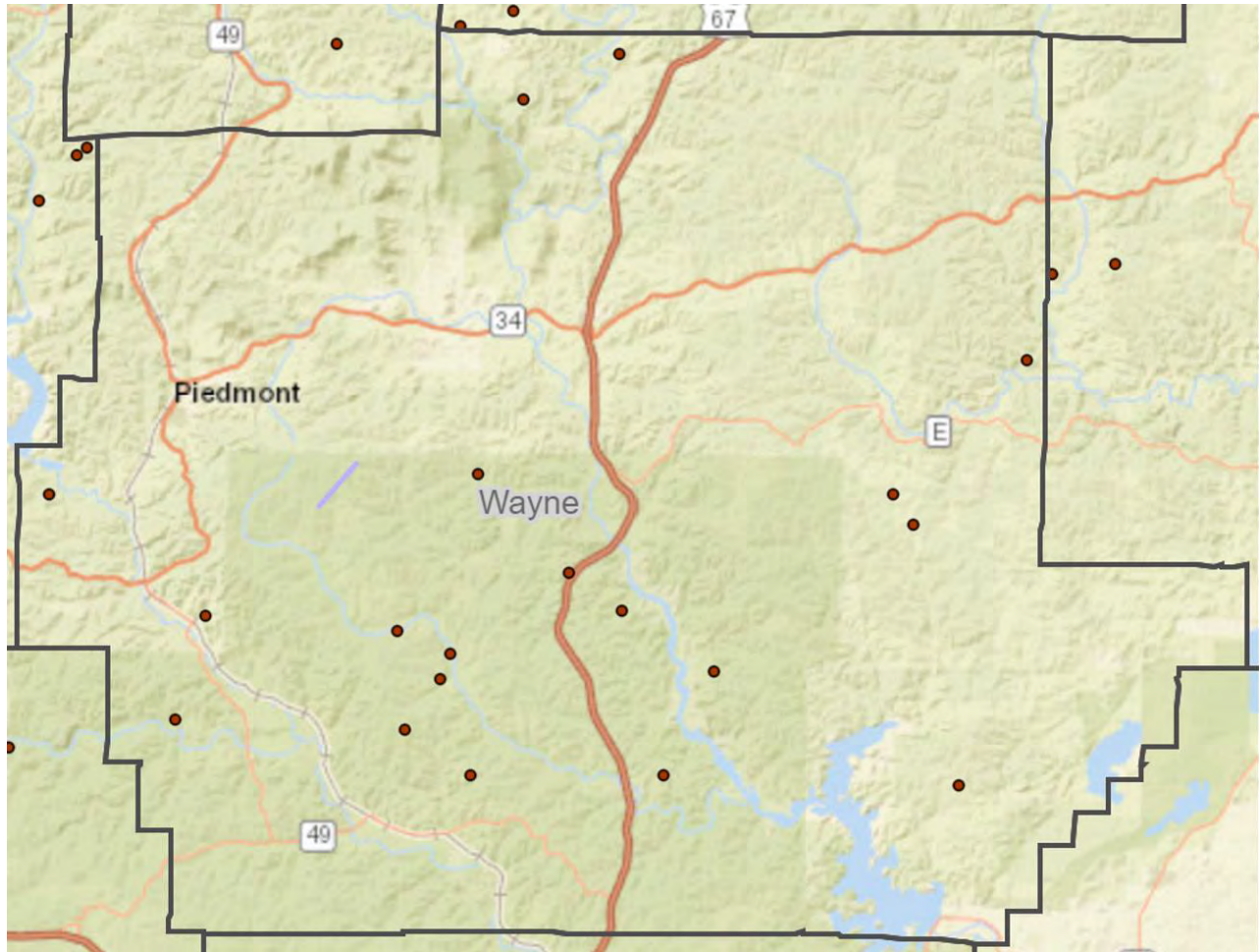
The maps below show the distribution of sinkholes across the state as well as the location of 19 sinkholes in the planning area. Relative to the remainder of the state (particularly south-central Missouri), Wayne County has few sinkholes. For those that have been identified within the county, most are near Williamsville in the southwestern portion of the county.

Figure 3.13 Sinkhole Locations in the State of Missouri



Source: Missouri Hazard Mitigation Viewer

Figure 3.14 Sinkhole Locations in the State of Missouri



Source: Missouri Hazard Mitigation Viewer

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

Sinkholes are a regular occurrence in Missouri, but rarely are they of any significance. Fortunately, per the USGS and local authorities there is no record of sinkhole collapse in Wayne County.

Probability of Future Occurrence

It should be noted that there exists no centralized database for sinkhole collapses in the state. There is no record of previous sinkhole collapse events in the county; consequently, probabilities could not be calculated. Future probability calculations may be influenced by climate change as described below.

Changing Future Conditions Considerations

Direct effects from changing climate conditions such as an increase in droughts could contribute to an increase in sinkholes. These changes increase 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 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

County level data from the *2023 Missouri State Hazard Mitigation Plan*, was consulted as the best and most recent data available for the purposes of assessing vulnerability of jurisdictions in the planning area to sinkhole collapse.

Potential Losses to Existing Development

There is no known existing development in the planning area at risk of damage due to sinkhole collapse. Furthermore, no previous events have been recorded so as to provide a record of historical losses.

Impact of Previous and Future Development

Fortunately, no future development is anticipated within the planning area. Consequently, future development is not expected to increase the risk of damage due to sinkholes.

Hazard Summary by Jurisdiction

The majority of, if not all, known sinkholes in the planning area are located in the unincorporated portions of the county. Twelve of the 19 known sinkhole locations, or 63.2%, are located in the southwestern portion of Wayne County. Outside of this fact, there is no difference in incidence or risk between communities or districts. For this reason, risk is considered uniform throughout the planning area. Due to data limitations regarding prior events and a lack of local involvement in sinkhole location identification methods, an analysis specific enough to indicate risk to existing structures in the planning area—including those owned and maintained by school and special districts—is impossible.

Wayne County – Most, if not all, of known sinkholes as mapped by the Missouri Department of Natural Resources are located within the balance of the county. Because of this risk of sinkhole collapse is most applicable to the county than to other jurisdictions within the planning area.

City of Greenville – There are no known sinkholes within the jurisdictional boundaries of the city.

City of Piedmont - There are no known sinkholes within the jurisdictional boundaries of the city.

City of Williamsville - There are no known sinkholes within the jurisdictional boundaries of the city.

Village of Mill Spring - There are no known sinkholes within the jurisdictional boundaries of the city.

Clearwater R-I School District – There are no school district assets located on or near known sinkholes.

Greenville R-II School District - There are no school district assets located on or near known sinkholes.

Problem Statement

Vulnerability of the planning area to damages resulting from sinkhole collapse is limited; yet, full analysis of existing sinkholes (precise location, size, and existing development) is difficult.

- Local authorities have limited knowledge of how state officials create sinkhole identification maps. A local understanding of the methods employed to locate and map sinkholes would help jurisdictional representatives better evaluate the danger sinkholes pose to existing and future development within their jurisdictions.

3.4.5 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.

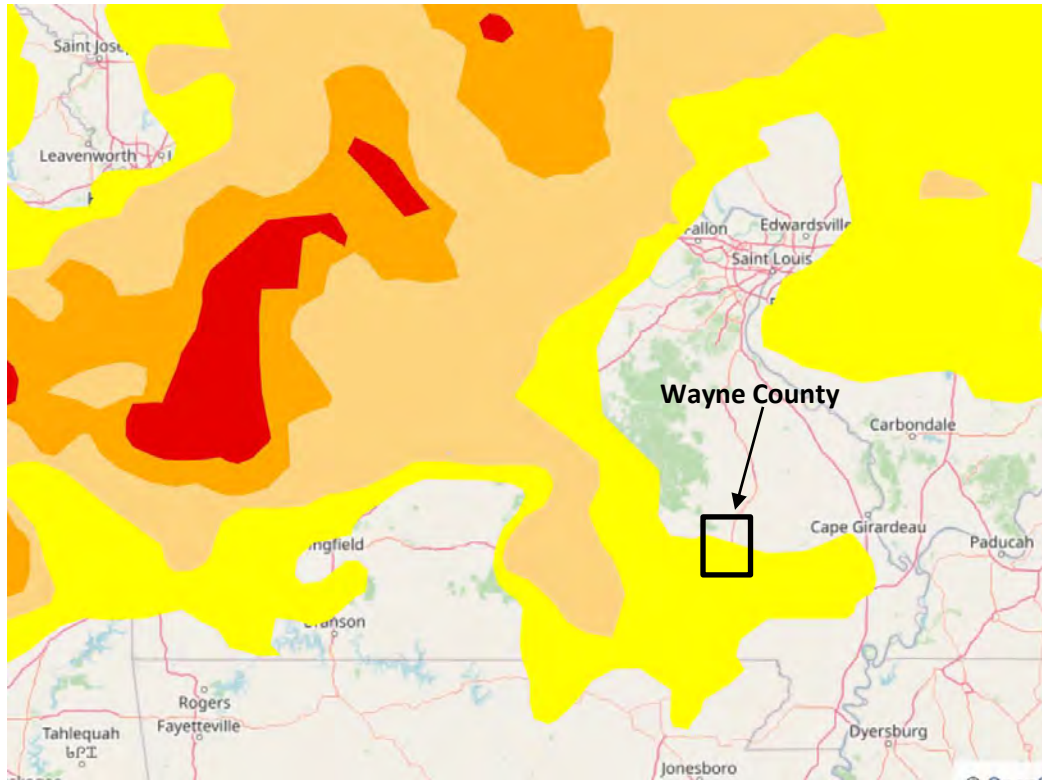
Geographic Location

The entire planning area is at risk to drought; however, drought most directly impacts the agricultural sector. The percentage of surface land used for agricultural purposes in Wayne County is 19.2%.

Farming in Wayne County is concentrated in the balance of the county outside of municipality boundaries. There is currently no conversion of farmland to development occurring in the planning area. Consequently, negative impacts of drought in the county are expected to lessen barring unpredictable changes in climate. Per agricultural census data provided by the U.S. Department of Agriculture, the number of farms and harvested acres in the county declined substantially from 2012 to 2017. For example, in 2012, 230 farms harvested 28,002 acres of crops, livestock, etc.; later, in 2017, only 190 farms harvested 14,146 acres in the county. This amounts to a 17.4% reduction in number of farms and a 49.5% reduction in harvested acres. Given this information, it can reasonably be assumed that droughts in the planning area in 2017 had less negative impact on local industry than in 2012. Should this trend continue, drought is likely to become less impactful to the county as a whole.

The map in Figure 3.15 below is from the U.S. Drought Monitor and provides an example of the geographic area that could be in drought at any given moment in time. Remember that it is only a snapshot of conditions at a given moment in time. An arrow and rectangle indicate the location of the planning area on the map. On the date indicated, the northern portion of the planning area was in no drought, while the southern portion was in moderate drought (yellow).

Figure 3.15 U.S. Drought Monitor Map of Missouri on August 15, 2023



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.

Previous Occurrences

The Drought Impact Reporter of the University of Nebraska's National Drought Mitigation Center is a source of county-level data for types of impacts resulting from previous drought events. In a 20-year period from 2004 to 2023, the monitor located 27 instances of drought impact involving Wayne County. The types of impact ranged from hay shortages and increases in cost of hay, water hauling to livestock, toxicity detected in silage for livestock, drought declarations and emergency provisions from public sources, increased wildfire incidence, fire bans, early leaf drop, implementation of grazing variances, increased cattle sales, the use of corn refuse for silage, and increased cost per acre for growing crops.

According to the NOAA's National Center for Environmental Information, from September 1, 2004, through August 31, 2023, there were seven drought events impacting Wayne County. The events ranged in length from .25 months to 7.75 months. Due to the nature of drought in general, events spanning longer periods result in more severe impacts. Narrative describing the two most severe events follows:

08/01/2010-1/31/2011 - (7 months in drought) Moderate drought conditions persisted over much of southeast Missouri. After a very dry June, some areas received beneficial rain in July and August. Rainfall for the months of July and August was variable, consisting of isolated to widely scattered showers and thunderstorms. Many locations were one to over three inches below normal for the month of August. Hot conditions increased evaporation rates and crop stress. Unirrigated corn yields were expected to be a total failure in some places. Livestock producers in Ripley and Carter Counties were feeding hay due to pastures that were burned up by not having significant rainfall for six weeks. Livestock water was also becoming a concern for some producers. Year-to-date rainfall deficits were 4 to 8 inches. By month's end, 32 percent of the Missouri cotton harvest was rated poor or very poor. Eighty-seven percent of pastureland in the extreme southeast corner of the state was rated as poor or very poor, which impacted hay crops. Unirrigated corn yields were expected to be a total failure in some places.

Outdoor fire danger became very high at times. By month's end, 85 percent of pastureland was rated poor or very poor. Ninety-two percent of topsoil was rated short or very short on moisture. A federal disaster declaration was granted for most of southeast Missouri due to anticipated crop losses. Drought conditions improved during November with heavy rainfall on the 24th and 25th.

A series of wildfires occurred early in the month in Carter and Wayne Counties. Most of the fires were less than 100 acres, and no structures were known to have burned. There were some bans on outdoor burning until heavy rainfall on the 24th and 25th.

The cumulative effect of this drought, a catastrophic ice storm in '09, winds from Hurricane Ike in '08, and a record late spring freeze in '07 resulted in a mortality spiral among trees and shrubs. According to a local arborist, the series of damaging weather events diminished the long-term ability of trees to recover from future events.

While the drought ended in December in some locations, the subsoil moisture remained low. For the year 2010, most locations ended the year with precipitation deficits of 10 to 13 inches. The long-term moisture deficits were reflected in below normal streamflow's on some waterways.

While the drought began during the summer of 2010, and a very dry January exacerbated it. Total precipitation for January was only 0.34 inch at Poplar Bluff. Normal monthly precipitation is about three inches. Subsoil moisture remained low.

05/18/2012- 01/12/2013 - (7.75 months in drought) One of the warmest and driest Mays on record worsened the rare spring drought over southeast Missouri. By the end of May, the drought was severe in the extreme southeast Missouri counties of New Madrid and Mississippi. Moderate drought conditions existed elsewhere to the south of the Perryville area. Soils continued to dry out, and topsoil moisture deficits began to be reported. Pasture land rapidly deteriorated. Stream flows were running below normal by the end of the month.

The spring drought worsened considerably across southeast Missouri as summer arrived. By the end of June, all of southeast Missouri except for the Perryville and Van Buren areas was upgraded to extreme drought. Severe drought spread across the remainder of southeast Missouri. Soil moisture deficits continued to increase. By the end of June, 80 to 100 percent of the region's topsoil moisture was reported as short or very short, and 70 to 95 percent of the subsoil moisture was reported as short or very short.

Many crops were showing stress. The majority of the corn and soybeans were listed in fair to poor condition. Increasing amounts of livestock and pasture were showing stress. The percentage of pastures rated as poor or very poor was growing. Ponds across the region were drying quickly. Fire danger increased. In the Mark Twain National Forest, open fires were prohibited due to high fire danger.

The drought worsened considerably across southeast Missouri as summer progressed. By the end of July, all of Southeast Missouri was upgraded to extreme to exceptional drought. The exceptional drought conditions were along and south of a line from Poplar Bluff to Jackson, including Cape Girardeau. The remainder of southeast Missouri was classified as having extreme drought conditions. Soil moisture deficits continued to increase. By the end of July, 90 to 100 percent of the region's topsoil and subsoil moisture was reported as short or very short. Many crops were showing stress, and the situation became dire for many farmers. A majority of the corn and soybeans were listed in poor to very poor condition. Increasing amounts of livestock and pasture were showing stress. The percentage of pastures rated as poor or very poor continued to grow. Ponds across the region were dry or drying quickly. Fire danger remained high. Fourth of July fireworks shows were cancelled or banned in many places. Stream flows were running below normal. Many crops were heavily damaged, and numerous counties were declared natural disaster areas. Corn crops were a partial or complete loss.

Significant improvement in drought conditions occurred during the month of September. Heavy rain from the remnants of Hurricane Isaac was a notable factor. The extreme to exceptional summer drought gave way to only moderate drought from Cape Girardeau north and west. Soil moisture deficits decreased greatly. By the end of September, soil moisture was near normal. Most of the corn crop was either harvested or plowed under, and corn crop losses were expected to be very high. Pastures improved, but a majority of them remained in poor or very poor condition. Fire danger decreased significantly, and all bans on outdoor burning were lifted. Stream flows were running about normal.

Slight improvement in long-term drought conditions was observed during the month of October, though most locations still reported below normal precipitation for the month. By the end of the month, areas south and west of a line from Cape Girardeau to Greenville were in severe drought. The remainder of the drought area was classified as moderate. The main impact of the long-term drought was on farm ponds used for irrigating fields or raising livestock. Soil moisture was near normal. The drought began in May and continued into November in most areas.

Drought officially ended along and north of a line from Marble Hill to Cape Girardeau. The area of

severe drought improved to moderate drought. By the end of the month, areas south and west of a line from Cape Girardeau to Marble Hill were in moderate drought. The main impact of the long-term drought was on farm ponds used for irrigating fields or raising livestock. The year-to-date rainfall deficit hovered around 18 inches. The drought began in May and continued into January in most areas.

Probability of Future Occurrence

The seven drought incidents reported by NOAA's National Center for Environmental Information spanned 26.75 months within twenty years of data, or 240 months. Using these figures, the average percentage probability of drought in the planning area in any given month can be calculated as 11.2% (26.75 months spent in drought / 240 months during which data was collected = $.11115 * 100\% = 11.2\%$). Interestingly enough, severe drought likelihood as calculated by the State of Missouri and reported within Table A.20 of the *2023 Missouri State Hazard Mitigation Plan*, was 1.31--tying Butler County for the two counties most likely to experience severe drought in the state.

It should be noted that although the timing and duration of drought is not predictable, long-range outlooks and predicted impacts of climate change could indicate an increased chance and potential severity of drought.

Vulnerability

Vulnerability Overview

County level data from the 2023 Missouri State Hazard Mitigation Plan, was used as the best and most recent data available.

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 reduce forest 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.

In some communities, water shortages may result as a result of severe drought. Per the USGS's National Water Information System, there are two large lakes, two rivers, and numerous streams located in the planning area. There are, however, no springs or groundwater sites mapped in the county.

Per the USDA's Risk Management Agency, crop losses in Wayne County due to drought totaled \$295,501 from 2019 to 2023. There were 75 instances of loss with payout during the five-year period. Eleven of the 75 losses/payouts, or 17.3%, were due to drought. 2023 was the year with the highest value of losses due to drought at \$243,603, with one of 6 total loss claims due to drought

during the year comprising \$203,594. In all instances of crop losses due to drought in the county, the crop lost was either corn or soybeans, with soybeans comprising the majority of losses.

When examining specifics of the claims data, the most recent year (2022) was selected. Per the RMA's Cause of Loss Historical Data Files, landowners in Wayne County experienced \$222,078 in total crop losses during 2022 across 20 claims. Four of the 20 claims were for corn, 2 were for sorghum, 10 were for soybeans and 4 were for pasture, rangeland, or forage. The causes of the losses during the year were drought (5), excess moisture (5), heat (4), and unknown (4).

According to the *2023 Missouri State Hazard Mitigation Plan*, Wayne County has a "Medium" drought rating. When determining the rating, the state considered the planning area's social vulnerability index, its crop exposure ratio rating, its annualized USDA crop claims paid, and its likelihood of drought occurrence. In Table A.20 of the state plan, it is reported that the total crop claims made for drought damage from over a recent 10-year period in Wayne County was \$1,812,021. It is important to note that the figure equates to claims made, not paid. Per the 2017 USDA Census of Agriculture, total crop exposure for the planning area was \$7,814,000.

Per the USDA, historically average annualized losses have totaled \$181,202. This figure differs from that calculated using RMA Cause of Loss data for the five years spanning 2019-2022, which was \$59,100.20 per year. Assuming the USDA produced average annualized loss figure was computed using older annual data, the disparity in loss amounts between the two calculations could be due to the fact that the number of harvested acres has decreased significantly since 2012.

Impact of Previous and Future Development

At the time this risk assessment was updated, no future development was planned for the county or its participating jurisdictions. There were also no expansion plans for the school districts participating within this plan update. The number of farms and harvested acres has only decreased in the planning area, thereby reducing exposure to drought-related agricultural losses. In addition, the county's population has also decreased significantly, thereby reducing the demand placed upon local water supply systems.

Changing Future Conditions Considerations

A new analysis, performed for the Natural Resources Defense Council (NRDC), 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. While the site was populated with much narrative and appeals for financial support, maps showing affected areas were not found.

Per the NRDC, "Hotter temperatures increase the rate at which water evaporates from the air, leading to more severe and pervasive droughts. Already, climate change has pushed the American West into a severe "megadrought"—the driest 22-year stretch recorded in at least 1,200 years—shrinking drinking water supplies, withering crops, and making forests more susceptible to insect infestations. Drought can also create a positive feedback loop in which drier soil and less plant cover

cause even faster evaporation.”

Hazard Summary by Jurisdiction

Regarding damages due to drought, there is little variation between jurisdictions in the planning area. In cities, the drought conditions would be the same as those experienced in rural areas, but the impacts would be different such as lawns and local gardens could be impacted. In addition, building foundations could be weakened due to shrinking and expanding soils.

Wayne County – While the county is considered by the state to be the county most likely to experience severe drought, damage due to such events has been limited to the agricultural sector.

City of Greenville – The city has two adequate and functioning wells. Historical droughts have not impacted water supply within the city. Due to lack of agricultural lands within city limits and adequate water supply, drought poses negligible risk to the city.

City of Piedmont – The city pulls its municipal water from the Black River. Drought has not impacted the city’s water supply in the past. Due to lack of agricultural lands within city limits and adequate water supply, drought poses negligible risk to the city.

City of Williamsville – The city has two functioning wells; and, historical drought events have not impacted municipal water supply. Due to lack of agricultural lands within city limits and adequate water supply, drought poses negligible risk to the city.

Village of Mill Spring – The village has a single source well and provides water for both its community members (62 households) and nearby Public Water Supply District No. 3 (128 households). While drought has never impacted water supply, it should be noted that only one well exists to supply approximately 190 households. Pump malfunctions are common to the village and prevent dependable water supply.

Clearwater R-I School District – Due to adequate water supply within the City of Piedmont, drought poses negligible risk to the district.

Greenville R-II School District - Due to adequate water supply within the City of Greenville, drought poses negligible risk to the district.

Problem Statement

Drought is a hazard that impacts large geographic regions of the country. The sector that is most impacted in Wayne County is the acres that are used for agricultural purposes. Drought causes damages to crops and can negatively impact the yield of crops depending on the time the drought occurs. Furthermore, community water supplies can become inadequate during extreme drought conditions.

- Wayne County may wish to develop partnerships with representatives of the agricultural sector to explore ways to mitigate crop loss during drought conditions.
- Communities and water districts within the county may wish to explore resource sharing/interconnectivity among water providers or secondary water source options.

3.4.6 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 3.16](#) 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.

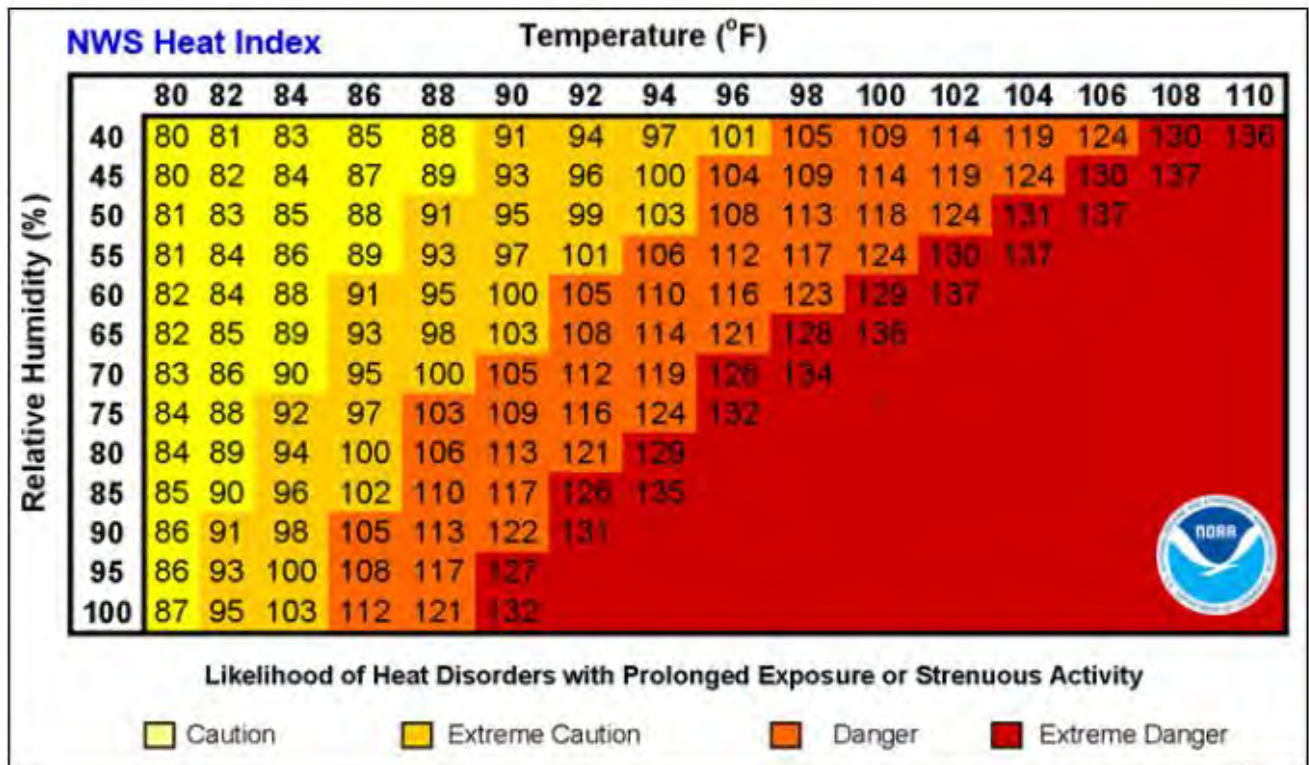
Geographic Location

Extreme heat is an area-wide hazard event; the risk of extreme heat does not vary across the planning area.

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.

Figure 3.16 Heat Index (HI) Chart

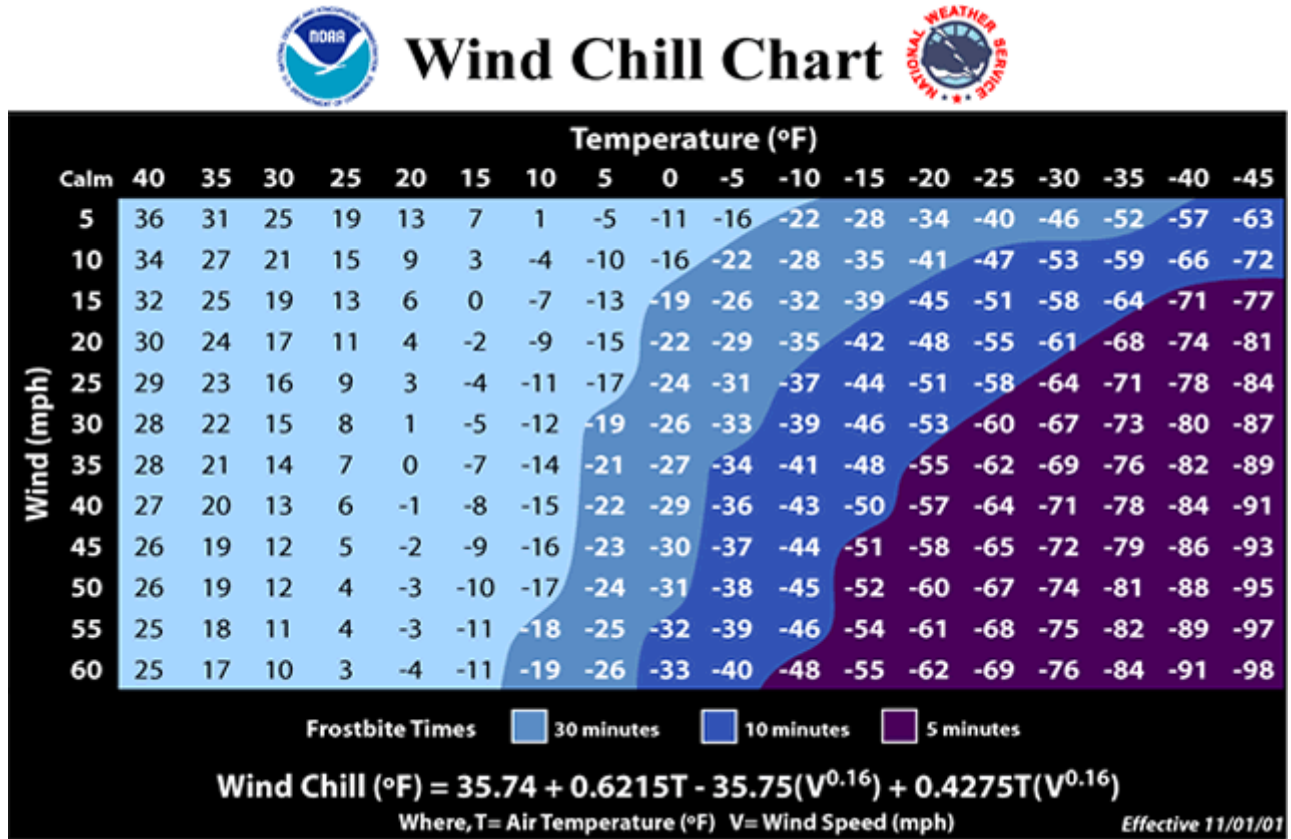


Source: National Weather Service (NWS); <https://www.weather.gov/safety/heat-index>

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.

Figure 3.17 Wind Chill Chart

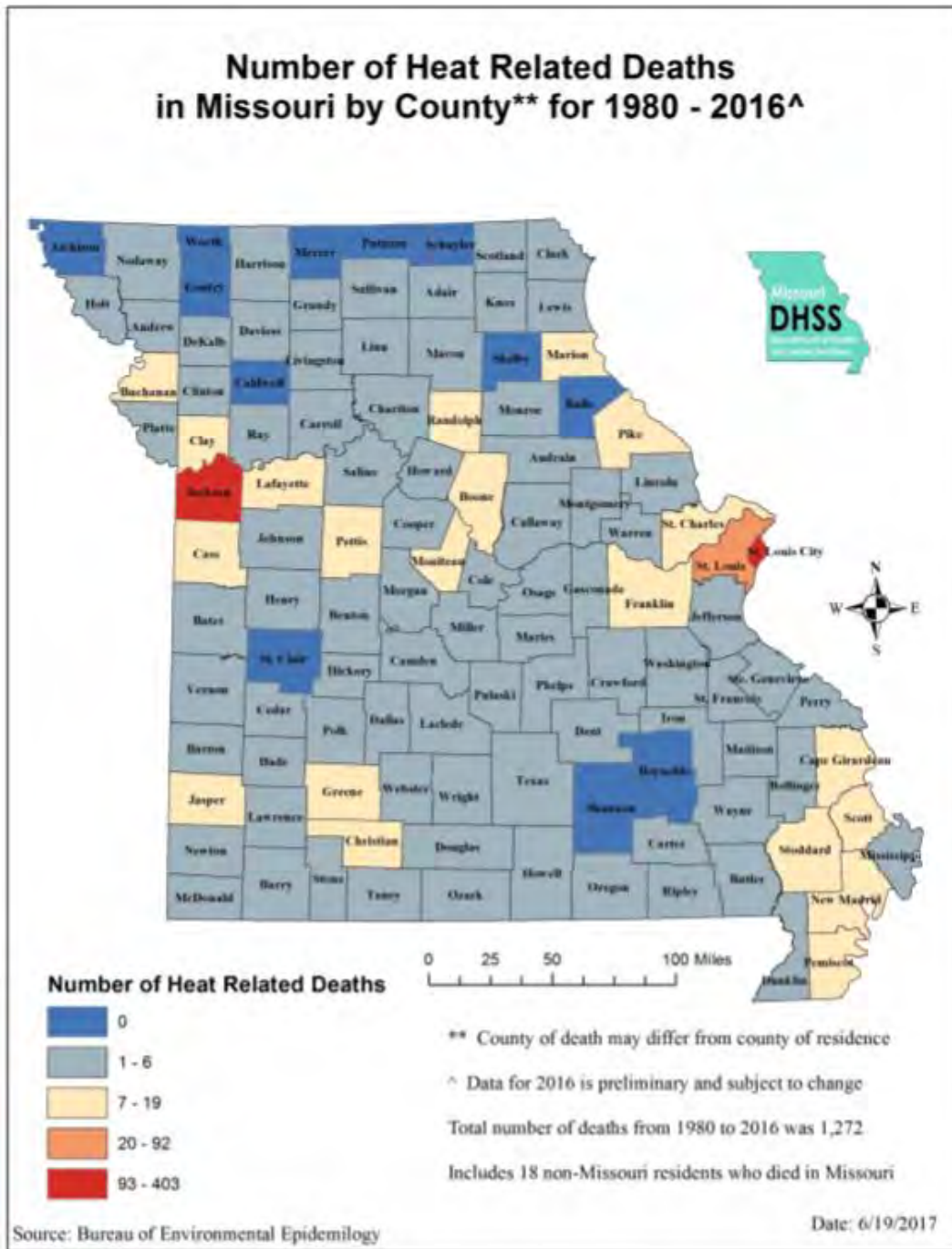


Source: <https://www.weather.gov/safety/cold-wind-chill-chart>

Previous Occurrences

According to the National Centers for Environmental Information (NCEI) database there were 2 extreme cold recorded events and 21 extreme heat recorded events in Wayne County from November 2003 to October 31, 2023 (7,305 days). Fortunately, no property damage, injuries or death resulted from the events. One extreme cold event occurred in late January, while the other occurred mid January. Of the 21 extreme heat events, 9.5% occurred in June, 71.4% occurred in July, and 19.1% occurred in August. The figure below shows the planning area as having experienced between 1 and 6 deaths due to extreme heat from 2000 – 2016.

Figure 3.18 Heat Related Deaths in Missouri 2000 - 2016



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

Extreme temperatures can cause stress to crops and animals, and also strain electricity delivery infrastructure overloaded during peak use of air conditioning during such events. Another type of infrastructure damage from extreme heat is road damage. When asphalt is exposed to prolonged extreme heat, 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. From 1996 to present, no deaths were recorded in the planning area, according to NCEI data. According to the National Weather Service among natural hazards, no other natural disaster—not lightning, hurricanes, tornadoes, floods, or earthquakes—causes more deaths.

Probability of Future Occurrence

Probability of future occurrence can be calculated using the data above (e.g. “x” number of reported days with extreme heat/cold throughout “y” number of years equals $[(y*365.25 \text{ days})/x]$ probability in any given year). Using this formula, there is a 10% chance of an extreme cold event occurring in any given year. Data also indicate there are 1.05 extreme heat events occurring within the planning area each year. If the results indicate that more than one event would occur annually, state the average number of events annually.

It should be noted that extreme temperature events could be underreported in the NCEI as data was not collected on such events until 1996. Any deaths or injuries resulting from extreme temperature events prior to this date would not be reported within the database. Furthermore, climate change is expected to contribute to an increase in extreme heat events as described in the paragraph below.

Changing Future Conditions Considerations

According to the *2018 Missouri State Hazard Mitigation Plan*, with higher greenhouse gas emissions, historically unprecedented warming is projected by the end of the century. Even under a pathway of lower greenhouse gas emissions, average annual temperatures are projected to most likely exceed historical record levels by the middle of the 21st century. For example, in southern Missouri, the annual maximum number of consecutive days with temperatures exceeding 95 degrees F is projected to increase by up to 20 days. Temperature increases will cause future heat waves to be more intense, and cold wave intensity is projected to decrease.

Higher demand for electricity as people try 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.

Mitigation against the impacts of future temperature increase may include increasing education on heat stress prevention, organizing cooling centers, allocating additional funding to repair and maintain roads damaged by buckling and potholes, and reducing nutrient runoff that contributes to algal blooms. Local governments should also prepare for increased use of public recreational facilities, utility systems, and healthcare centers. Improving energy efficiency in public buildings will also present an increasingly valuable savings potential.

Vulnerability

Vulnerability Overview

County level vulnerability data from the *2023 Missouri State Hazard Mitigation Plan* was used as the best and most recent data available. As described in Table A.23, the state assigned numerical values to each county's total population, percent of population over age 65, social vulnerability, and likelihood of event occurrence. The values were then summed to result in a total score as a measure of the county's vulnerability to extreme heat and extreme cold. Per Table A.24 in the state plan, Wayne County's vulnerability to both extreme heat and cold was determined to be "high." Only four counties of Missouri's 114 counties, were ranked "highly vulnerable" to extreme heat events, while 13 counties were ranked "highly vulnerable" to extreme cold events.

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.

Demographic data was obtained from the 2022 American Community Survey (ACS) 5-Year Survey to determine jurisdictions in the planning area with persons more vulnerable to extreme heat. Population percentages in each jurisdiction comprised of those under age 5 and over age 65 were determined. Data was not available for overweight individuals and those on medications vulnerable to extreme heat. Table 3.25 below summarizes vulnerable populations in the participating jurisdictions. 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 3.25. Wayne County, Missouri - Population Under Age 5 and Over Age 65

Jurisdiction	Population Under 5 yrs (%)	Population 65 yrs and over (%)
Wayne County*	4.5%	24.6%
City of Greenville	3.2%	22.3%
City of Piedmont	5.2%	18.7%
City of Williamsville	3.5%	21.9%
Village of Mill Spring	1.8%	22.9%
Missouri	5.9%	17.3%
United States	5.7%	16.5%

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

The table below lists typical symptoms and health impacts due to exposure to extreme heat.

Table 3.26. Typical Health Impacts of Extreme Heat

Heat Index (HI)	Disorder
80-90° F (HI)	Fatigue possible with prolonged exposure and/or physical activity
90-105° F (HI)	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity
105-130° F (HI)	Heatstroke/sunstroke highly likely with continued exposure

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

Potential Losses to Existing Development

According to USDA Risk Management Agency, losses to insurable crops due to extreme cold during the 5-year period from 2019 to 2023 totaled \$19,994.00. During the same time, insured crop losses due to extreme heat totaled \$76,280. When annualized, these historical losses show heat-related crop losses amounting to \$15,256 per year and cold-related crop losses amounting to \$3,999 per year. According to historical data available within the NCEI Storm Event Database, there have been no injuries or deaths associated with extreme heat and cold events in the county.

Impact of Previous and Future Development

Population growth can result in increases in the age-groups that are most vulnerable to extreme heat. Population growth also increases the strain on electricity infrastructure, as more electricity is needed to accommodate the growing population. Fortunately, the planning area has lost population since the prior plan update. As a result, vulnerability of the planning area to extreme temperatures-barring climate change—is anticipated to decline.

Hazard Summary by Jurisdiction

Wayne County – The county has the largest proportion of persons aged 65 and over (24.6% of all jurisdictions in the planning area and higher than that of the state and nation. While there are agricultural lands within the balance of the county and a record of crop losses due to extreme temperatures, the number of acres of harvested land declined by nearly 50% from 2012 to 2017.

City of Greenville – the city is at minimal risk to the effects of extreme temperatures as no agricultural lands exist within its jurisdictional boundaries. Approximately 22.3% of residents are over 65 years of age—noticeably higher than those of the state and nation.

City of Piedmont - the city is at minimal risk to the effects of extreme temperatures as no agricultural lands exist within its jurisdictional boundaries. The city does have the highest proportion of children under 5 years of age (5.2%) when compared to other municipalities in the planning area, but the percentage aligns with those of the nation and state.

City of Williamsville - The city is at minimal risk to the effects of extreme temperatures as no agricultural lands exist within its jurisdictional boundaries. The proportion of residents aged 65 and over in the city is 21.9%--higher than both the state and the nation.

Village of Mill Spring – The village is at minimal risk to dangers imposed by extreme temperatures as little agricultural land exists within the village. The proportion of residents aged 65 and over in the city is 22.9%--higher than both the state and the nation.

Clearwater R-I School District – The school district is at minimal risk to dangers imposed by extreme temperatures. All district buildings housing human occupants are heated and air conditioned. As a result, policies requiring school closure during high heat events are not necessary.

Greenville R-II School District - The school district is at minimal risk to dangers imposed by extreme temperatures. All district buildings housing human occupants are heated and air conditioned. As a result, policies requiring school closure during high heat events are not necessary.

Problem Statement

Crops loss data shows the agricultural lands in the balance of Wayne County are susceptible to negative impacts from extreme cold and extreme heat. Furthermore, persons aged 65 and older are found in higher percentages throughout the planning area than in the state and nation.

- Wayne County, the City of Greenville, the City of Williamsville, and the Village of Mill Spring have large percentages of residents aged 65 years and over when compared to the state and nation. Persons in this population category are at greater risk for extreme-temperature related illnesses, injuries, and death. Possible solutions include establishing and promoting accessible heating or cooling centers in the community.
- As with drought, Wayne County may wish to develop partnerships with representatives of the agricultural sector to explore crop varieties less susceptible to extreme temperatures.

3.4.7 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.

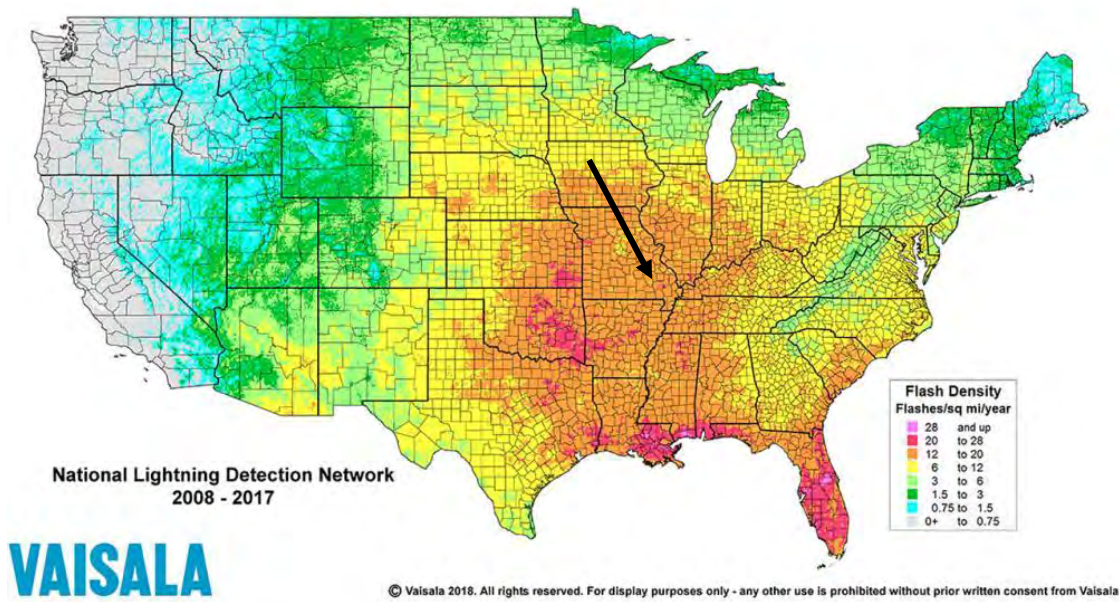
At the time when the updraft can no longer support the hailstone, it will fall down to the earth. For example, a 1/4" diameter or pea sized hail requires updrafts of 24 miles per hour, while a 2 3/4" diameter or baseball sized hail requires an updraft of 81 miles per hour. According to the NOAA, the 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, damage is more likely in more densely developed urban areas.

03.19, below, shows lightning frequency in the state. The planning area is indicated by a black arrow.

Figure 3.19 Location and Frequency of Lightning in the U.S.



Source: National Weather Service, <http://www.vaisala.com/en/products/thunderstormandlightningdetectionsystems/Pages/NLDN.aspx>.

Figure 3.20, below, shows wind zones in the United States. A black arrow indicates the location of the planning area.

Figure 3.20 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), the table below describes typical damage impacts of the various sizes of hail.

Table 3.27. 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

Intensity Category	Diameter (mm)	Diameter (inches)	Size Description	Typical Damage Impacts
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

The tables below list thunderstorm-related hazard events that have occurred in the planning area in the past ten years. Data from the NCEI regarding this hazard was categorized as hail, lightning, winds (including “high,” “strong,” and “thunderstorm”), or heavy rain events. There were 24 hail events within 15 different days recorded in the ten-year period. Only those events with hailstones larger than one inch in diameter are listed here.

Table 3.28. Hail Events, Diameter 1” or Greater - Jan 1, 2013 - December 31, 2022, Wayne County, Missouri

DATE	LOCATION	# DEATHS / # INJURIES	CROP DAMAGE / PROPERTY DAMAGE (\$)	STONE SIZE (DIAMETER-INCHES)
5/27/2017	PIEDMONT	0 / 0	0 / 0	2.75
3/2/2020	GREENVILLE	0 / 0	0 / 0	1.5
3/2/2020	SHOOK	0 / 0	0 / 0	1
3/2/2020	GREENVILLE	0 / 0	0 / 0	1.5
4/8/2020	CLUBB	0 / 0	0 / 0	1.75
4/9/2021	PATTERSON	0 / 0	0 / 0	1.75
4/30/2022	PIEDMONT MUNI ARPT	0 / 0	0 / 0	1.5
4/30/2022	PIEDMONT	0 / 0	0 / 0	1

4/30/2022	GREENVILLE	0 / 0	0 / 0	1
5/15/2022	GREENVILLE	0 / 0	0 / 0	1
5/8/2023	CASCADE	0 / 0	0 / 0	1
5/15/2023	PIEDMONT	0 / 0	0 / 0	1
5/15/2023	WILLIAMSVILLE	0 / 0	0 / 0	1
7/17/2023	PIEDMONT	0 / 0	0 / 0	1.5
7/17/2023	WILLIAMSVILLE	0 / 0	0 / 0	1
TOTAL		0 / 0	0 / 0	

Source: NOAA, National Centers for Environmental Information, 2023

Per the NCEI, there were no lightning events occurring in the planning area between 2004 and 2023. According to the National Lightning Safety Council, there were 13 lightning induced fatalities in the U.S. None of those events occurred within the planning area or the State of Missouri. In all 13 lightning induced deaths, the victims were either outside or in a vehicle.

The table below lists high wind events with wind speeds of 40 miles per hour or greater in the planning area occurring between 2013 and 2023. There were 64 high wind events during the ten-year period, but only those greater than 40 mph are shown below to allow ease in data analysis. Curiously, all wind events are reported by the NCEI as resulting in a minimum of \$1,000 in property damage. (No events caused \$0 in property damage.) All wind events magnitude 39 mph or less resulted in \$1,000 in property damage. Per the source, no crop damage resulting from high wind events in the county for the timeframe analyzed.

In 2008, two high wind events--one in January and one in September--caused region-wide damage amounting to \$47.9 million. One person was injured, though not in the planning area. Wind speeds during the events measured 52 knots and 56 knots. Wayne County experienced \$3 million during the September 2008 event with wind speeds measured between 60 and 75 miles per hour. Damage consisted of downed trees, power outages, and flattened corn resulting in a loss of 20-30 bushels per acre. Tree damage was significant enough that schools cancelled classes temporarily as transportation routes were blocked in multiple locations.

Table 3.29. Wind Events, 40 Miles Per Hour & Higher - Jan 1, 2013 - December 31, 2022, Wayne County, Missouri

DATE	LOCATION	# DEATHS / # INJURIES	PROPERTY DAMAGE / CROP DAMAGE (\$)	MAGNITUDE SPEED (mph)
2/20/2014	COUNTYWIDE	0 / 0	1,000 / 0	40
5/9/2014	GREENVILLE	0 / 0	10,000 / 0	52
7/23/2014	WAPPAPELLO	0 / 0	2,000 / 0	52
4/9/2015	PIEDMONT	0 / 0	6,000 / 0	52
12/23/2015	GREENVILLE	0 / 0	15,000 / 0	61
2/28/2017	PIEDMONT	0 / 0	15,000 / 0	61

5/27/2017	GREENVILLE	0 / 0	60,000 / 0	61
11/18/2017	COUNTYWIDE	0 / 0	1,000 / 0	40
5/31/2018	WAPPAPELLO	0 / 0	10,000 / 0	52
6/28/2018	WAPPAPELLO	0 / 0	3,000 / 0	56
12/1/2018	PIEDMONT	0 / 0	4,000 / 0	52
5/21/2019	TASKEE STATION	0 / 0	4,000 / 0	56
10/21/2019	WILLIAMSVILLE	0 / 0	3,000 / 0	56
1/11/2020	SHOOK	0 / 0	3,500 / 0	78
4/28/2020	GREENVILLE	0 / 0	5,000 / 0	52
5/3/2020	TASKEE STATION	0 / 0	2,500 / 0	61
5/3/2020	MC GEE	0 / 0	10,000 / 0	56
7/20/2020	PIEDMONT MUNI ARPT	0 / 0	20,000 / 0	56
8/12/2021	PIEDMONT	0 / 0	1,000 / 0	52
6/26/2022	PIEDMONT	0 / 0	10,000 / 0	56
6/26/2022	WAPPAPELLO	0 / 0	1,000 / 0	52
7/27/2022	PIEDMONT	0 / 0	4,000 / 0	52
5/8/2023	GREENVILLE	0 / 0	50,000 / 0	61
TOTAL		0 / 0	\$241,000 / 0	

Source: NOAA, National Centers for Environmental Information, 2023

Table 3.30. Heavy Rain Events - Jan 1, 2013 - December 31, 2022, Wayne County, Missouri

DATE	LOCATION	# DEATHS / # INJURIES	PROPERTY DAMAGE / CROP DAMAGE (\$)	MAGNITUDE SPEED (mph)
8/5/2015	WAPPAPELLO	0 / 0	0 / 0	2.56' in 8 hours
8/5/2015	SILVA	0 / 0	0 / 0	2.1" in 8 hours
9/8/2015	GREENVILLE	0 / 0	0 / 0	2.82" in 18 hours
11/18/2015	WILLIAMSVILLE	0 / 0	0 / 0	5.42" in 48 hours

Source: NOAA, National Centers for Environmental Information, 2023

Limitations to the use of NCEI reported lightning events include the fact that only lightning events that result in fatality, injury and/or property and crop damage are in the NCEI.

The tables below summarize past crop damage as indicated by crop insurance claims. Per the data available, during the five-year period between 2019 and 2023, no claims were made for crop damage resulting from high wind, hail, or lightning. Excessive moisture/participation/rain, however, caused

loss of crops in four of the five years, with an average loss of \$78,777.80 per year in corn, soybeans, and a small amount of grain sorghum. The table below illustrates the limited magnitude of the hazard's impact on the planning area's agricultural economy.

Table 3.31. Crop Insurance Claims Paid in Wayne County from Excess Moisture/Precipitation/Rain, 2019-2023

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid (\$)
2019	Corn	Excess Moisture/Rain	103,217
2019	Soybeans	Excess Moisture/Rain	171,566
2020	Corn	Excess Moisture/Rain	7,725
2020	Soybeans	Excess Moisture/Rain	12,637
2020	All Other Crops	Excess Moisture/Rain	13,329
2021	Corn	Excess Moisture/Rain	8,120
2021	Soybeans	Excess Moisture/Rain	6,877
2022	Corn	Excess Moisture/Rain	52,676
2022	Grain Sorghum	Excess Moisture/Rain	5,094
2022	Soybeans	Excess Moisture/Rain	12,648
2023	None		0
Total			393,889

Source: USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/data/cause>

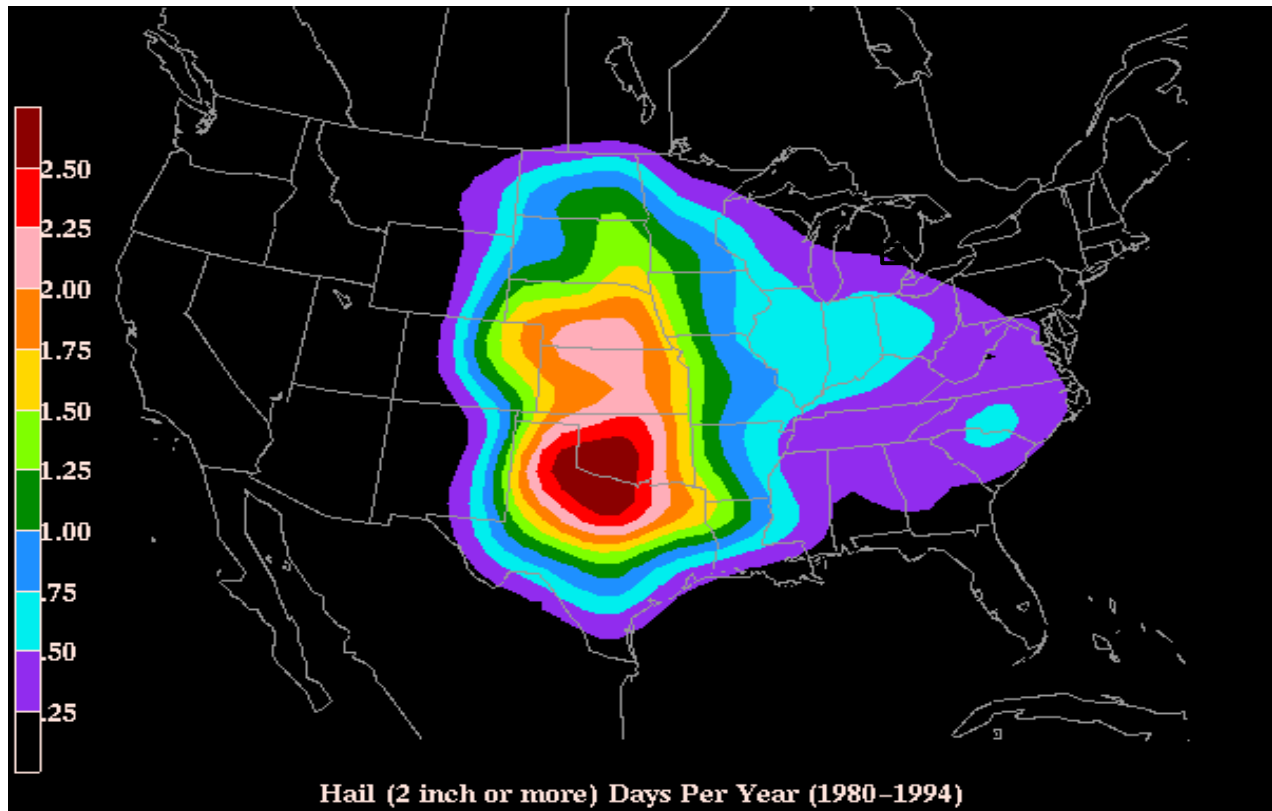
Probability of Future Occurrence

Given the historical data presented above, the probability of a thunderstorm occurring in any twelve-month period within Wayne County is 100%. Lightning, which accompanies thunderstorms, is also 100% likely to occur within the county in any given year. The planning area should anticipate experiencing high wind events in any given year. The likelihood of a hail event producing hailstones 1" or larger is 2.4 events per year. The probability of a heavy rain event occurring in the county is 40% in any given year. Within the *2023 Missouri State Hazard Mitigation Plan*, planners calculated the likelihood of high wind, hail, and lightning events as occurring 2.65, 3.27, and .08 times per year, respectively.

As described below, conflicting theories exist regarding how climate change may affect the probability of future storm events. One idea theorizes wind events to become less likely, while another theory project the potential for more storm events. Given the conflicting theories, the probability of future storm events in the planning area was based solely upon historical event data.

The map below 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. The planning area is located by the red arrow.

Figure 3.21 Annual Hailstorm Probability (2" diameter or larger), 1980- 1994



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

Changing Future Conditions Considerations

According to the *2023 Missouri State Hazard Mitigation Plan*, NASA’s Earth Observatory provides an analysis on how climate change could, theoretically, increase potential storm energy by warming the surface and putting more moisture in the air through evaporation. The presence of warm, moist air near the surface is a key ingredient for summer storms that meteorologists have termed “convective available potential energy,” or CAPE. With an increase in CAPE, there is greater potential for cumulus clouds to form. The study also counters this theory with the theory that warming in the Arctic could lead to less wind shear in the mid-latitude areas prone to summer storms, making the storms less likely.

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 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/>

County level data from the *2023 Missouri State Hazard Mitigation Plan*, was used as the best and most recent data available. Per the plan, Wayne County's vulnerability to thunderstorms was categorized as "medium" among a scale including "low, medium-low, medium, medium-high, and high." Factors considered in the analysis were housing density (10.69 structures per square mile), building exposure (\$1,271,311,000), % of mobile homes (23.8%), and social vulnerability (Medium-High). This data is listed in Table A.24 of the *2023 Missouri State Hazard Mitigation Plan*.

Potential Losses to Existing Development

Average annual loss—determined from historical loss data—was used to determine as an indicator of potential future losses. Per the *2023 Missouri State Hazard Mitigation Plan*, the average annualized property loss due to high wind events within the planning area is \$166,615 resulting in an annualized property loss ratio of .0001311. For hail events, the average annualized property loss was estimated at \$6,538, with an annualized property loss ratio of .00000514. And, regarding lightning events, the average annualized property loss was estimated at \$0.

Previous and Future Development

Development results in the exposure of more households and businesses vulnerable to damages from severe thunderstorms/ high winds/lightning/hail. Fortunately, little, if any, future development is anticipated within the planning area.

Hazard Summary by Jurisdiction

Although thunderstorms/high winds/lightning/hail events are area-wide, demographics factors may impact loss levels from one jurisdiction to another. Such factors include the percentage of housing built before 1939 and the percentage of housing stock comprised of mobile homes. Fortunately, no participating jurisdiction reported previous losses resulting from thunderstorms/high winds/lightning/hail events.

Wayne County – While the county’s farm operators do occasionally experience crop losses due to heavy rain events, the damage, historically, has had minimal financial impact.

City of Greenville - The city has no specific exposure to damage from thunderstorm events when compared to the other participating jurisdictions. Lightning, high wind, heavy rain, and hail can occur anywhere at any time and are not specific to any one location. Given there is no crop production in the city, crop losses are not anticipated. Heavy rain events have resulted in flash flooding in the city.

City of Piedmont - The city has no specific exposure to damage from thunderstorm events when compared to the other participating jurisdictions. Lightning, high wind, heavy rain, and hail can occur anywhere at any time and are not specific to any one location. Given there is no crop production in the city, crop losses are not anticipated.

City of Williamsville - The city has no specific exposure to damage from thunderstorm events when compared to the other participating jurisdictions. Lightning, high wind, heavy rain, and hail can occur anywhere at any time and are not specific to any one location. Given there is no crop production in the city, crop losses are not anticipated.

Village of Mill Spring - The village has no specific exposure to damage from thunderstorm events when compared to the other participating jurisdictions. Lightning, high wind, heavy rain, and hail can occur anywhere at any time and are not specific to any one location. Given there is no crop production in the village, crop losses are not anticipated. Heavy rain events have resulted in flash flooding in the village.

Clearwater R-I School District - The school district’s headquarters are located within the City of Piedmont, which has no heightened vulnerability to thunderstorms than any other participating jurisdiction.

Greenville R-II School District - The school district’s headquarters are located within the City of Greenville. The city has experienced flash flooding due to heavy rain events in the past, though such events have not directly affected the school district.

Problem Statement

It should be noted that of the lightning deaths occurring within the U.S. during 2023, 100% occurred outside of the safety of a building. Twelve of the thirteen deaths were outside, and one was in a traveling vehicle. Residents should be strongly encouraged to remain indoors during thunderstorms to prevent injury or death from lightning strikes.

- The participating jurisdictions may wish to unite to educate the public regarding the dangers of

- lightning strikes when outdoors during thunderstorm events.
- Though crop damages due to high wind/heavy rain/hail events in the planning area are minimal overall, when they do occur, it is in the balance of the county. Wayne County may wish to encourage growers to purchase crop insurance to lessen the financial burden due to loss of crops resulting from high wind and /or heavy rain.

3.4.8 Severe Winter Weather

Hazard Profile

Hazard Description

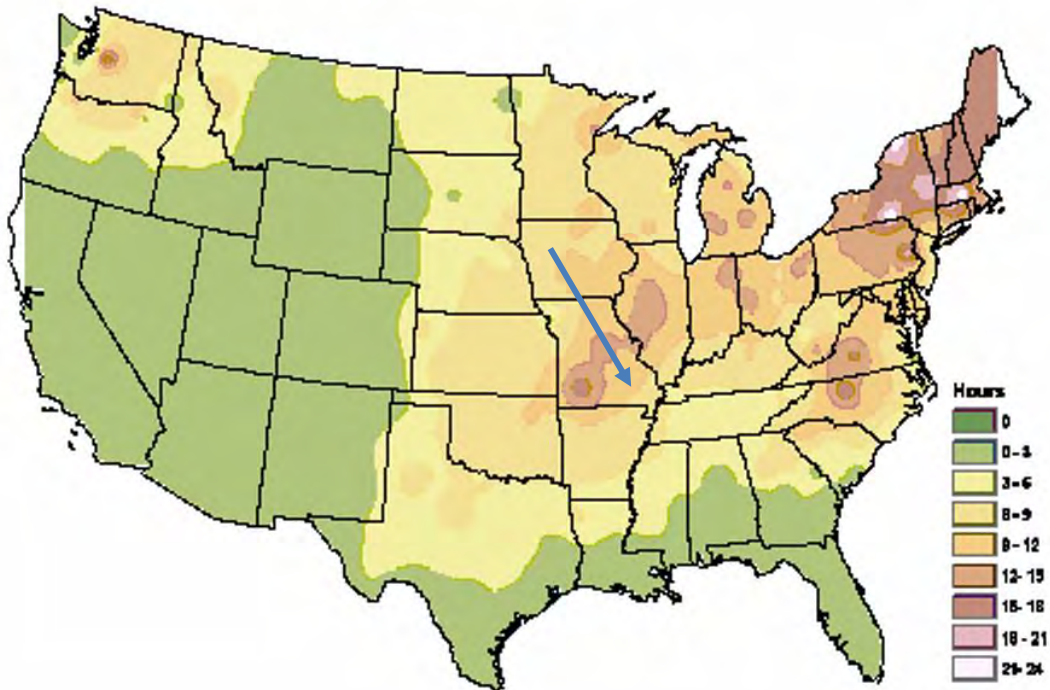
A major winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall, and cold temperatures. The National Weather Service describes different types of winter storm events as follows.

- **Blizzard**—Winds of 35 miles per hour or more with snow and blowing snow reducing visibility to less than ¼ 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

As with thunderstorm events, the entire planning area is vulnerable to heavy snow, ice, extreme cold temperatures and freezing rain. The map below shows the number of hours of freezing rain per year across the U.S. The planning area is indicated by the blue arrow. Per the graphic, Wayne County appears to be located along the boundary of two zones: 8-9 hours and 9-12 hours of freezing rain per year. Local reports indicate the lower of the two estimates is more likely.

Figure 3.22.2024NWS Statewide Average Number of Hours per Year with Freezing Rain



Source: American Meteorological Society. "Freezing Rain Events in the United States" [71872 \(2\).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

The table below lists NCEI reported winter weather events and damages in the county for the past ten years. Blizzard, cold/wind chill, extreme cold/wind chill, heavy snow, ice storm, sleet, winter storm, and winter weather are included. The events have been listed chronologically to show when one event manifested itself in more than one type of weather. Of the events, seven (14.6%) were winter storms, six (12.5%) were wind chill/extreme cold events, three (6.3%) were heavy snow events, and the remainder (33 or 68.8%) were classified as winter weather events.

Table 3.32. NCEI Wayne County Winter Weather Events Summary, 2014-2023

Begin Date	End Date	Type of Event	Magnitude	# of Injuries	Property Damage (\$)	Crop Damage (\$)
11/16/2014	11/16/2014	Winter		0	0	0
12/1/2014	12/1/2014	Winter		0	0	0
1/11/2015	1/11/2015	Winter		0	0	0
1/15/2015	1/15/2015	Winter		0	0	0
2/15/2015	2/16/2015	Heavy Snow	Up to one foot of snow accumulation	0	0	0
2/17/2015	2/18/2015	Winter Weather		0	0	0
2/19/2015	2/19/2015	Cold/Wind Chill	Wind Chill=10-20 degrees below zero	0	0	0
2/20/2015	2/21/2015	Winter Storm	Up to one inch of sleet followed by .25" of freezing rain	0	0	0
2/28/2015	2/28/2015	Winter Weather		0	0	0
3/1/2015	3/1/2015	Winter Weather		0	0	0
3/4/2015	3/4/2015	Winter Storm	4 to 10 inches of snow	0	0	0
1/19/2016	1/20/2016	Winter Weather		0	0	0
2/14/2016	2/14/2016	Winter Weather		0	0	0
2/24/2016	2/24/2016	Winter Weather		0	0	0
1/5/2017	1/5/2017	Winter Weather		0	0	0
1/13/2017	1/13/2017	Winter Weather		0	0	0
1/1/2018	1/1/2018	Cold/Wind Chill	10 to 17 degrees below zero	0	0	0
1/11/2018	1/12/2018	Winter Weather		0	0	0
1/15/2018	1/15/2018	Winter Weather		0	0	0
1/16/2018	1/16/2018	Cold/Wind Chill	10 to 15 degrees below zero	0	0	0
2/6/2018	2/6/2018	Winter Weather		0	0	0
2/11/2018	2/11/2018	Winter Weather		0	0	0
4/7/2018	4/7/2018	Winter Weather		0	0	0
11/14/2018	11/15/2018	Winter Weather		0	0	0

1/11/2019	1/12/2019	Winter Weather		0	0	0
1/19/2019	1/19/2019	Heavy Snow	4 to 9 inches of snow, wind gust 40 to 50 miles per hour	0	0	0
2/15/2019	2/15/2019	Winter Weather		0	0	0
3/3/2019	3/3/2019	Winter Weather		0	0	0
11/11/2019	11/11/2019	Winter Weather		0	0	0
1/1/2021	1/1/2021	Winter Weather		0	0	0
1/7/2021	1/7/2021	Winter Weather		0	0	0
1/27/2021	1/27/2021	Winter Weather		0	0	0
2/10/2021	2/10/2021	Winter Weather		0	0	0
2/14/2021	2/14/2021	Cold/Wind Chill	10 to 15 degrees below zero wind chill	0	0	0
2/14/2021	2/15/2021	Winter Storm	1-3 inches of snowfall per hour, visibility less than one-quarter of one mile	0	0	0
2/16/2021	2/16/2021	Cold/Wind Chill	10 to 15 degrees below zero wind chill	0	0	0
2/17/2021	2/18/2021	Winter Weather		0	0	0
1/6/2022	1/6/2022	Winter Weather		0	0	0
1/15/2022	1/15/2022	Winter Weather		0	0	0
2/2/2022	2/3/2022	Winter Storm	6 to 7 inches of snow	0	0	0
2/23/2022	2/24/2022	Winter Storm	.33 inches of ice under .75 inches of sleet	0	10,000	0
3/11/2022	3/11/2022	Winter Weather		0	0	0
11/12/2022	11/12/2022	Winter Weather		0	0	0
12/22/2022	12/22/2022	Winter Storm	2 wind chill, 3 inches of snowfall	0	0	0
12/22/2022	12/24/2022	Extreme Cold/Wind Chill	20 to 30 degrees below zero	0	0	0
1/24/2023	1/25/2023	Heavy Snow	6 to 9 inches of snow, tree damage, power outages, road closed	0	100,000	0
1/29/2023	1/30/2023	Winter		0	0	0

		Weather				
1/30/2023	1/31/2023	Winter Storm	Sleet fell resulting in ice-covered roads	0	0	0
Total				0	110,000	0

Source: NCEI, data accessed October 2023

Event narratives for all winter storm events and some winter weather events describe tree damage, inhibited travel due to dangerous conditions, power outages, etc. Fortunately, no Presidential Disaster Declarations for Winter Storms were declared during the ten-year period reviewed; however, three such events did occur during 2007, 2008, & 2009 (one event per year). All three of those events resulted in Presidential Disaster Declarations.

Winter storms, cold, frost and freeze can severely damage or delay crop production in the planning area. Per the table below, cold weather has had minimal impact on crops in Wayne County. Per data from the USDA’s Risk Management Agency, payments for insured crop losses in the planning area as a result of cold conditions for the past five years equaled only \$19,994.40.

Table 3.33. Crop Insurance Claims Paid in Wayne County as a Result of Cold Conditions and Snow, 2019-2023

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid (\$)
2019	All Other Crops	Cold/Wet Weather	9,997.20
2019	All Other Crops	Cold/Wet Weather	9,997.20
Total			19,994.40

Source: USDA Risk Management Agency, <https://www.rma.usda.gov/data/cause>

Probability of Future Occurrence

Because one winter storm generally includes a variety of winter weather events, probability is most easily and effectively calculated considering winter weather as one event type. Using the historical occurrence data presented above (43 winter weather events in 10 years), probability is calculated as 4.3 winter weather events of any magnitude occurring in the planning area in any given year. Likelihood of occurrence of severe winter weather within the planning area as shown by the Missouri Hazard Mitigation Viewer was 3.67 events annually. Given the changing future condition considerations described below, the lesser number of annual events (3.67) is likely more accurate. As climate change progresses, winters in the planning area are expected become less severe.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation 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 animal populations. 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 Overview

When assessing the vulnerability of the planning area to severe winter weather events, county level data from the *2023 Missouri State Hazard Mitigation Plan* was used as the best and most recent data available. Per the document, “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 (2019), 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.” Based upon the analysis, the state assigned a vulnerability rating of “Medium” to Wayne County.

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 due to closure during winter storms.

Overhead power lines and infrastructure are also vulnerable to damage from winter storms. Ice accumulation during winter storm events damage to power lines due to the ice weight on the lines and equipment. Damage also occurs to lines and equipment from falling trees and tree limbs weighted down by ice. Potential losses could include the cost of repair/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 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 utility service are reported in FEMA’s 2009 BCA Reference Guide. Using this information, the economic impact resulting from power loss is estimated at \$126 per person per day of lost service.

Potential Losses to Existing Development

Average annual loss—determined from historical loss data—was used to determine as an indicator of potential future losses. Within the ten-year period between 2014 and 2023, the NCEI reports \$110,000 in property damage and no crop damage among 43 incidents. Per data provided by the USDA, crop losses due to cold wet weather amounted to \$19,994.40

Per the *Missouri Hazard Mitigation Viewer*, the average annualized property loss in Wayne County due to severe winter weather is \$102,380.95, resulting in an annualized property loss ratio of .000081.

Previous and Future Development

Development results in the exposure of more households and businesses vulnerable to damage from severe winter weather. Fortunately, little, if any, future development is anticipated within the planning area.

Hazard Summary by Jurisdiction

Severe winter weather events typically occur over a large area irrespective of jurisdictional boundaries. Vulnerability to such events can vary among jurisdictions, however, due to housing stock age or higher concentration of mobile homes. Communities with higher concentrations of mobile homes are more vulnerable to structural damage, while housing stock located within communities that have adopted building codes may be less vulnerable to damage. Per the American Community Survey (ACS), 2022 5-Year Estimates, the percentage of occupied housing stock in the planning area that were mobile homes ranged from 2.0% to 39.3% among Wayne County and its participating jurisdictions.

Wayne County – The percentage of all occupied housing units that are mobile homes in the county is estimated at 16.5% per the ACS. Relative to other jurisdictions within the planning area, this is a high percentage. Furthermore, the county has and enforces no building codes within its boundaries, rendering buildings constructed within its jurisdiction susceptible to damage from severe winter weather including accumulated ice. While the county’s farm operators do occasionally experience crop losses due to winter weather events, the damage, historically, has had minimal financial impact.

City of Greenville - The percentage of mobile homes in the city is low (7.9%) compared with the remainder of the planning area. Furthermore, the city does have building codes, which, when followed, will help to protect structures from damage due to severe winter weather. Should a power loss occur, the city has multiple public buildings within its jurisdiction which could serve as a warming shelter.

City of Piedmont - The percentage of mobile homes in the city is low (2.0%) compared to the remainder of the planning area. Furthermore, the city has adopted building codes, which, when followed, will help to protect structures from damage due to severe winter weather. Should a power loss occur, the city has multiple public buildings within its jurisdiction which could serve as a warming shelter.

City of Williamsville - The city has not adopted building codes and holds a high percentage of occupied mobile homes (19.6%) rendering city residents more vulnerable to both personal and

property damage. Should a power loss occur, the city has one or two public buildings within its jurisdiction which could serve as a warming facility.

Village of Mill Spring - The village is likely most vulnerable to personal injury and property damage due to severe winter storms when compared to its neighboring jurisdictions. The village has the highest percentage of occupied housing stock that is mobile homes at and estimated 39.3%. It is not known if the village has adopted building codes. The village also has no community building which can be used as a warming center should a power failure occur.

Clearwater R-I School District - No damage to district assets due to severe winter weather was reported by the district. Vulnerability to severe winter weather varies throughout the district's expansive service area.

Greenville R-II School District - No damage to district assets due to severe winter weather was reported by the district. Vulnerability to severe winter weather varies throughout the district's expansive service area.

Problem Statement

The Village of Mill Spring and the unincorporated portions of the county are perhaps most vulnerable to human injury and death due to severe winter weather. The City of Williamsville, the unincorporated portion of the county, the Village of Mill Spring, and the City Williamsville are likely most vulnerable to damage due to ice accumulation as no building codes exist within these jurisdictions.

- The Village of Mill Spring and the City of Williamsville may wish to adopt building codes.
- All participating jurisdictions may wish to cooperatively employ an inspector to enforce building codes, perhaps in conjunction with the region's planning commission.
- Those communities that have tornado saferooms (Greenville, Piedmont, and Williamsville) or other facilities (such as nutrition centers) may wish to develop plans to open those facilities to the public as warming stations during severe winter weather events.
- Wayne County and the Village of Mill Spring may wish to develop a plan to partner with the Cities of Greenville, Piedmont, and Williamsville to utilize their public facilities as warming centers during power outages due to severe winter weather.

3.4.9 Tornado

Hazard Profile

Hazard Description

Per the 2018 Missouri State Hazard Mitigation Plan, "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 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

It is important to note that tornadoes can occur anywhere within the planning area. As is shown in Figure 3.23, tornadoes typically follow a southwest to northwest pattern of travel.

Strength/Magnitude/Extent

Tornadoes are the most violent of all atmospheric storms—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, which often become airborne shrapnel causing additional damage. If wind speeds are high enough, these “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 **Table 3.34**) 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 3.34. 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 Number	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 3.35**. 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 3.35. 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 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

Table 3.37 below lists NCEI reported tornado events and damages since 2004 in the planning area. There were twelve tornadoes occurring during the 20-year period ranging from multiple EF1's to one EF3. Per the map presented in Figure 3.23, below, only sixteen tornadoes are reported as having occurred in the county since 1862. This is because only very destructive tornadoes were recorded prior to 1993.

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.

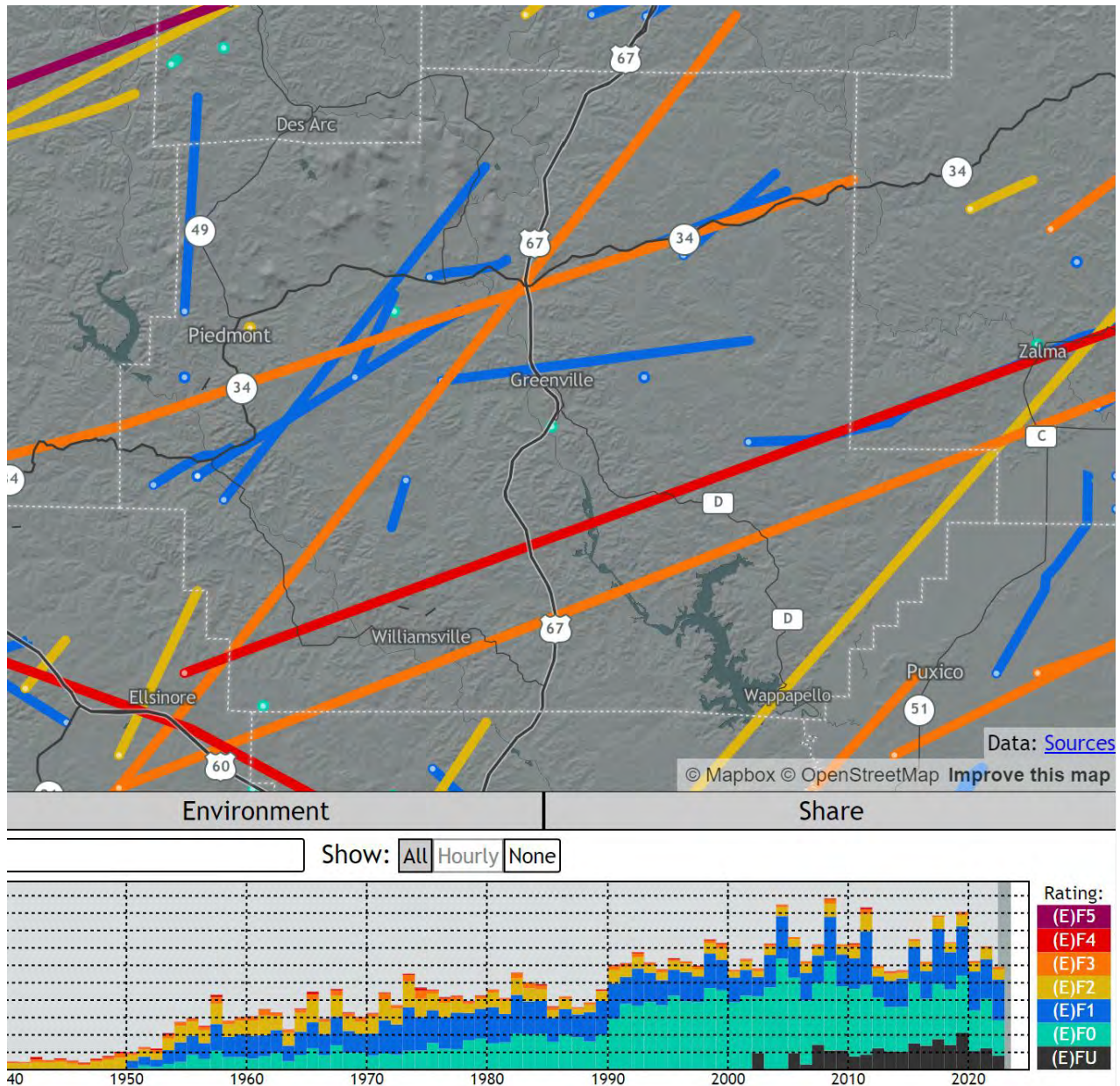
Table 3.36. Recorded Tornadoes in Wayne County, 2004 – Present

Date	Beginning Location	Ending Location	Length (miles)	Width (yards)	F/EF Rating	Death	Injury	Property Damage (\$)	Crop Damage (\$)
4/24/2004	PATTERSON	PATTERSON	4	100	F1	0	0	100,000	0
5/1/2004	LEEPER	LEEPER	0.2	50	F1	0	0	5,000	0
4/19/2011	CLUBB	CASCADE	5.16	500	EF1	0	0	25,000	0
4/22/2011	OLD GREENVILLE	WILLIAMSVILLE	2.07	300	EF1	0	0	100,000	0
4/25/2011	SILVA	LOWNDES	11.78	200	EF1	0	0	25,000	0
4/25/2011	CLUBB	GRAVELTON	5.88	500	EF1	0	0	70,000	0
5/25/2011	LEEPER	BURCH	32.99	1200	EF3	0	2	500,000	0
5/25/2011	MILL SPRING	LODI	17.77	150	EF1	0	0	70,000	0
12/23/2015	MILL SPRING	MILL SPRING	2.95	50	EF1	0	0	5,000	0
12/23/2015	PATTERSON	PATTERSON	3.04	75	EF1	0	0	50,000	0
10/24/2021	SHOOK	MCGEE	4.73	400	EF1	0	0	20,000	0
4/5/2023	MILL SPRING	WILLIAMSVILLE	6.14	300	EF1	0	0	200,000	0
	Total					0	0	1,170,000	0

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

A map from tornadoarchive.com showing recorded historic tornado paths in the planning area since 1862 is provided below. The paths of sixteen tornadoes are shown. According to this data, the strongest tornado recorded in Wayne County occurred on May 30, 1917. Travelling fifty miles at a width of 400 yards, the F4 tornado caused eighteen fatalities and 200 injuries.

Figure 3.23 Wayne County Map of Historic Tornado Events



Source: [Tornado Archive Data Explorer - Tornado Archive](#)

Per insurance payout data provided by the USDA Risk Management Agency indicates that no drop damages resulting from tornado have occurred in the county within the past five years.

Probability of Future Occurrence

Given historical tornado occurrence data as reported by the NCEI, there have been 12 events in

Wayne County within the past 20 years. Include probability calculations for tornado events of all magnitudes in one percentage. The probability of a tornado occurring anywhere in Wayne County can be calculated using the following formula: 12 number of reported tornados of any magnitude in 20 years equals 60% probability of a tornado of any magnitude event in the planning area in any given year (12 events/20 years x 100%).

As described below, conflicting theories exist regarding how climate change may affect the probability of future tornado events. One idea theorizes wind events to become less likely, while another theory project the potential for more storm events. Given the conflicting theories, the probability of future tornado events in the planning area was based solely upon historical event data.

Changing Future Conditions Considerations

According to the *2023 Missouri State Hazard Mitigation Plan*, NASA's Earth Observatory provides an analysis on how climate change could, theoretically, increase potential storm energy by warming the surface and putting more moisture in the air through evaporation. The presence of warm, moist air near the surface is a key ingredient for summer storms that meteorologists have termed "convective available potential energy," or CAPE. With an increase in CAPE, there is greater potential for cumulus clouds to form. The study also counters this theory with the theory that warming in the Arctic could lead to less wind shear in the mid-latitude areas prone to summer storms, making the storms less likely.

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 damage. 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

Wayne County is located in a region of the U.S. with high frequency of dangerous and destructive tornadoes referred to as "Tornado Alley". The figure below illustrates areas where dangerous tornadoes historically have occurred. As can be seen, all of Missouri is highlighted within the yellow "Tornado Alley" zone.

County level data from the *2023 Missouri State Hazard Mitigation Plan* used within this vulnerability analysis is the best and most recent data available. Per the state plan, "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 (2019), 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 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 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: Low (7-10), Medium-Low (11-12), Medium (13-14), Medium-High (15-16), and High (17-21).”

Per the state plan, Wayne County, with a vulnerability rating of 14, was classified as having “medium” vulnerability to tornadoes. The factor contributing to the rating included likelihood (.292 events per year), population density (16.96 persons per square mile), SOVI rating (medium-high), percentage of mobile homes (23.8%), total building exposure (\$1,271,311,000), and total annualized property loss (\$49,792).

Figure 3.24 Tornado Alley in the U.S.



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

Potential Losses to Existing Development

Using the above-described analyses, the state estimated Wayne County's annualized property loss due to tornado at \$49,792, with a total building exposure of \$1,271,311,000.

Within the past 20 years, Wayne County has seen 12 tornadoes, 11 of which were rated F-1 or EF-1. Per the EF-Scale, moderate damage is anticipated with such an event. This equates to roofs being severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.

Previous and Future Development

Development and resulting increases in population result in heightened exposure to damage from tornadoes. Fortunately, little, if any, future development is anticipated within the planning area.

Hazard Summary by Jurisdiction

A tornado can occur anywhere in the planning area, but some jurisdictions may suffer heavier damages because of housing stock age or a high concentration of mobile homes. Communities with higher concentrations of mobile homes are more exposed while communities that have adopted building codes may also be less vulnerable to damage. Per the American Community Survey (ACS), 2022 5-Year Estimates, the percentage of occupied housing stock in the planning area that were mobile homes ranged from 2.0% to 39.3% among jurisdictions.

Wayne County – The percentage of all occupied housing units that are mobile homes in the county is estimated at 16.5% per the ACS. Relative to other jurisdictions within the planning area, this is a high percentage. Furthermore, the county has and enforces no building codes within its boundaries, leaving its structures more susceptible to damage from tornadoes. While the county’s farm operators can experience crop losses due to high winds associated with tornadoes, such damage has not been reported within the past five years.

City of Greenville - The city has within its boundaries a public tornado saferoom built to FEMA 361 Standards. The percentage of mobile homes in the city is low (7.9%) compared to the remainder of the planning area. Furthermore, the city does have building codes, which, when followed, will help to protect structures from damage due to tornadoes and high winds.

City of Piedmont - The city has within its boundaries a public tornado shelter built to FEMA 361 Standards. The percentage of mobile homes in the city is low (2.0%) compared to the remainder of the planning area. Furthermore, the city has adopted building codes, which, when followed, will help to protect structures from damage due to tornadoes and high winds.

City of Williamsville - The city has not adopted building codes and holds a high percentage of occupied mobile homes (19.6%) rendering city residents more vulnerable to both personal and property damage. Fortunately, the city does have within its jurisdictional boundaries a community tornado saferoom built to FEMA 361 Standards.

Village of Mill Spring - The village is likely most vulnerable to personal injury and property damage due to tornadoes when compared to its neighboring jurisdictions. The village has the highest percentage of occupied housing stock that is mobile homes at and estimated 39.3%. It is not known if the village has adopted building codes. There is no public tornado saferoom within the village or neighboring communities.

Clearwater R-I School District - No damage to district assets due to tornado was reported by the district. Vulnerability to tornado varies throughout the district’s service area.

Greenville R-II School District - No damage to district assets due to tornado was reported by the district. Vulnerability to tornado varies throughout the district’s service area.

Problem Statement

Residents of the Village of Mill Spring are most susceptible to injury and/or death due to tornadoes. Structural damage due to tornadoes is most likely within the unincorporated portions of Wayne County, as well as within the Village of Mill Spring and the City of Williamsville.

- The Village of Mill Spring may wish to consider the construction of a community tornado

saferoom in partnership with FEMA, SEMA, and CDBG.

- The Village of Mill Spring and the City of Williamsville may wish to adopt building codes.
- All participating jurisdictions may wish to cooperatively employ an inspector to enforce building codes, perhaps in conjunction with the region's planning commission.
- Those communities that have tornado saferooms (Greenville, Piedmont, and Williamsville) should ensure the public is knowledgeable of how and when to access the facility.

3.4.10 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 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.

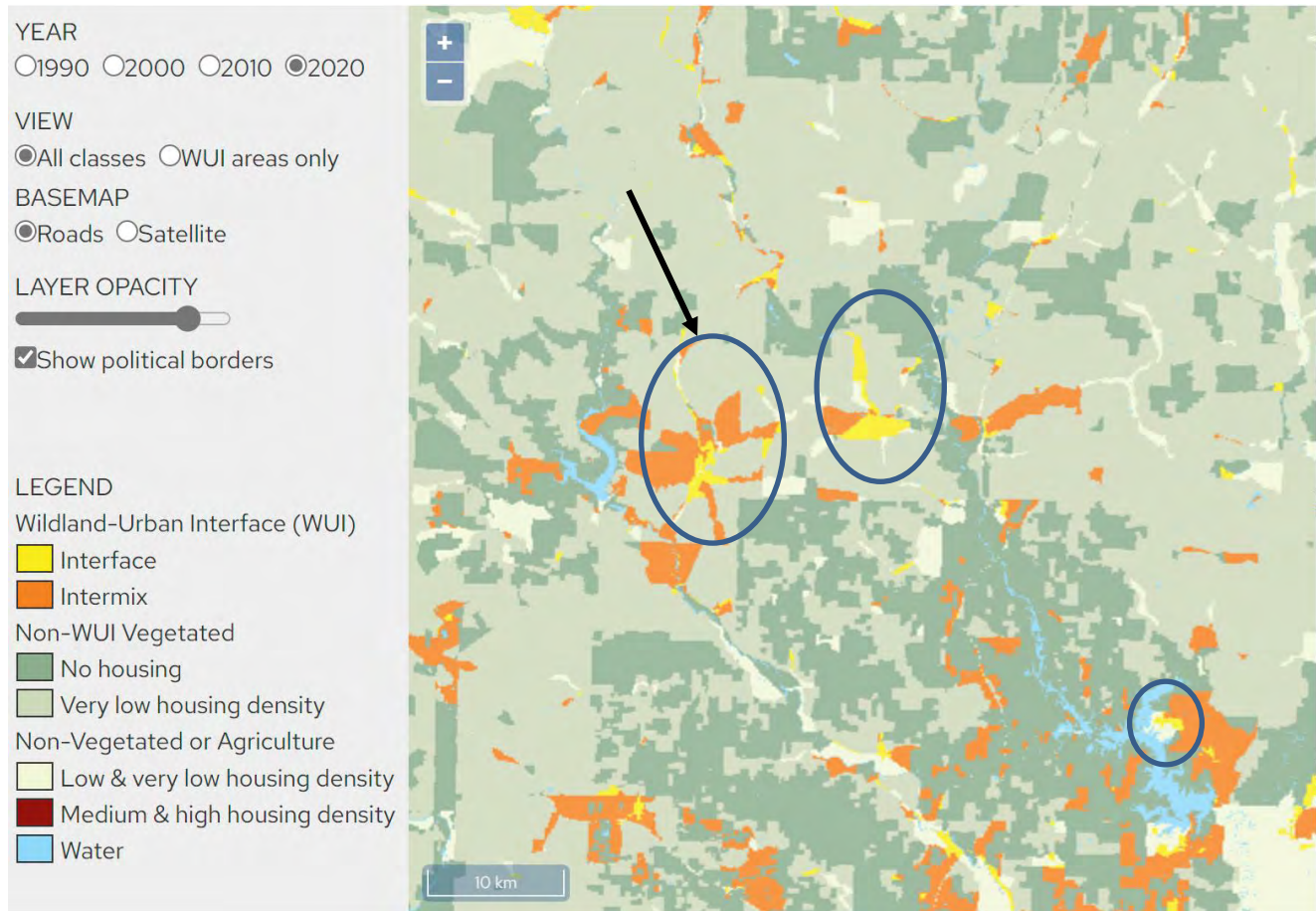
Geographic Location

Damages due to wildfires are higher in communities with more wildland–urban interface (WUI) areas. This term refers to the zone of transition between unoccupied land and human development and needs to be defined in the plan. 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.

Discuss which communities are most at risk. The map below shows the WUI areas within the planning area, which consumes the majority of the image. Communities most at risk—when compared to other communities in the county—include the City of Piedmont, the community of

Patterson and north along Missouri Highway 143, as well as a small section along County Road 522 east of Lake Wappapello. Unfortunately, political boundaries were not depicted on the map as described. The three areas of Wildland-Urban Interface (WUI) are shown in yellow and highlighted by the circles on the map. The arrow indicates the City of Piedmont. The remaining two WUI areas are located within the unincorporated portion of the county.

Figure 3.25 Wildland-Urban Interface Areas, Wayne County, Missouri, 2023



Source: University of Wisconsin Silvis Lab, <https://silvis.forest.wisc.edu/data/wui-change/>

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 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.

No information regarding the severity of damage from notable structural fires and wildland fires in the planning area was available for inclusion within this plan update.

Previous Occurrences

Per the Missouri Department of Conservation, there were 277 instances of wildfire in Wayne County for the ten-year period between 2014 and 2023. The fires ranged in size from one-tenth of an acre burned to 484 acres burned. Twelve of the events resulted in more than 100 acres burned. Seventy-three of the events were attributed to debris, eleven to powerlines, ten to arson, nine to campfire, five to equipment, and four to smoking. Other causes included fireworks, lightning, structure, and railroad. The majority of the wildfires resulted from unknown, undetermined, or miscellaneous causes.

The two participating school districts reported no wildfires as having impacted district assets.

Probability of Future Occurrence

Given the above reported data, the probability of wildfire within the planning area is 100% with an average of 28 events per year. The State of Missouri reports the likelihood of wildfire in the county as 20.8 event per year as found within its *2023 Missouri State Hazard Mitigation Plan*. The amount was based upon occurrences within an eighteen-year period.

It should be noted that climate change is projected to impact the occurrence of wildfire perhaps more so than any other natural hazard. Given the considerations outlined below—increase incidence of drought, increase in average temperature, increase in more volatile wood species, decrease in less volatile wood species, and the volume of forested land mass within the planning area—the number of wildfire events in the county is more likely to be 28 events per year or higher.

Changing Future Conditions Considerations

Per the USGS National Land Cover Database (NLCD), land cover in the planning area consists mostly of deciduous trees. Per the *2023 Missouri State Hazard Mitigation Plan* on page 3.284, “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.

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.

Changes projected for location, intensity, frequency, and duration are summarized as follows:

- Location - Climate projections indicate an expansion of the wildfire hazard zone. Warmer, drier conditions also contribute to the spread of the insects that can weaken or kill trees, building up the fuels in a forest.
- Intensity - Climate projections indicate that there could also be an increase in the severity of fire.
- Frequency - Modeled projections of future climate identify a likely increase in the frequency of fire weather occurrence in Missouri and this region of the United States, including an increase in temperature and greater variance in rainfall.
- Duration - The fire season is likely to increase in duration and include a greater number of days with weather that could support fire spread because of longer periods without rain during fire seasons.”

Vulnerability

Vulnerability Overview

Data from the 2023 Missouri State Hazard Mitigation Plan was used to evaluate Wayne County's vulnerability to wildfire as the best and most recent data available. Limitations to the data do exist. For example, the state plan pulled incident data from the National Fire Incident Reporting System (NFIRS), but only 61% of fire departments in Missouri report to the NFIRS.

Potential Losses to Existing Development

Per the *2023 Missouri State Hazard Mitigation Plan*, historical losses can be used to estimate future losses. Over an eighteen-year period, 8,867.5 acres were burned within the planning area resulting in an average number of acres burned per year of 492.6.

To determine the threat of wildfire upon a particular community, the extent and location of Wildland-Urban Interface (WUI) areas can be evaluated. Analysis conducted by state planners showed 4,566 structures located within the county's 53,892.75 WUI acres. Of the structures, 3,546 are residential, 932 are agricultural, 76 are commercial, eight are educational, three are governmental, and one is industrial. The total estimated value of the structures is \$763,018,037.

Using the total WUI acres in the county and the value of structures located in the WUI areas, a potential loss estimate can be calculated. Assuming all acres burned by wildfire are located within WUI areas, the potential loss per year is estimated at \$6,974,791. This calculation uses the value of

structures located within each WUI acre in the planning area as \$14,158.

Impact of Previous and Future Development

Fortunately, no development is anticipated in the county including within wildland-urban interface areas.

Hazard Summary by Jurisdiction

Differences in vulnerability to wildfire exists throughout the county as some jurisdictions have more prevalent areas of wildland-urban interface. As shown on the map in Figure 3.25, the City of Piedmont, the community of Patterson, and an area east of Wappapello Lake appear to have the most potential for damage due to wildfire.

Wayne County – While the county’s farm operators can experience crop losses due to wildfire, the damage, historically, has had minimal financial impact. However, two unincorporated areas of the county have wildland-urban interface (as indicated in yellow withing Figure 3.25). The community of Patterson and the area extending up Missouri State Highway 143 toward Sam A. Baker State Park are considered wildland-urban interface (WUI) areas. Additionally, a small area east of and adjacent to Lake Wappapello is also designated as WUI. The county may wish to identify mitigation actions regarding wildfire which target these two areas.

City of Greenville – The risk of wildfire to the city, though present, is less when compared to other participating jurisdictions. The area in and around the city is designated wildland-urban intermix (orange on the map in Figure 3.25). While the city should acknowledge and consider wildfire as a threat to the health and safety of its residents, historical occurrences have shown the hazard to be less threatening than other natural hazard events.

City of Piedmont – The entire city and its surrounding area is located within a wildland-urban interface (WUI) area. Because of this, the potential of property damage as well as human injury/death due to wildfire is higher than in any other area of the county. The city should strongly consider developing mitigation actions addressing the threat of wildfire.

City of Williamsville – While the city is not heavily regarded as being located within a wildland-urban interface area, it is surrounded by wooded acres and located within a wildland-urban intermix area, which is subject to wildfire. The city should consider identifying mitigation actions which address the hazard.

Village of Mill Spring – While the village is regarded as being located within a wildland-urban intermix area, it may wish to consider mitigation actions addressing wildfire.

Clearwater R-I School District – The headquarters for the district are located within the City of Piedmont. As stated above, the City of Piedmont is predominantly—if not entirely—located within a wildland-urban interface area. Because of this, the majority—if not all—of the district’s assets are located within an area most subject to damage resulting from wildfire. The district should strongly consider identifying multiple mitigation actions regarding the hazard and designed to protect its assets and student population.

Greenville R-II School District - The headquarters for the district are located within the City of Greenville which has lower vulnerability to wildfire when compared to other areas of the county. However, the district campus is located along the north side of the city and bounded on all sides by wooded areas. Because of this, the district may wish to strongly consider mitigation actions pertaining to the hazard of wildfire.

Problem Statement

Wildland fire threat varies throughout the planning area as shown within the map in Figure 3.25. The hazard is mostly likely to result in property damage, human injury/death in the communities of Piedmont, Patterson, and near Lake Wappapello.

- The entire City of Piedmont is located within an area identified as WUI. Possible solutions include review of local ordinances addressing the combustibility/flammability of new construction within the WUI.
- Wayne County in conjunction with the City of Piedmont and the community of Patterson should educate property owners and builders regarding the risk of new construction using flammable materials within the WUI.
- The City of Piedmont and Wayne County, on behalf of the community of Patterson, may wish to identify and arrange emergency access to water supply for use in the event of a wildfire near the area.

4 MITIGATION STRATEGY

4	MITIGATION STRATEGY	4.1
4.1	Goals ^{6(a)}	4.1
4.2	Identification and Analysis of Mitigation Actions	4.2
4.3	Implementation of Mitigation Actions	4.6

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 an updated risk assessment. The mitigation strategy was developed through a collaborative group process. The process included review of 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^{6(a)}

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 Wayne County's existing hazard mitigation plan approved by FEMA on August 22, 2019. Therefore, the goals from the *2019 Wayne 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 second 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 Missouri Hazard Mitigation Plan* goals were reviewed. The MPC also reviewed the goals from current surrounding county plans.

As sated above, the MPC reviewed the goals from the prior plan update following the discussion of risk during the risk assessment planning meeting. After a breakout discussion, the MPC determined to remove that fourth goal ("Implement mitigation actions that improve the protection of each community from the adverse effects of disasters.") due to redundancy. The first three goals identified within the 2019 plan update were carried forward to this 2024 plan update. The three goals are as follows:

- 1) Implement mitigation actions that improve the protection of human life, health, and safety

- from the adverse effects of disasters.
- 2) Implement mitigation actions that improve the continuity of government and essential services from the adverse effects of disasters.
 - 3) Implement mitigation actions that improve the protection of public and private property from the adverse effects of disasters.

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.

During the second MPC meeting, the results of the risk assessment update were provided to the MPC members for review and 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 included 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.

The focus of Meeting #3 was update of the mitigation strategy. For a comprehensive range of mitigation actions to consider^{7(a)}, the MPC reviewed the following information during Meeting #3:

- A list of actions proposed in the previous mitigation plan, the current 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 (if any), responses to data collection questionnaires, and other efforts to involve the public in the plan development process.

For Meeting #3, individual jurisdictions, including the school districts, developed a 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/district. 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 resulting from natural hazards and disasters.

The MPC reviewed the actions from the previously approved plan for progress made since the plan had been adopted. Prior to Meeting #3, 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 20 continuing actions, 14 completed actions, and 10 deleted actions.

0 provides a summary of the action statuses for each participating jurisdiction. The Wayne County Emergency Manager analyzed and identified mitigation actions on behalf of the Village of Mill Spring. Unfortunately, the village failed to complete a Data Collection Questionnaire and, therefore, did not meet the plan update participation requirements specified by the Hazard Mitigation Planning Committee (HMPC).

Table 4.1 Action Status Summary

Jurisdiction	Continuing Actions (ongoing/modified) (#)	Completed Actions	Deleted Actions
		(#)	(#)
Wayne County	6	8	2
City of Greenville	1	1	3
City of Piedmont	4	0	1
City of Williamsville	3	0	1
Village of Mill Spring	1	3	0
Clearwater R-I School District	1	2	2
Greenville R-II School District	4	0	1

Table 4.2 provides a summary of the ongoing, completed, and deleted actions from the previous plan. In ease in interpretation, the actions are color coded by participating jurisdiction. Wayne County actions are indicated by pink cell fill. City of Greenville actions are indicated by light green cell fill. City of Piedmont actions are identified by yellow cell fill. City of Williamsville actions are indicated by light blue cell fill. Actions from the Village of Mill Spring are indicated by brown fill. Actions from the Clearwater R-I School District are indicated by dark blue cell fill. Greenville R-II School District actions are indicated by purple cell fill.

Table 4.2 Action Status Summary

Ongoing Actions	Status Details
Enforce Floodplain Ordinance	Ongoing. The Wayne County Commission continues to enforce its floodplain ordinance and regulate development and new construction within Special Flood Hazard Areas.
Education Regarding Extreme Temperatures	Ongoing. The Wayne County Health Department continues to seasonally update its Facebook page regarding the effects of extreme temperatures.
Replace Low Water Crossings	Ongoing. The Wayne County Commission has upgraded several low water crossings in the county and will continue to do so as funding becomes available. Direct costs to replace the crossings vary by project and are funded by the state Off-System Bridge

	Replacement and Rehabilitation (BRO) program.
Bridge/Roads Vulnerable to Earthquakes	Ongoing. The Wayne County Commission has been surveying bridges and roads and making upgrades as funding becomes available. Cost varies based on project location with projects funded by locally collected dollars and grant funding when available and awarded.
Obtain and Promote Safe Generator Use	Ongoing. A new generator has been purchased and installed at the Wayne County Sheriff's Department. The county is committed to acquiring and installing additional generators for other departments as funding becomes available.
Mapping of Sinkholes	Ongoing. Mapping and identification of sinkholes is in progress. Any direct costs are incurred by the existing budget of the Wayne County Emergency Management Department.
Enforce Floodplain Ordinance	Ongoing. The Greenville City Council continues to enforce its floodplain ordinance and regulate development and new construction within Special Flood Hazard Areas.
Enforce Floodplain Ordinance	Ongoing. The Piedmont City Council continues to enforce its floodplain ordinance and regulate development and new construction within Special Flood Hazard Areas.
Implement Burn Bans	Ongoing. The City of Piedmont will continue to inform the public of burn bans when appropriate—particularly during drought and dry periods.
Plan Integration	Ongoing. The City of Piedmont continues to integrate elements from its local hazard mitigation plan into additional planning documents as they are written/updated.
Low Water Crossing Replacement	Complete. The city replaced a low water crossing at the airport and Meadowbrook Subdivision—both with culverts.
Enforce Floodplain Ordinance	Ongoing. The Williamsville City Council continues to enforce its floodplain ordinance and regulate development and new construction within Special Flood Hazard Areas.
Lightning Protection	Ongoing. The City of Williamsville continues to explore funding options for the installation of lightning protection at critical facilities and communication equipment.
Implement Burn Bans	Ongoing. The City of Williamsville will continue to inform the public of burn bans when appropriate.
Enforce Floodplain Ordinance	Ongoing. The Village of Mill Spring continues to enforce its floodplain ordinance and regulate development and new construction within Special Flood Hazard Areas.
Earthquake Education	Ongoing. The school district continues to implement earthquake drills and provide education to students regarding the dangers of earthquakes.
Earthquake Education	Ongoing. The school district continues to conduct earthquake drills annually. Student handbooks which include earthquake awareness information are distributed.
Tornado Drills	Ongoing. The school district continues to conduct tornado drills twice annually.
Lightning Protection	Ongoing. The school district continues to ensure new equipment, when installed, will be sufficiently grounded and attached to surge protectors as needed.
Plan Integration	Ongoing. The school district continues to integrate elements from its local hazard mitigation plan into additional planning documents as they are written/updated.
Completed Actions	Completion Details (date, amount, funding source)
Fire Education Alarms	Complete. Local fire departments continue to educate citizens they serve through various online platforms. No funding is available with which to install smoke detectors in Wayne County homes.
Making Mitigation Action Available	Complete. The county's hazard mitigation plan is made available on the OFRPC regional website. There was no direct cost incurred by the county in implementing this action.

Warning Siren Mapping	Siren mapping and testing has been completed for Wayne County. This information is available through the Wayne County Emergency Management Office. There was no additional cost to the county to implement this action as it was completed by the county's existing emergency management director.
Hazard Training for Local Emergency Service Providers	Complete. A list of department heads has been created and is available through Wayne County Emergency Management.
Relocate Residents from Floodways	Complete. The Wayne County Commission has participated in several flood buyout programs and has decided that this action is complete. The cost for each project varied by located and the number of participants and was funded by federal mitigation grant dollars and Community Development Block Grant funds.
Implement Burn Bans	Complete. After investigation, the county's emergency management director has determined state statutes exist covering this issue. Consequently, no additional time needs to be spent addressing the matter. There was no additional direct cost incurred in implementing this action.
Lightning Protection	Complete. The communication systems were installed by professional companies according to industry best practices. Consequently, no additional time needs to be spent upon this action.
Integration Into Other Plans	Complete. Carried over from prior plan updates. This has now become regular operating procedure.
Integration Into Other Plans	Complete. Carried over from prior plan updates. This has now become regular operating procedure.
Implement Burn Bans	Complete. After investigation, the county's emergency management director has determined state statutes exist covering this issue. Consequently, no additional time needs to be spent by the village addressing the matter. There was no additional direct cost incurred in implementing this action.
Lightning Protection	Complete. Communication systems used by the Village were installed by professional companies according to industry best practices. Consequently, no additional time needs to be spent upon this action.
Integration Into Other Plans	Complete. Carried over from prior plan updates. This has now become regular operating procedure.
Tornado Drills	Complete. This action has now become regular operating procedure at the district.
Plan Integration	Complete. This action has now become regular operating procedure at the district.
Deleted Actions	Reason for Deletion
Upgrade Water System	Delete. Not needed. Furthermore, Wayne County has no authority to update water systems as public water systems are overseen by separate legal entities i.e. water supply district boards.
Community Rating System	Delete. Not feasible. Action is not politically attainable and should be deleted.
Low Water Crossing Replacement	Delete. Infeasible due to lack of funding and resources.
Alternate Transportation Routes	Delete. Not needed.
Lightning Protection	Delete. Infeasible due to lack of funding.
Lightning Protection	Delete. Infeasible due to lack of funding and difficult to implement. Also, not likely to preserve equipment; benefit does not outweigh cost.
Plan Integration	Delete. The City of Williamsville has no other local plans within which to integrate its local hazard mitigation plan.
Satellite Phones	Delete. The district wishes to delete this action due to lack of funding and consequential infeasibility.
Lightning Protection	Delete. The district wishes to delete this action due to lack of funding and consequential infeasibility.
Satellite Phones	Delete. The district wishes to delete this action due to lack of funding and consequential infeasibility. Increased cellular tower coverage has made this less of a priority.

Source: Previously approved County Hazard Mitigation Plan; Mitigation Action Assessments

All incomplete mitigation actions identified within the 2019 Wayne County Hazard Mitigation Plan have been carried forward to the current plan update. Jurisdictional members of the MPC determined the deletion of 24 prior mitigation actions necessary—14 due to completion and 10 others due to irrelevance, financial infeasibility, or a lack of local capacity. Both deleted and completed actions are listed above within Table 4.2. Implementation barriers for nearly all participating jurisdictions consisted primarily of lack of resources (both financial and human).

Specifically, the lack of funding with which to compensate a facilitator for the plan maintenance process continues to be the prevailing reason why mitigation actions rarely come to fruition.

The goals and actions of this updated plan were developed through review by and discussions held among the members of the mitigation planning committee (MPC). MPC members were encouraged to view proposed actions within the broad priorities of hazard mitigation and weigh the cost of each project relative to future cost savings. Furthermore, MPC members were encouraged to consider mitigation actions that would minimize hazard risk to new development and redevelopment as applicable. All actions were found to be cost effective, environmentally sound, and technically feasible.

Certain operating principles can improve fiscal and operational efficiency, help maintain focus on the overall goal of community improvement and well-being and help ensure implementation of the actions. The MPC committed to implementing each mitigation action according to the following principals:

- ✓ Incorporate mitigation actions into existing and future planning documents, regulations, programs, and projects, as applicable.
- ✓ Promote and encourage collaboration between disparate agencies and departments to create synergy resulting in benefits that would not be possible through a single agency.
- ✓ Employ sustainable principles and techniques in the implementation of each action to attain maximum benefits.
- ✓ Create and implement a prioritization process that includes monetary, environmental and sociological considerations.

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 prioritize project 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*, and the extent to which each action maximizes benefits relative to cost of implementation. The benefit/cost review at the planning stage primarily consisted of a qualitative analysis and was not the detailed process required for a grant funding application. For each action, the plan sets forth a brief 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 process utilized by each participating jurisdiction to prioritize its identified mitigation actions did not change from the prior plan adoption. Actions were prioritized independently for each participating jurisdiction. For example, if two communities each had an action to acquire flood-prone properties, each action was 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^{7(a)}. 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 worksheets are attached to this plan as Appendix E. 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 **Error! Reference source not found.**

Figure 4.1 Blank STAPLEE Worksheet

STAPLEE Worksheet		
Name of Jurisdiction:		
Action or Project		
Action/Project Number:		
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 5-10 points based on the likelihood that lives will be saved.	
Will the implemented action result in a reduction of disaster damages?	Assign 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)

Representatives of the participating jurisdictions were careful to identify mitigation actions consistent with the hazards identified in the plan update. When defining and prioritizing mitigation actions, each jurisdiction identified hazards with the highest (1) jurisdictional-specific probability and (2) jurisdictional-specific historic damage. MPC members were encouraged to view proposed actions within the broad priorities of hazard mitigation while being mindful of risk reduction within new development and redevelopment.

While each participating jurisdiction would have preferred to identify mitigation actions addressing those hazards with the highest probability of occurrence in their community/service area and dollar value of historic damage, they were forced to identify at least one action per hazard regardless of the hazard's specificity to their jurisdiction. In some instances, county-wide identified hazards had no probability of occurrence within a specific community; yet, the community was required to identify a mitigation action specific to the hazard. This requirement not only consumed limited resources, but also diminished the importance of those actions most pertinent to the communities.

Because of the onerous and broad requirement mandated by FEMA, additional mitigation actions for hazards most pertinent to each community were not identified by the participating jurisdictions. For this reason, the resulting mitigation actions do not accurately reflect each community's/service area's risk and vulnerabilities. Jurisdictional MPC members were encouraged to meet with others in their community to identify the actions required to be submitted for the updated mitigation strategy.

Throughout the planning process, emphasis was placed upon 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 Missouri State Hazard Mitigation Plan. The benefit/cost review at the planning stage consisted primarily of a qualitative analysis.

For each action, the plan sets forth a narrative describing the benefit(s) that could be realized from action implementation, as well as the responsible parties and planning mechanism to be used during implementation. The cost was estimated as closely as possible with further refinement to be supplied as project development occurs. Furthermore, each jurisdiction participating within the National Flood Insurance Program (NFIP) identified at least one action related to its continuing participation within the program.

The mitigation actions identified by each participating jurisdiction are outlined on the following worksheets and organized by applicable goal statement.

Goal #1: Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Reduce risk personal injury and loss of life due to flood resulting from dam failure.
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Wayne 2
Name of Action or Project:	Dam Failure Communications Plan
Mitigation Category:	Emergency Services
Action or Project Description:	To create a comprehensive communications plan for use in the event of a dam failure and distribute via person-to-person direct contact and follow-up electronic mail to involved agencies, as well as via direct mail to affected citizens.
Estimated Cost:	N/A
Benefits:	Reduce the likelihood of loss of life and injury due to dam failure
Plan for Implementation	
Responsible Organization/Department:	Wayne County Emergency Management
Supporting Organization/Department:	Wayne County Floodplain Administrator
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	County EMD Departmental Reports to County Commission
Progress Report	
Action Status:	New
Report of Progress:	N/A

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Extreme temperature related illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Wayne 6
Name of Action or Project:	Education Regarding Dangers Associated with Extreme Heat & Cold
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources in the form of news releases and videos via social media outlets to county residents regarding how to avoid extreme temperature related illnesses and accidents
Estimated Cost:	N/A
Benefits:	Reduction in the instances of illness and loss of life due to extreme heat and extreme cold events.
Plan for Implementation	
Responsible Organization/Department:	Director, Wayne County Health Department
Supporting Organization/Department:	Wayne County Emergency Management
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Health Center
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	The Wayne County Health Department continue to update its Facebook page seasonally regarding the effects of extreme temperatures.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Lightning, High Wind, Hail
Problem being Mitigated:	Lack of real-time information during a storm being reported to the NWS.
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Wayne 7
Name of Action or Project:	Storm Spotter Network
Mitigation Category:	Emergency Services
Action or Project Description:	Create a volunteer storm spotter network in Wayne County of no less than one representative per township.
Estimated Cost:	N/A
Benefits:	A decrease in the amount of warning time for a thunderstorm/hail/high wind event.
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management
Supporting Organization/Department:	Local Fire Departments / National Weather Service
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Lack of heat during severe winter weather events
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Wayne 8
Name of Action or Project:	Assist Vulnerable Populations
Mitigation Category:	Emergency Services
Action or Project Description:	Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages and organize outreach including establishing and promoting accessible heating centers in the county.
Estimated Cost:	N/A
Benefits:	To lessen the risk of cold related illness or death during a long-term wintertime power outage.
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / County Health Department
Supporting Organization/Department:	All Emergency Response Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission & Wayne County Health Center
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Tornado Caused Injuries
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Wayne 9
Name of Action or Project:	Tornado Shelter Public Information
Mitigation Category:	Education & Outreach
Action or Project Description:	During regularly scheduled city council and county commission meetings, inform the public of the location of the public tornado shelters in Wayne County and when they are opened.
Estimated Cost:	N/A
Benefits:	To inform the public and lessen the number of injuries and life loss during a tornado
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management Director
Supporting Organization/Department:	School District Administration, Head of Shelter
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Effects on the water table in the event of a dam failure
Action or Project	
Applicable Goal Statement:	Improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville 2
Name of Action or Project:	Dam Failure Effect on Water Table
Mitigation Category:	Natural Systems Protection
Action or Project Description:	Study the effects on the water table feeding the municipal wells in the event that Wappapello Lake Dam fails and distribute to the public via social media and direct person-to-person contact.
Estimated Cost:	Unknown
Benefits:	Having proper information to prepare an emergency plan
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management & Mayor
Supporting Organization/Department:	Corp of Engineers / MDNR
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Greenville General Revenue Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Greenville City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Extreme temperature related illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville 6
Name of Action or Project:	Education Regarding Dangers Associated with Extreme Heat & Cold
Mitigation Category:	Education and Outreach
Action or Project Description:	Provide written and narrated educational resources to residents via social media outlets about avoiding extreme temperature related illnesses and accidents
Estimated Cost:	N/A
Benefits:	Education of the public on the dangers of extreme temperatures
Plan for Implementation	
Responsible Organization/Department:	Director of County Health Department
Supporting Organization/Department:	City Emergency Management
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Greenville General Revenue Funds
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Lack of heat during severe winter weather events
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville 8
Name of Action or Project:	Assist Vulnerable Populations with Heat Restoration
Mitigation Category:	Emergency Services
Action or Project Description:	Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages and organize outreach including establishing and promoting accessible a heating center in the city in conjunction with the county.
Estimated Cost:	N/A
Benefits:	To lessen the risk of cold related illness or death during a long-term wintertime power outage.
Plan for Implementation	
Responsible Organization/Department:	City Emergency Manager / Mayor
Supporting Organization/Department:	All Emergency Response Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Greenville General Revenue Funds
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings – Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Injuries caused by tornadoes
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville 9
Name of Action or Project:	Tornado Shelter Public Information
Mitigation Category:	Education /Outreach
Action or Project Description:	During regularly scheduled city council meetings, inform the public of the location of the public tornado shelter at the Greenville R-I School District campus and how & when it is open to the public.
Estimated Cost:	N/A
Benefits:	Reduction in the number of injuries and loss of life during a tornado
Plan for Implementation	
Responsible Organization/Department:	City Emergency Manager / City Mayor
Supporting Organization/Department:	Greenville R-II School District Personnel
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Greenville General Revenue Funds
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Communication in the event of a dam failure
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 2
Name of Action or Project:	Dam Failure Communication Plan
Mitigation Category:	Emergency Services
Action or Project Description:	To create a comprehensive communications plan for use in the event of a dam failure and distribute via person-to-person direct contact and follow-up electronic mail to involved agencies, as well as via direct mail to affected citizens.
Estimated Cost:	N/A
Benefits:	The efficient transfer of information to the appropriate agencies and affected citizens in the event of a dam failure
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management
Supporting Organization/Department:	City Floodplain Administrator
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Communications infrastructure damaged by an earthquake
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 3
Name of Action or Project:	Earthquake Communications Plan
Mitigation Category:	Emergency Services
Action or Project Description:	Create a communications plan in the event that permanent communications infrastructure is damaged during an earthquake and share the plan with the public via social media outlets and during city council meetings.
Estimated Cost:	N/A
Benefits:	Increase the communications capabilities of first responders in response to an earthquake
Plan for Implementation	
Responsible Organization/Department:	City of Piedmont Emergency Management Director
Supporting Organization/Department:	All First Responding Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Lack of education regarding extreme temperature related illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 6
Name of Action or Project:	Extreme Temperature Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources to residents on avoiding extreme temperature related illness and accidents via social media in the form of written news releases and narrations
Estimated Cost:	N/A
Benefits:	Public education on the dangers of extreme temperatures
Plan for Implementation	
Responsible Organization/Department:	City of Piedmont Emergency Management Director
Supporting Organization/Department:	Local Emergency Management
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Lightning, High Wind, Hail
Problem being Mitigated:	Lack of real time information during a storm reported to the NWS
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 7
Name of Action or Project:	Storm Spotter Network
Mitigation Category:	Emergency Services
Action or Project Description:	To create a storm spotter network within the City of Piedmont of no less than one volunteer per ward.
Estimated Cost:	N/A
Benefits:	To increase the amount of warning time of a thunderstorm, hail, & high wind events
Plan for Implementation	
Responsible Organization/Department:	City of Piedmont Emergency Management Director
Supporting Organization/Department:	Piedmont Volunteer Fire Department / National Weather Service
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Lack of heat during severe winter weather events
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 8
Name of Action or Project:	Assist Vulnerable Populations with Heat Restoration
Mitigation Category:	Emergency Services
Action or Project Description:	Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages and organize outreach including establishing and promoting accessible a heating center in the city in conjunction with the county.
Estimated Cost:	N/A
Benefits:	To lessen the risk of cold related illness or death during a long-term wintertime power outage.
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management
Supporting Organization/Department:	All Emergency Response Agencies in the City of Piedmont
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Report
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Reduction of personal injuries caused by tornadic activity
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Piedmont 9
Name of Action or Project:	Tornado Shelter Public Information
Mitigation Category:	Education & Outreach
Action or Project Description:	During regularly scheduled city council meetings, educate the public of the location of the public tornado shelter in city limits and when it is open to the public.
Estimated Cost:	N/A
Benefits:	Inform the public and lessen the amount of injuries and life loss during a tornado
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management
Supporting Organization/Department:	Clearwater R-1 School District
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Report
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Injuries, property damage, and financial losses resulting from earthquake
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Williamsville 3
Name of Action or Project:	Earthquake Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources to the public via social media on avoiding earthquakes injury and mitigating property damages due to earthquake
Estimated Cost:	N/A
Benefits:	Reduction in injuries, deaths and property damage due to earthquake
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Emergency Management
Action/Project Priority:	Low
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Williamsville Board of Aldermen
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Inadequate water supply
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Williamsville 5
Name of Action or Project:	Conservation of Water
Mitigation Category:	Prevention
Action or Project Description:	Advise citizens on water conservation via written news releases and educational videos distributed via social media.
Estimated Cost:	N/A
Benefits:	Improvement of water supply during drought conditions
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Water Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	On-Going
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Williamsville Board of Aldermen Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Death and injury due to heat-induced illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Williamsville 6
Name of Action or Project:	Extreme Heat Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources in the form of news releases and videos via social media outlets to city residents regarding how to avoid extreme temperature related illnesses and accidents
Estimated Cost:	N/A
Benefits:	Reduction in illness and death due to heat exposure
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	N/A
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Williamsville Board of Aldermen Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Injury or death due to tornado
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Williamsville 9
Name of Action or Project:	Tornado Awareness
Mitigation Category:	Education & Outreach
Action or Project Description:	Deliver to the community via social media posts and announcements during city council meetings the procedure for accessing the FEMA Tornado Saferoom on the Williamsville Elementary School campus after the tornado siren sounds.
Estimated Cost:	N/A
Benefits:	Reduction in injury and death due to tornado
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Elementary School Building Supervisor
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Williamsville Board of Aldermen Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Flooding due to catastrophic failure of Clearwater Lake
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Mill Spring 2
Name of Action or Project:	Clearwater Lake Dam Failure Study
Mitigation Category:	Emergency Services
Action or Project Description:	To study the effects on the citizens of Mill Spring in the event of a catastrophic failure of the Clearwater Lake Dam and distribute to the public via social media and during council meetings.
Estimated Cost:	N/A
Benefits:	Having proper information to prepare and emergency plan
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	Corps of Engineers / MDNR
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Village of Mill Spring
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Heat and cold-related illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Mill Spring 6
Name of Action or Project:	Extreme Temperature Danger Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources in the form of news releases and videos via social media outlets to village residents regarding how to avoid extreme temperature related illnesses and accidents
Estimated Cost:	N/A
Benefits:	Reduction in the incidence of illness and injury due to extreme temperatures
Plan for Implementation	
Responsible Organization/Department:	Director of the Wayne County Health Department
Supporting Organization/Department:	County Emergency Management / Village Chairperson
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Health Center
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Thunderstorms
Problem being Mitigated:	Lack of real-time information being reported to the NWS during a severe storm event
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Mill Spring 7
Name of Action or Project:	Storm Spotter Network
Mitigation Category:	Prevention
Action or Project Description:	Create a storm spotter network for the Village of Mill Spring of no less than three volunteer members.
Estimated Cost:	N/A
Benefits:	To decrease the amount of warning time of a thunderstorm/high wind/hail event
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	Local Fire Departments / NWS
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Injury or death due to lack of heat during winter power outages
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Mill Spring 8
Name of Action or Project:	Assist Vulnerable Populations with Heat Restoration
Mitigation Category:	Emergency Services
Action or Project Description:	Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages, organize outreach, and promote the use of heating centers in the county.
Estimated Cost:	N/A
Benefits:	
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	All Emergency Response Personnel in the Village of Mill Spring
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Injuries due to tornado
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Mill Spring 9
Name of Action or Project:	Outdoor Notification Siren
Mitigation Category:	Structure and Infrastructure
Action or Project Description:	To explore the cost and funding opportunities for installing an outdoor notification siren in the Village of Mill Spring
Estimated Cost:	N/A
Benefits:	To inform the public and lessen the number of injuries and life loss due to tornado
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	Village Board of Trustees
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports Technical assistance resources provided through membership with the Ozark Foothills Regional Planning Commission
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Awareness of high-risk areas in the event of a dam failure
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 2
Name of Action or Project:	Dam Failure Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide written educational resources from FEMA via take-home literature via students for use by citizens in identifying risk areas and preparing for a dam failure.
Estimated Cost:	N/A
Benefits:	Protect human life, health and safety.
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	1-5 years
Potential Fund Sources:	Clearwater R-I School District & FEMA
Local Planning Mechanisms to be Used in Implementation, if any:	School District Board Meetings, Administrative Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Lack of earthquake awareness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 3
Name of Action or Project:	Earthquake Awareness and Drills
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources directly to students on earthquake procedure and how to stay safe preceding regularly scheduled earthquake drills.
Estimated Cost:	N/A
Benefits:	Reduction in accidents, and deaths due to earthquakes.
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	Yearly
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The school district provides education resources regarding earthquake safety to students annually.

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkhole
Problem being Mitigated:	Injury and loss of life due to sinkhole collapse
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 4
Name of Action or Project:	Sinkhole Safety Information
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide take-home paper handouts to students and Facebook posts with website links from SEMA/FEMA about sinkhole hazards.
Estimated Cost:	N/A
Benefits:	Protect life, health and safety.
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	SEMA/FEMA
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Ignorance regarding the potential for illness and death due to extreme heat
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 6
Name of Action or Project:	Extreme Heat Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide information to students and families on the dangers of extreme heat and steps they can take to protect themselves. This can be done through classroom instruction and providing information on the district website.
Estimated Cost:	Undetermined
Benefits:	Reduction in the number of injuries and loss of life due to extreme heat
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Lightning, High Wind, Hail
Problem being Mitigated:	Ignorance regarding proper protocol to follow to avoid injury and/or death during severe thunderstorm events.
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 7
Name of Action or Project:	Severe Weather Awareness and Drills
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide students and staff with severe weather awareness information via verbal briefings and conduct drills for severe weather.
Estimated Cost:	N/A
Benefits:	Reduction in the number of injuries and deaths due to severe thunderstorms and related events
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Injury and/or death due to dangerous transportation conditions
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 8
Name of Action or Project:	Transportation Route Clearance Capabilities
Mitigation Category:	Prevention
Action or Project Description:	Plan for and maintain adequate road/debris clearing capabilities to lessen roadways impacts and prevent automobile accidents.
Estimated Cost:	N/A
Benefits:	Protect life, health and safety
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Injury and loss of life due to tornado
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 9
Name of Action or Project:	Construct Saferoom
Mitigation Category:	Structures & Infrastructure
Action or Project Description:	The school district will continue steps to secure Federal funding to build a new FEMA building at the High School/Middle School buildings.
Estimated Cost:	\$3,000,000
Benefits:	Reduction in human injury and loss of life due to tornado
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	5 years
Potential Fund Sources:	School District Capital Improvement Funding HMGP/BRIC Funding CDBG Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget School Board Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Lack of earthquake awareness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 3
Name of Action or Project:	Earthquake Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Preceding each earthquake drill, the district will provide verbal direction and instruction to students regarding how to stay safe during an earthquake.
Estimated Cost:	\$1,000
Benefits:	Reduction in accidents and deaths related to earthquakes
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	Continue, Ongoing
Report of Progress:	The district continues to provide earthquake education to students within its jurisdiction.

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Injury and death due to sinkhole collapse
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 4
Name of Action or Project:	Sinkhole Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources to residents via social media postings regarding the dangers of sinkholes.
Estimated Cost:	\$1,000
Benefits:	Reduction in accidents and death due to sinkhole formation
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent, Transportation Director
Action/Project Priority:	Low
Timeline for Completion:	1-2 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures
Problem being Mitigated:	Heath induced illness
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 6
Name of Action or Project:	Excessive Heat Exposure
Mitigation Category:	Prevention
Action or Project Description:	Develop plans and procedures for limiting student and personnel exposure during times of excessive heat.
Estimated Cost:	\$1,000
Benefits:	Reduction in heat-related illnesses
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	1-2 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Injury due to severe winter weather.
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 8
Name of Action or Project:	Severe Winter Weather School Cancellations
Mitigation Category:	Prevention
Action or Project Description:	Establish consistent procedures for school cancellations and public notification.
Estimated Cost:	\$30,000
Benefits:	Prevention of injuries associated with transportation for the entire school community.
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent, Transportation Director
Action/Project Priority:	Medium
Timeline for Completion:	1-2 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado
Problem being Mitigated:	Injury and/or death due to tornado
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 9
Name of Action or Project:	Tornado Drills
Mitigation Category:	Prevention
Action or Project Description:	Conduct periodic tornado safety drills for all students and staff.
Estimated Cost:	N/A
Benefits:	Reduction in accidents and deaths due to tornadoes.
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The school district continues to conduct tornado drills twice annually.

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Reduction in number of injuries and/or death due to lack of awareness regarding wildfire risk.
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 10
Name of Action or Project:	Wildfire Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Partner with local fire departments to conduct education programs in schools to increase awareness of wildfire risk among students.
Estimated Cost:	\$1,000
Benefits:	Protection of life and continuity of services
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Low
Timeline for Completion:	1-3 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	
Progress Report	
Action Status:	New
Report of Progress:	

Goal #2: Improve the continuity of government and essential services from the adverse effects of disasters.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Communication infrastructure damaged by an earthquake
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Wayne 3
Name of Action or Project:	Earthquake Communications Plan
Mitigation Category:	Emergency Services
Action or Project Description:	Create a communications plan in the event that permanent communications infrastructure is damaged during an earthquake and share the plan with the public via social media outlets and during county commission meetings.
Estimated Cost:	N/A
Benefits:	Increase communications capabilities of first responders during the response to an earthquake.
Plan for Implementation	
Responsible Organization/Department:	Wayne County Emergency Management Director
Supporting Organization/Department:	All First Responding Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Hampered transported during flood events
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Wayne 11
Name of Action or Project:	Low Water Crossing Replacements
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	To replace low water crossing throughout the county with culverts to allow crossing during flood events.
Estimated Cost:	\$5,000-\$200,000 (dependent upon project location)
Benefits:	Protection of roadways and surrounding property and restoration of transportation access during flood events
Plan for Implementation	
Responsible Organization/Department:	Wayne County Commission
Supporting Organization/Department:	Wayne County Road & Bridge Department
Action/Project Priority:	Low
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Road & Bridge Departmental Reports Annual Budget Ozark Foothills Regional Transportation Planning Process
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	The Wayne County Commission has upgraded several low water crossings in the county and will continue to do so as funding becomes available. Direct costs to replace the crossings vary by project and are funded by the state Off-System Bridge Replacement and Rehabilitation (BRO) program when eligible.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather, Severe Storms/High Winds/Lightning, Tornado
Problem being Mitigated:	Power outage
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Wayne 12
Name of Action or Project:	Generator Installation
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	Install emergency power generators within critical facilities.
Estimated Cost:	\$80,000
Benefits:	Continuity of government and essential services during and following a disaster event.
Plan for Implementation	
Responsible Organization/Department:	Wayne County Commission
Supporting Organization/Department:	Wayne County Emergency Management Director
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Community Development Block Grant Funding via MO Dept of Economic Development
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	One generator was acquired with Community Development Block Grant funds and installed within the Wayne County Sheriff's Office.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Bridge and roadway damage resulting in hampered transportation
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Wayne 13
Name of Action or Project:	Bridge/Roadway Work Prioritization
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	Reinforce bridges and roadways vulnerable to damage from earthquake.
Estimated Cost:	Varies depending on project type and location
Benefits:	To preserve transportation routes and access following an earthquake.
Plan for Implementation	
Responsible Organization/Department:	Wayne County Eastern and Western District Commissioners
Supporting Organization/Department:	Wayne County Road & Bridge Department
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Wayne County Commission & MO Dept of Transportation
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports Annual Budget
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	The Wayne County Commission has been surveying bridges and roads and making upgrades as funding becomes available. Cost varies based on project location with projects funded by locally collected dollars and grant funding when available and awarded.

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Communications infrastructure damaged by an earthquake
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville 3
Name of Action or Project:	Earthquake Communications Plan
Mitigation Category:	Structure and Infrastructure Projects
Action or Project Description:	Create a communications plan in the event that permanent communications infrastructure is damaged during an earthquake and share the plan with the public via social media outlets and during city council meetings.
Estimated Cost:	N/A
Benefits:	To increase the communications capabilities of first responders when responding to an earthquake
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management / City Mayor
Supporting Organization/Department:	All First Responding Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	Greenville City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	All
Problem being Mitigated:	Lack of streamlined planning efforts and inefficient use of resources
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Piedmont 11
Name of Action or Project:	Plan Integration
Mitigation Category:	Prevention
Action or Project Description:	Integrate elements of the local hazard mitigation plan into other planning efforts/documents/mechanisms.
Estimated Cost:	N/A
Benefits:	Enhanced focus on project implementation and conservation of resources
Plan for Implementation	
Responsible Organization/Department:	City Council
Supporting Organization/Department:	City Planning Department
Action/Project Priority:	Low
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The city will continue to integrate elements of its local hazard mitigation plan into other municipal planning initiatives.

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Transportation routes closed or inaccessible during flood events
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Piedmont 12
Name of Action or Project:	Low Water Crossing Replacements
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	Replace low water crossings with culverts.
Estimated Cost:	Varies by project location, \$5,000-\$25,000
Benefits:	Maintenance of functional transportation routes during flood events
Plan for Implementation	
Responsible Organization/Department:	Piedmont City Council
Supporting Organization/Department:	Street Department
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget City Council Meetings, Departmental Reports
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The city replaced a low water crossing at the airport and Meadowbrook Subdivision—both with culverts.

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Disrupted transportation during a dam failure and consequential flood event, injury protection, property damage
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Williamsville 2
Name of Action or Project:	Low Water Crossing Work
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	Identify low water crossings that pose the greatest risk and replace with culverts
Estimated Cost:	\$2,000
Benefits:	Access to property and residents during dam failure events
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Street Department
Action/Project Priority:	High
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Williamsville & MO Dept of Transportation
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Williamsville Board of Aldermen Meetings, Street Department Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms/Hail/High Winds/Lightning
Problem being Mitigated:	Damage to critical facilities
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Williamsville 7
Name of Action or Project:	Storm Protection
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	Assess and install needed lightning protection at critical facilities and upon communications equipment.
Estimated Cost:	\$8,000
Benefits:	Continuity of communication and other public services
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Superintendent of Utilities
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville & MO Dept of Economic Development – Community Development Block Grant Funding
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Williamsville Board of Aldermen Meetings, Utilities Departmental Reports
Progress Report	
Action Status:	Continue, Not Started
Report of Progress:	N/A

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Winter Weather
Problem being Mitigated:	Incapacitation of critical facilities
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Williamsville 8
Name of Action or Project:	Winterization of Critical Facilities
Mitigation Category:	Structures & Infrastructure
Action or Project Description:	Protect and winterize water facilities.
Estimated Cost:	\$1,000
Benefits:	Maintenance of public utility (water) provision
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Superintendent of Utilities
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Williamsville Board of Aldermen Meetings, Public Utilities Department Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquake
Problem being Mitigated:	Damaged communication infrastructure
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Mill Spring 3
Name of Action or Project:	Earthquake Communications Plan
Mitigation Category:	Emergency Services
Action or Project Description:	Create a communications plan in the event that permanent communications infrastructure is damaged during an earthquake and share the plan with the public via social media outlets and during village board meetings.
Estimated Cost:	N/A
Benefits:	To increase the communications capabilities of first responders in response to an earthquake
Plan for Implementation	
Responsible Organization/Department:	County Emergency Manager / Village Chairperson
Supporting Organization/Department:	All First Responding Agencies in Wayne County
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Reduction in municipal water well capacity
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Mill Spring 5
Name of Action or Project:	Drought Education Program
Mitigation Category:	Education & Outreach
Action or Project Description:	Adopt an ordinance to reduce the load on the municipal well during a drought.
Estimated Cost:	N/A
Benefits:	To ensure a potable water supply during a drought
Plan for Implementation	
Responsible Organization/Department:	Village Board of Aldermen
Supporting Organization/Department:	County Emergency Management MDNR
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Village of Mill Spring
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Road closures due to flooding
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 1
Name of Action or Project:	Flood Routes
Mitigation Category:	Prevention
Action or Project Description:	Plan bus routes to maintain transportation services to students affected by prolonged flooding. (Students residing near lake and flooding areas.)
Estimated Cost:	\$100-\$100,000
Benefits:	Providing students in affected areas minimal disruption in educational services
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent, Transportation Director, Bus Drivers
Action/Project Priority:	Medium
Timeline for Completion:	1-2 years
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Dam Failure
Problem being Mitigated:	Wappapello Dam fails and renders Wayne County T Highway impassable.
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 2
Name of Action or Project:	Dam Failure Action
Mitigation Category:	Structure & Infrastructure Projects
Action or Project Description:	Establish emergency bus routes so the school district will be able to ensure continuity of educational services to all students in the affected area.
Estimated Cost:	\$100-\$1,000
Benefits:	Through planning emergency routes, the school district will be able to ensure continuity of educational services to all students in the affected area.
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent, Transportation Director, Bus Drivers
Action/Project Priority:	Low
Timeline for Completion:	6 months
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Drought effects upon available water supply
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 5
Name of Action or Project:	Drought Education
Mitigation Category:	Education & Outreach
Action or Project Description:	Provide educational resources to residents via social media outlets on water conservation techniques.
Estimated Cost:	\$1,000
Benefits:	Reducing water use during times of drought to maintain school operations
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Low
Timeline for Completion:	6 months
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Hail, High Wind, Lightning
Problem being Mitigated:	Lightning damage to critical facilities and communications equipment
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 7
Name of Action or Project:	Lightning Protection
Mitigation Category:	Prevention
Action or Project Description:	Provide lightning protection for all critical facilities and equipment.
Estimated Cost:	\$10,000
Benefits:	Continuity of services
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Low
Timeline for Completion:	Ongoing
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The school district continues to ensure new equipment, when installed, will be sufficiently grounded and attached to surge protectors as needed.

Action Worksheet	
Name of Jurisdiction:	Greenville R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	All
Problem being Mitigated:	Planning inconsistencies
Action or Project	
Applicable Goal Statement:	Improve the continuity of government and essential services from the adverse effects of disasters.
Action/Project Number:	Greenville R-II 11
Name of Action or Project:	Plan Integration
Mitigation Category:	Prevention
Action or Project Description:	Integrate elements of the local hazard mitigation plan into other district planning efforts.
Estimated Cost:	N/A
Benefits:	Streamlining of planning initiatives and directed focus
Plan for Implementation	
Responsible Organization/Department:	Greenville R-II School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Low
Timeline for Completion:	Ongoing
Potential Fund Sources:	Greenville R-II School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Master Plan
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The school district continues to integrate its local hazard mitigation plan into other district planning mechanisms and documents.

Goal #3: Improve the protection of public and private property from the adverse effects of disasters.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Construction in the floodplain
Action or Project	
Applicable Goal Statement:	Improve the protection of property from the adverse effects of disasters.
Action/Project Number:	Wayne 1
Name of Action or Project:	Floodplain Ordinance Execution
Mitigation Category:	Prevention
Action or Project Description:	Enforce county floodplain ordinance, including the regulation of new construction in Special Flood Hazard Areas (SFHAs)
Estimated Cost:	N/A
Benefits:	Prevent property damage due to flood and reduce flood insurance rates.
Plan for Implementation	
Responsible Organization/Department:	Wayne County Floodplain Manager
Supporting Organization/Department:	Wayne County Emergency Management
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Administrator Departmental Reports to County Commission
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	Construction in Special Flood Hazard Areas has been monitored.

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Unknown location of sinkholes
Action or Project	
Applicable Goal Statement:	Improve the protection of property from the adverse effects of disasters.
Action/Project Number:	Wayne 4
Name of Action or Project:	Mapping of Sinkholes
Mitigation Category:	Prevention
Action or Project Description:	Create a county-wide map of sinkholes.
Estimated Cost:	\$8,000
Benefits:	Prevention of future accidents due to sinkholes
Plan for Implementation	
Responsible Organization/Department:	Wayne County Emergency Management Director
Supporting Organization/Department:	Wayne County Commission
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Process County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	Continue, Not Started
Report of Progress:	N/A

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Financial losses and loss of life due to inadequate water supply.
Action or Project	
Applicable Goal Statement:	Improve the protection of property from the adverse effects of disasters.
Action/Project Number:	Wayne 5
Name of Action or Project:	Drought Emergency Plan
Mitigation Category:	Prevention
Action or Project Description:	Create a Drought Emergency Plan outlining the location of reserve water supplies and how to make the reserves available to the public during drought conditions and distribute to the public via online postings to the county's website.
Estimated Cost:	N/A
Benefits:	Reduction in the risk of loss of life and property during drought conditions.
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management
Supporting Organization/Department:	Wayne County Floodplain Administrator MDNR
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	N/A

Action Worksheet	
Name of Jurisdiction:	Wayne County
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Wildfire spreading into residential neighborhoods
Action or Project	
Applicable Goal Statement:	Improve the protection of property from the adverse effects of disasters.
Action/Project Number:	Wayne 10
Name of Action or Project:	Firewise Wayne County
Mitigation Category:	Education & Outreach
Action or Project Description:	Inform the citizens of Wayne County during county commission meetings and via social media posts on the mitigation efforts that they can do on their property to lessen the effects of wildfires.
Estimated Cost:	N/A
Benefits:	To reduce the likelihood of loss of property or life due to a wildfire
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management Director
Supporting Organization/Department:	County Fire Mutual Aid Coordinator
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Wayne County Commission Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Construction in floodplain
Action or Project	
Applicable Goal Statement:	Implement mitigation actions that improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Greenville 1
Name of Action or Project:	Floodplain Ordinance Enforcement
Mitigation Category:	Prevention
Action or Project Description:	Enforce municipal floodplain ordinance, including the regulation of new construction in Special Flood Hazard Areas (SFHAs)
Estimated Cost:	N/A
Benefits:	Regulating the type of construction in a flood zone will help prevent future damage and reduce flood insurance rates.
Plan for Implementation	
Responsible Organization/Department:	City Floodplain Manger
Supporting Organization/Department:	City Emergency Management
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings
Progress Report	
Action Status:	Continue, On-Going
Report of Progress:	The city continues to regulate construction within its Special Flood Hazard Areas.

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Unknown location of sinkholes
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Greenville 4
Name of Action or Project:	Mapping of Sinkholes
Mitigation Category:	Prevention
Action or Project Description:	Create a county-wide map of sinkholes.
Estimated Cost:	\$8,000
Benefits:	Public education, prevent future accidents
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management / City Mayor
Supporting Organization/Department:	County Commission
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget, City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Lack of preparation for communication
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Greenville 5
Name of Action or Project:	Drought Education & Preparation
Mitigation Category:	Education and Outreach
Action or Project Description:	Use postings and/or social media platforms to educate citizens about the effects of drought and potential mitigation actions they can take to minimize damage due to drought.
Estimated Cost:	N/A
Benefits:	Citizens have more time to properly prepare for a drought
Plan for Implementation	
Responsible Organization/Department:	City Mayor
Supporting Organization/Department:	N/A
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Hail, High Winds
Problem being Mitigated:	Lack of real-time information during a storm being reported to the NWS
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Greenville 7
Name of Action or Project:	Storm Spotter Network
Mitigation Category:	Emergency Services
Action or Project Description:	Create a storm spotter network of no less than one volunteer per ward.
Estimated Cost:	N/A
Benefits:	A decrease in the amount of warning time before a thunderstorm/hail/high wind event
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management / City Mayor
Supporting Organization/Department:	Local Fire Departments / National Weather Service
Action/Project Priority:	Medium
Timeline for Completion:	1-3 years
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Greenville
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Property damage due to wildfire
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Greenville 10
Name of Action or Project:	Firewise Wayne County
Mitigation Category:	Education & Outreach
Action or Project Description:	Inform the citizens of Wayne County during city council meetings and via social media posts of the mitigation actions they can do on their property to lessen the effects of wildfires.
Estimated Cost:	N/A
Benefits:	The reduction in likelihood of loss of life or property due to a wildfire
Plan for Implementation	
Responsible Organization/Department:	City Emergency Manager / City Mayor
Supporting Organization/Department:	Greenville Fire Department / County Fire Mutual Aid Coordinator
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Greenville
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Construction in the Special Flood Hazard Area resulting in increased property exposure
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Piedmont 1
Name of Action or Project:	Floodplain Ordinance Enforcement
Mitigation Category:	Prevention
Action or Project Description:	Examine city ordinance regarding construction in the floodplain and regulate construction in Special Flood Hazard Areas (SFHA's).
Estimated Cost:	N/A
Benefits:	Prevention of future property damage due to flood; reduction in flood insurance premium rates
Plan for Implementation	
Responsible Organization/Department:	City Emergency Management
Supporting Organization/Department:	City Floodplain Administrator
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	Piedmont City Council Meetings, Departmental Reports
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The city continues to regulate construction in its SFHA's.

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Property damage due to sinkholes
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Piedmont 4
Name of Action or Project:	Mapping of Sinkholes
Mitigation Category:	Prevention
Action or Project Description:	Create a city-wide map of sinkholes.
Estimated Cost:	N/A
Benefits:	The reduction of future accidents and education of the public
Plan for Implementation	
Responsible Organization/Department:	Local Emergency Management Agency
Supporting Organization/Department:	All Piedmont Public Departments
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Wayne County Commission & the City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Restrict unnecessary water usage during times of drought
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Piedmont 5
Name of Action or Project:	Water Restrictions During Drought
Mitigation Category:	Prevention
Action or Project Description:	Develop a plan to restrict water usage by the citizens of Piedmont during drought to promote water conservation and lessen the impact of drought in our area. Distribute the plan via social media outlets.
Estimated Cost:	N/A
Benefits:	Water conservation
Plan for Implementation	
Responsible Organization/Department:	Local Emergency Management Agency
Supporting Organization/Department:	Piedmont Water Department, Planning Agencies
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Wayne County Commission & the City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Wildfire spreading into residential neighborhoods
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Piedmont 10
Name of Action or Project:	Firewise Piedmont
Mitigation Category:	Prevention
Action or Project Description:	Inform residents of Piedmont via social media posts of the mitigation efforts that they can do on their property to lessen the effects of wildfires.
Estimated Cost:	N/A
Benefits:	Reduction of the likelihood of loss of life and property due to wildfire
Plan for Implementation	
Responsible Organization/Department:	City Council
Supporting Organization/Department:	Piedmont Volunteer Fire Department, Clearwater Fire Protection District (Mutual Aid)
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	City of Piedmont
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Destruction of property due to wildfire
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Piedmont 13
Name of Action or Project:	Burn Bans
Mitigation Category:	Prevention
Action or Project Description:	Institute burn bans during periods of drought.
Estimated Cost:	N/A
Benefits:	Reduction in property loss due to wildfire
Plan for Implementation	
Responsible Organization/Department:	Piedmont City Council
Supporting Organization/Department:	Piedmont Volunteer Fire Department
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Piedmont
Local Planning Mechanisms to be Used in Implementation, if any:	City Council Meetings, Departmental Reports
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The City of Piedmont will continue to inform the public of burn bans when appropriate—particularly during drought and dry periods.

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Development in the floodplain
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Williamsville 1
Name of Action or Project:	Enforce Floodplain Ordinance
Mitigation Category:	Prevention
Action or Project Description:	Enforce floodplain ordinance and regulation of construction in the Special Flood Hazard Area.
Estimated Cost:	N/A
Benefits:	Lessing and/or prevention of property damage due to flood
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Floodplain Administrator
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Williamsville Board of Aldermen, Departmental Reports
Progress Report	
Action Status:	Continue, Ongoing
Report of Progress:	The City of Williamsville has and will continue to enforce its floodplain ordinance including the regulation of construction in any Special Flood Hazard Areas.

Commented [FR1]:

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkhole
Problem being Mitigated:	Property damage due to ground subsidence
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Williamsville 4
Name of Action or Project:	Mapping Potential Sinkhole Locations
Mitigation Category:	Prevention
Action or Project Description:	Create a map of possible sinkholes.
Estimated Cost:	\$8,000
Benefits:	Prevention of property damage
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	N/A
Action/Project Priority:	Low
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Annual Budget Meetings of the Board of Aldermen
Progress Report	
Action Status:	New
Report of Progress:	

Commented [FR2]:

Action Worksheet	
Name of Jurisdiction:	City of Williamsville
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Property damage due to wildfire
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Williamsville 10
Name of Action or Project:	Burn Bans
Mitigation Category:	Prevention
Action or Project Description:	Allow the fire department and USFS to identify burn periods and issue burn bans. Inform the public of burn bans via city council meetings reports, social media posts, and publication within the Wayne County Journal Banner.
Estimated Cost:	N/A
Benefits:	Prevention of property damage and lessening of financial loss due to wildfire
Plan for Implementation	
Responsible Organization/Department:	Williamsville Board of Aldermen
Supporting Organization/Department:	Williamsville Volunteer Fire Department, USFS
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	City of Williamsville
Local Planning Mechanisms to be Used in Implementation, if any:	Williamsville Board of Aldermen Meetings
Progress Report	
Action Status:	Continue, Ongoing
Report of Progress:	The city has and will continue to inform the public of burn bans when appropriate.

Commented [FR3]:

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Structure damage due to flooding
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Mill Spring 1
Name of Action or Project:	Enforce Floodplain Ordinance
Mitigation Category:	Prevention
Action or Project Description:	Examine village ordinance regarding construction in the floodplain and regulate construction in Special Flood Hazard Areas.
Estimated Cost:	N/A
Benefits:	Prevention of future damage and reduction in flood insurance rates
Plan for Implementation	
Responsible Organization/Department:	City Floodplain Administrator
Supporting Organization/Department:	Village Chairperson / County Emergency Management
Action/Project Priority:	High
Timeline for Completion:	1-3 years
Potential Fund Sources:	Village of Mill Spring
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	Continue. Ongoing.
Report of Progress:	The village continues to monitor construction activity in the floodplain.

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkhole
Problem being Mitigated:	Property damage due to sinkhole collapse
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Mill Spring 4
Name of Action or Project:	Sinkhole Mapping
Mitigation Category:	Prevention
Action or Project Description:	Create a village-wide map of sinkholes
Estimated Cost:	N/A
Benefits:	Public education and prevention of future accidents
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	Mill Spring Village Board
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Village of Mill Spring
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Wildfire spreading into residential neighborhoods
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Mill Spring 10
Name of Action or Project:	Firewise Status
Mitigation Category:	Prevention
Action or Project Description:	Establish Firewise Community status for the Village of Mill Spring and inform the citizens of the Village of Mill Spring what they can do to on their property to lessen the effects of wildfire via social media posts.
Estimated Cost:	N/A
Benefits:	To reduce the likelihood of property loss or loss of life due to wildfire
Plan for Implementation	
Responsible Organization/Department:	County Emergency Management / Village Chairperson
Supporting Organization/Department:	Clearwater Fire Protection District / County Fire Mutual Aid Coordinator
Action/Project Priority:	Medium
Timeline for Completion:	1-5 years
Potential Fund Sources:	Village of Mill Spring & Wayne County Commission
Local Planning Mechanisms to be Used in Implementation, if any:	Meetings of the Village Board Trustees, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-1 School District
Risk / Vulnerability	
Hazard(s) Addressed:	Flood
Problem being Mitigated:	Improve Stormwater Management Planning
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Clearwater R-1 1
Name of Action or Project:	Flood Prevention
Mitigation Category:	Structure & Infrastructure
Action or Project Description:	District staff will identify problem stormwater drainage areas and take preventative and corrective action to address the drainage problems.
Estimated Cost:	\$20,000
Benefits:	Safety for students and staff and prevent damage to buildings and grounds.
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-1 School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	Ongoing
Potential Fund Sources:	School District Capital Improvement Funds
Local Planning Mechanisms to be Used in Implementation, if any:	School District Board Meetings, Administrative Reports Annual Budget Capital Improvement Plan
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Landscape design which does not conserve water
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Clearwater R-I 5
Name of Action or Project:	Drought Tolerant Landscape Design
Mitigation Category:	Natural Systems Protection
Action or Project Description:	When developing landscape design the district will include drought tolerant plants, and permeable surfaces to reduce runoff.
Estimated Cost:	To be determined
Benefits:	Reduce water usage and water runoff.
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-I School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	High
Timeline for Completion:	1-5 years
Potential Fund Sources:	Clearwater R-I School District
Local Planning Mechanisms to be Used in Implementation, if any:	School District Capital Improvement Plan Annual Budget
Progress Report	
Action Status:	New
Report of Progress:	

Action Worksheet	
Name of Jurisdiction:	Clearwater R-1 School District
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Loss of public property due to wildfire.
Action or Project	
Applicable Goal Statement:	Improve the protection of public and private property from the adverse effects of disasters.
Action/Project Number:	Clearwater R-1 10
Name of Action or Project:	Wildfire Defense and Maintenance
Mitigation Category:	Prevention
Action or Project Description:	The district will implement defensible space project to reduce the risk to buildings and structures including reduction of flammable vegetation, removing dead trees, pruning trees and shrubs, cleaning up fallen tree limbs, and removing abandoned or unused portable structures.
Estimated Cost:	\$10,000
Benefits:	Reduction
Plan for Implementation	
Responsible Organization/Department:	Clearwater R-1 School Board
Supporting Organization/Department:	Office of the Superintendent
Action/Project Priority:	Medium
Timeline for Completion:	Ongoing
Potential Fund Sources:	Clearwater R-1 School District
Local Planning Mechanisms to be Used in Implementation, if any:	School Board Meetings, Departmental Reports
Progress Report	
Action Status:	New
Report of Progress:	

Table 4.3 includes a summary of the mitigation actions identified by each participating jurisdiction.

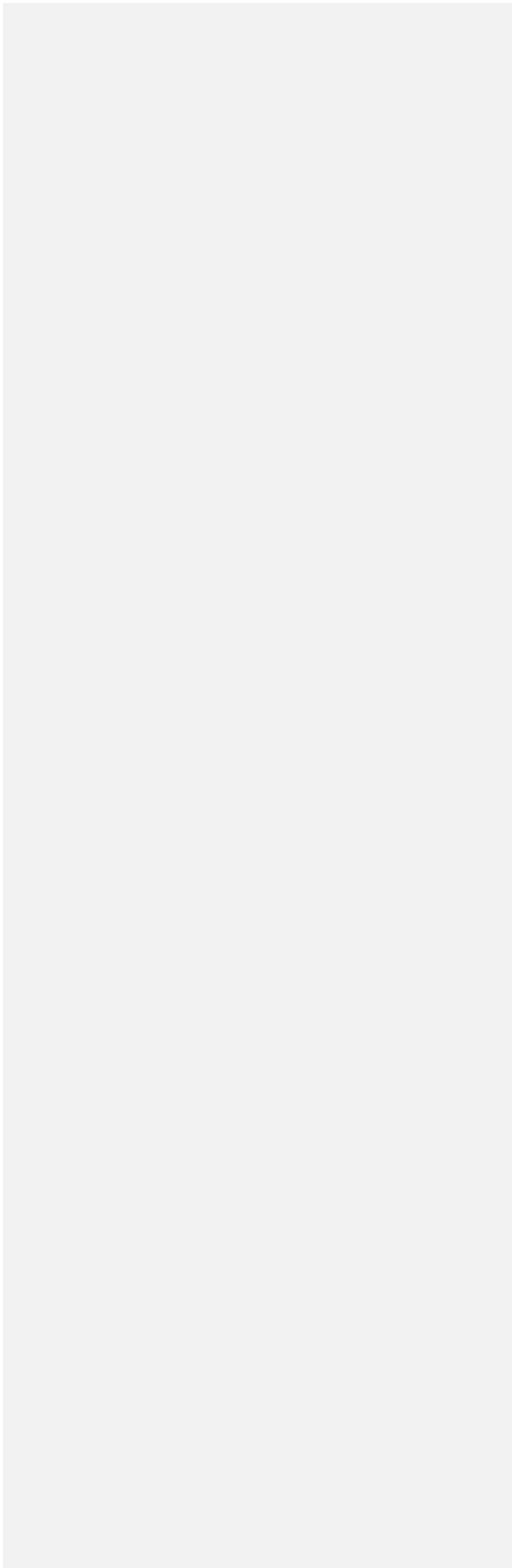
Table. 4.3 Mitigation Action Matrix

#	Action Name	Jurisdiction	Priority	Goal Addressed	Hazard Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Prevention								
Williamsville 5	Conservation of Water	City of Williamsville	M	#1	Drought	X		
Clearwater R-I 8	Transportation Route Clearance Capabilities	Clearwater R-I School District		#1	Severe Winter Weather			
Greenville R-II 6	Excessive Heat Exposure	Greenville R-II School District	M	#1	Extreme Heat & Cold			
Greenville R-II 8	Severe Winter Weather School Cancelations	Greenville R-II School District	M	#1	Severe Winter Weather			
Greenville R-II 9	Tornado Drills	Greenville R-II School District	H	#1	Tornado			
Piedmont 11	Plan Integration	City of Piedmont	L	#2	All	X	X	
Greenville R-II 1	Flood Routes	Greenville R-II School District	M	#2	Flood			
Greenville R-II 7	Lightning Protection	Greenville R-II School District	L	#2	Severe Thunderstorm	X	X	
Greenville R-II 11	Plan Integration	Greenville R-II School District	L	#2	All	X	X	
Wayne 1	Floodplain Ordinance Execution	Wayne County	H	#3	Flood			X
Wayne 4	Mapping of Sinkholes	Wayne County	M	#3	Sinkholes	X	X	
Wayne 5	Drought Emergency Plan	Wayne County	M	#3	Drought			
Greenville 1	Floodplain Ordinance Enforcement	City of Greenville	H	#3	Flood			X
Greenville 4	Mapping of Sinkholes	City of Greenville	M	#3	Sinkholes	X	X	
Piedmont 1	Floodplain Ordinance Enforcement	City of Piedmont	H	#3	Flood	X	X	X
Piedmont 4	Mapping of Sinkholes	City of Piedmont	M	#3	Sinkholes	X	X	
Piedmont 5	Water Restrictions During Drought	City of Piedmont	M	#3	Drought			
Piedmont 10	Firewise Piedmont	City of Piedmont	M	#3	Wildfire	X	X	
Piedmont 13	Burn Bans	City of Piedmont	H	#3	Wildfire			
Williamsville 1	Enforce Floodplain Ordinance	City of Piedmont	H	#3	Flood			X
Williamsville 4	Mapping Potential Sinkhole Locations	City of Piedmont	L	#3	Sinkhole	X	X	
Williamsville 10	Burn Bans	City of Piedmont	H	#3	Wildfire			

#	Action Name	Jurisdiction	Priority	Goal Addressed	Hazard Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clearwater R-I 10	Wildfire Defense & Maintenance	Clearwater R-I School District	M	#3	Wildfire	X		
Mill Spring 1	Enforce Floodplain Ordinance	Village of Mill Spring	H	#3	Flood			X
Mill Spring 4	Sinkhole Mapping	Village of Mill Spring	M	#3	Sinkholes	X	X	
Mill Spring 7	Storm Spotter Network	Village of Mill Spring	M	#1	Severe Thunderstorms			
Mill Spring 10	Firewise Status	Village of Mill Spring	M	#3	Wildfire	X	X	
	Structure and Infrastructure Projects							
Clearwater R-I 9	Construct Saferoom	Clearwater R-I School District		#1	Tornado		X	
Wayne 11	Low Water Crossing Replacements	Wayne County	L	#2	Flood	X		
Wayne 12	Generator Installation	Wayne County	M	#2	Severe Winter Weather	X		
Wayne 13	Bridge/Roadway Work Prioritization	Wayne County	M	#2	Earthquake	X		
Greenville 3	Earthquake Communications Plan	City of Greenville	M	#2	Earthquake			
Piedmont 12	Low Water Crossing Replacements	City of Piedmont	M	#2	Flood	X		
Williamsville 2	Low Water Crossing Work	City of Williamsville	H	#2	Dam Failure	X		
Williamsville 7	Storm Protection	City of Williamsville	M	#2	Severe Thunderstorm	X	X	
Williamsville 8	Winterization of Critical Facilities	City of Williamsville	H	#2	Severe Winter Weather	X		
Greenville R-II 2	Dam Failure Action	Greenville R-II School District	L	#2	Dam Failure			
Clearwater R-I 1	Flood Prevention	Clearwater R-I School District	H	#3	Flood	X		
	Natural Systems Protection							
Greenville 2	Dam Failure Effect on Water Table	City of Greenville	M	#1	Dam Failure			
Clearwater R-I 5	Drought Tolerant Landscape Design	Clearwater R-II School District		#3	Drought			
Mill Spring 9	Outdoor Notification Siren	Village of Mill Spring	H	#1	Tornado			
	Emergency Services							
Wayne 2	Dam Failure Communications Plan	Wayne County	M	#1	Dam Failure			
Wayne 7	Storm Spotter Network	Wayne County	M	#1	Severe Thunderstorms			

#	Action Name	Jurisdiction	Priority	Goal Addressed	Hazard Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Wayne 8	Assist Vulnerable Populations with Heat Restoration	Wayne County	M	#1	Severe Winter Weather			
Greenville 8	Assist Vulnerable Populations with Heat Restoration	City of Greenville	M	#1	Severe Winter Weather			
Piedmont 2	Dam Failure Communications Plan	City of Piedmont	M	#1	Dam Failure			
Piedmont 3	Earthquake Communications Plan	City of Piedmont	M	#1	Earthquake			
Piedmont 7	Storm Spotter Network	City of Piedmont	M	#1	Severe Thunderstorm			
Piedmont 8	Assist Vulnerable Populations with Heat Restoration	City of Piedmont	M	#1	Severe Winter Weather			
Wayne 3	Earthquake Communications Plan	Wayne County	M	#2	Earthquake			
Greenville 7	Storm Spotter Network	City of Greenville	M	#3	Severe Thunderstorm			
Mill Spring 2	Clearwater Lake Dam Failure Study	Village of Mill Spring	M	#1	Dam Failure			
Mill Spring 3	Earthquake Communications Plan	Village of Mill Spring	M	#2	Earthquake			
Mill Spring 8	Assist Vulnerable Populations with Heat Restoration	Village of Mill Spring	M	#1	Severe Winter Weather			
Education and Outreach								
Wayne 6	Education Regarding Dangers Associated with Extreme Heat & Cold	Wayne County	M	#1	Extreme Temperatures			
Wayne 9	Tornado Shelter Public Information	Wayne County	H	#1	Tornado			
Greenville 6	Education Regarding Dangers Associated with Extreme Heat & Cold	City of Greenville	M	#1	Extreme Temperatures			
Greenville 9	Tornado Shelter Public Information	City of Greenville	H	#1	Tornado			
Piedmont 6	Extreme Temperature Education	City of Piedmont	M	#1	Extreme Temperatures			
Piedmont 9	Tornado Shelter Public Information	City of Piedmont	H	#1	Tornado			
Williamsville 5	Conservation of Water	City of Williamsville	M	#1	Drought			
Williamsville 6	Extreme Heat Education	City of Williamsville	M	#1	Extreme Temperatures			
Williamsville 9	Tornado Awareness	City of Williamsville	H	#1	Tornado			
Clearwater R-1 2	Dam Failure Education	Clearwater R-1 School District		#1	Dam Failure			
Clearwater R-1 3	Earthquake Awareness & Drills	Clearwater R-1 School District		#1	Earthquake			
Clearwater R-1 4	Sinkhole Safety Information	Clearwater R-1 School District		#1	Sinkholes			

#	Action Name	Jurisdiction	Priority	Goal Addressed	Hazard Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Clearwater R-I 6	Extreme Heat Education	Clearwater R-I School District		#1	Extreme Heat			
Clearwater R-I 7	Severe Weather Awareness & Drills	Clearwater R-I School District		#1	Severe Thunderstorms			
Greenville R-II 3	Earthquake Education	Greenville R-II School District	M	#1	Earthquake			
Greenville R-II 4	Sinkhole Education	Greenville R-II School District	M	#1	Sinkholes			
Greenville R-II 10	Wildfire Education	Greenville R-II School District	L	#1	Wildfire			
Greenville R-II 5	Drought Education	Greenville R-II School District	L	#2	Drought			
Wayne 10	Firewise Wayne County	Wayne County	M	#3	Wildfire			
Greenville 5	Drought Education & Preparation	City of Greenville	M	#3	Drought			
Greenville 10	Firewise Wayne County	City of Greenville	M	#3	Wildfire			
Mill Spring 5	Drought Education Program	Village of Mill Spring	M	#2	Drought			
Mill Spring 6	Extreme Temperature Danger Education	Village of Mill Spring	M	#1	Extreme Temperatures			

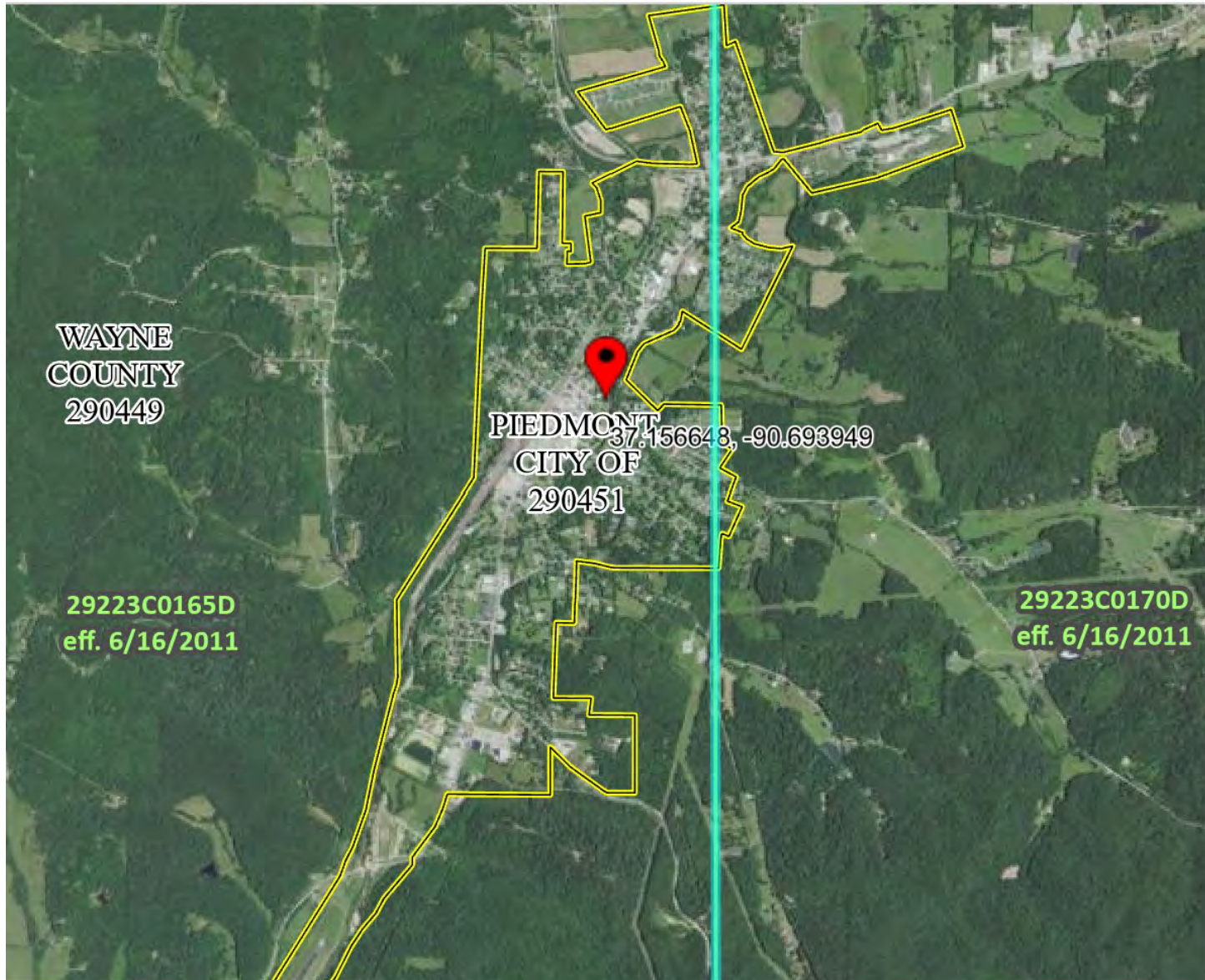


Wayne County Hazard Mitigation Plan, 2024

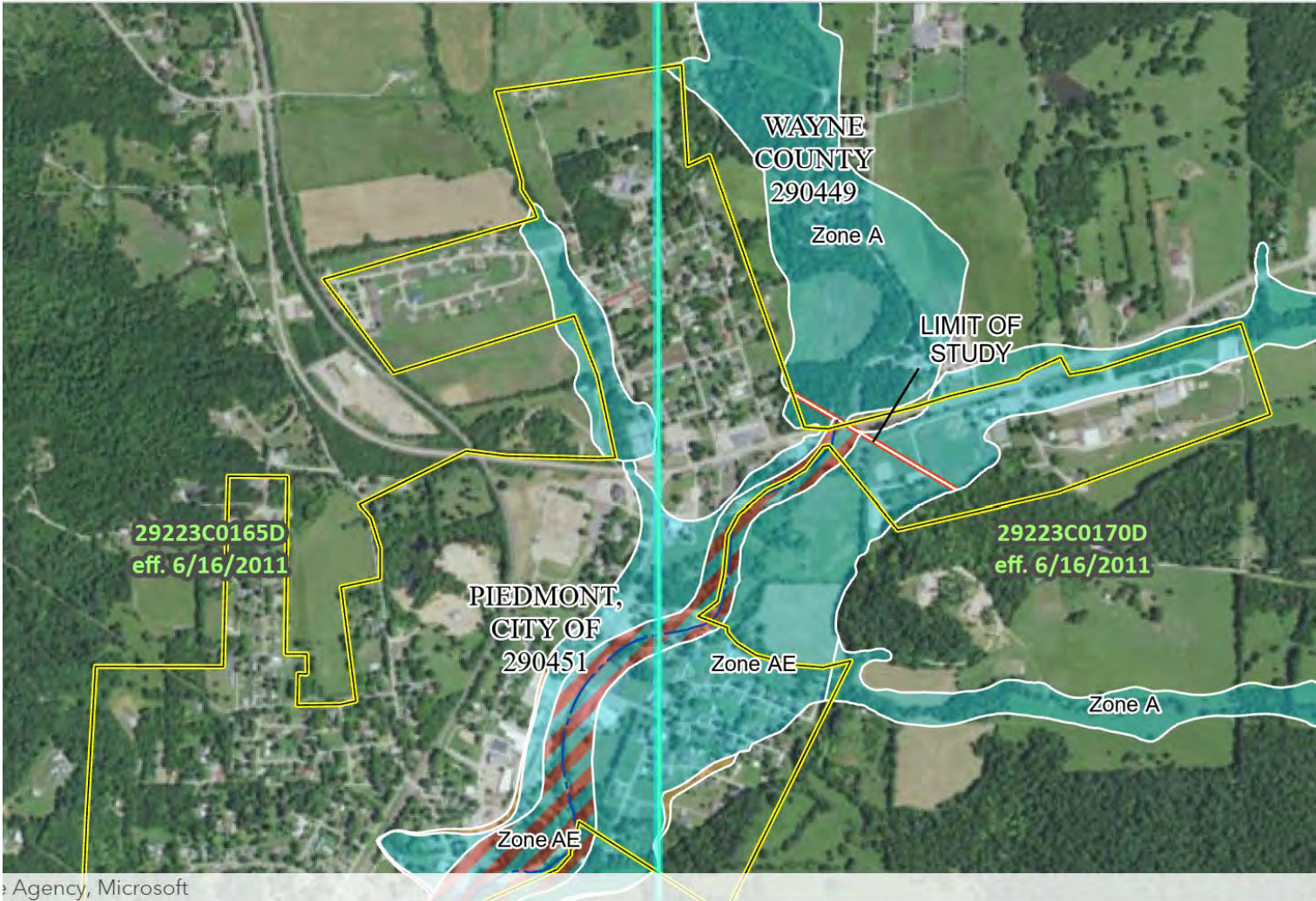
Appendix A – Floodplain Maps

- *City of Piedmont*
- *Village of Mill Spring*
- *City of Williamsville*
- *City of Greenville*
- *Wayne County*
- *Community of Silva*

**City of Piedmont, Missouri
Flood Insurance Rate Map - June 16, 2011**








**City of Piedmont, Missouri - North End
Flood Insurance Rate Map - June 16, 2011**



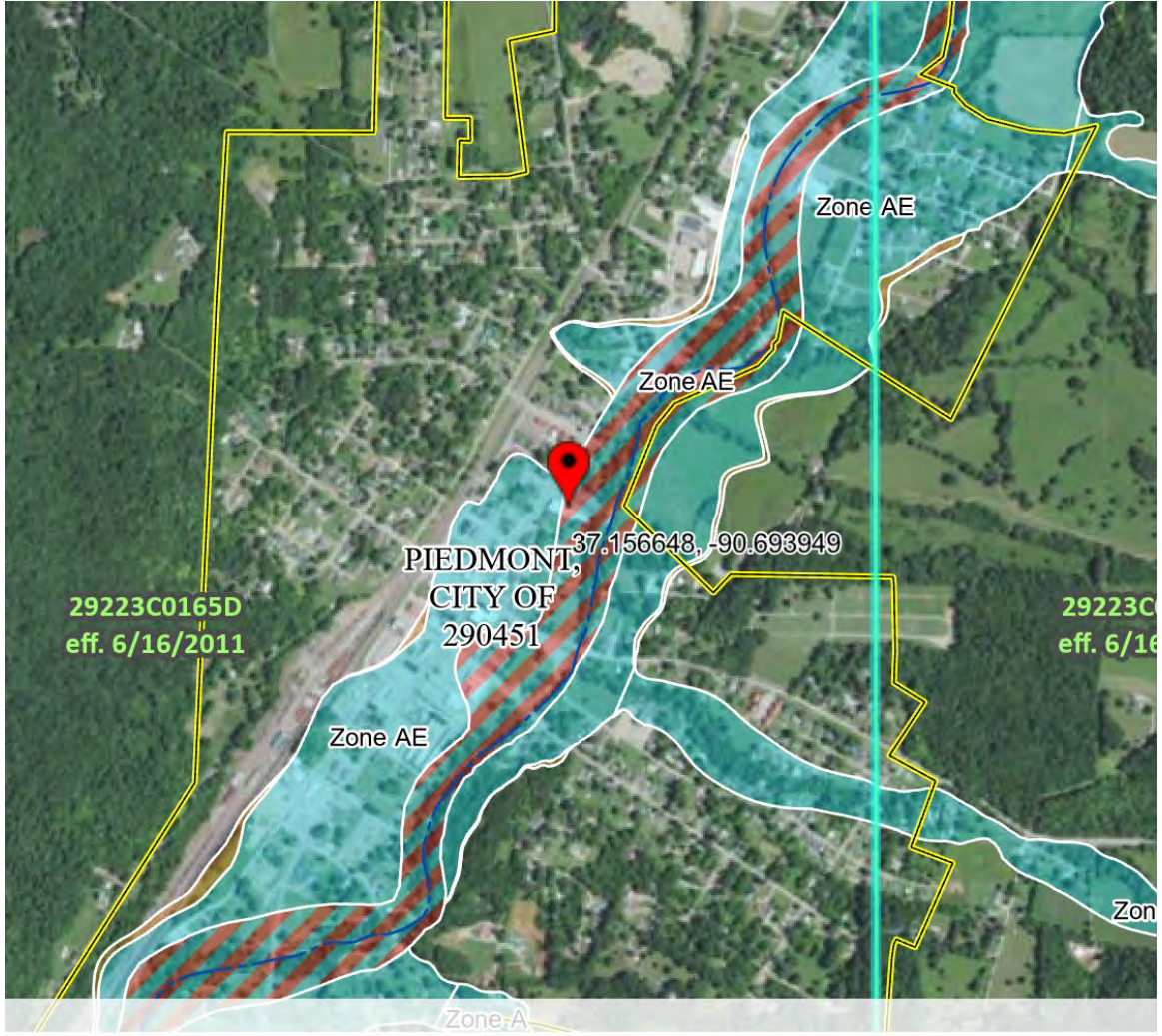
Agency, Microsoft

Approximate location based on user input and does not represent an authoritative property location




SPECIAL FLOOD HAZARD AREAS	
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth
	Regulatory Floodway Zone AE, AO, AH, VE, AR

	20.2	Cross Sections with 1% A
	17.5	Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line

**City of Piedmont, Missouri - North Central
Flood Insurance Rate Map - June 16, 2011**

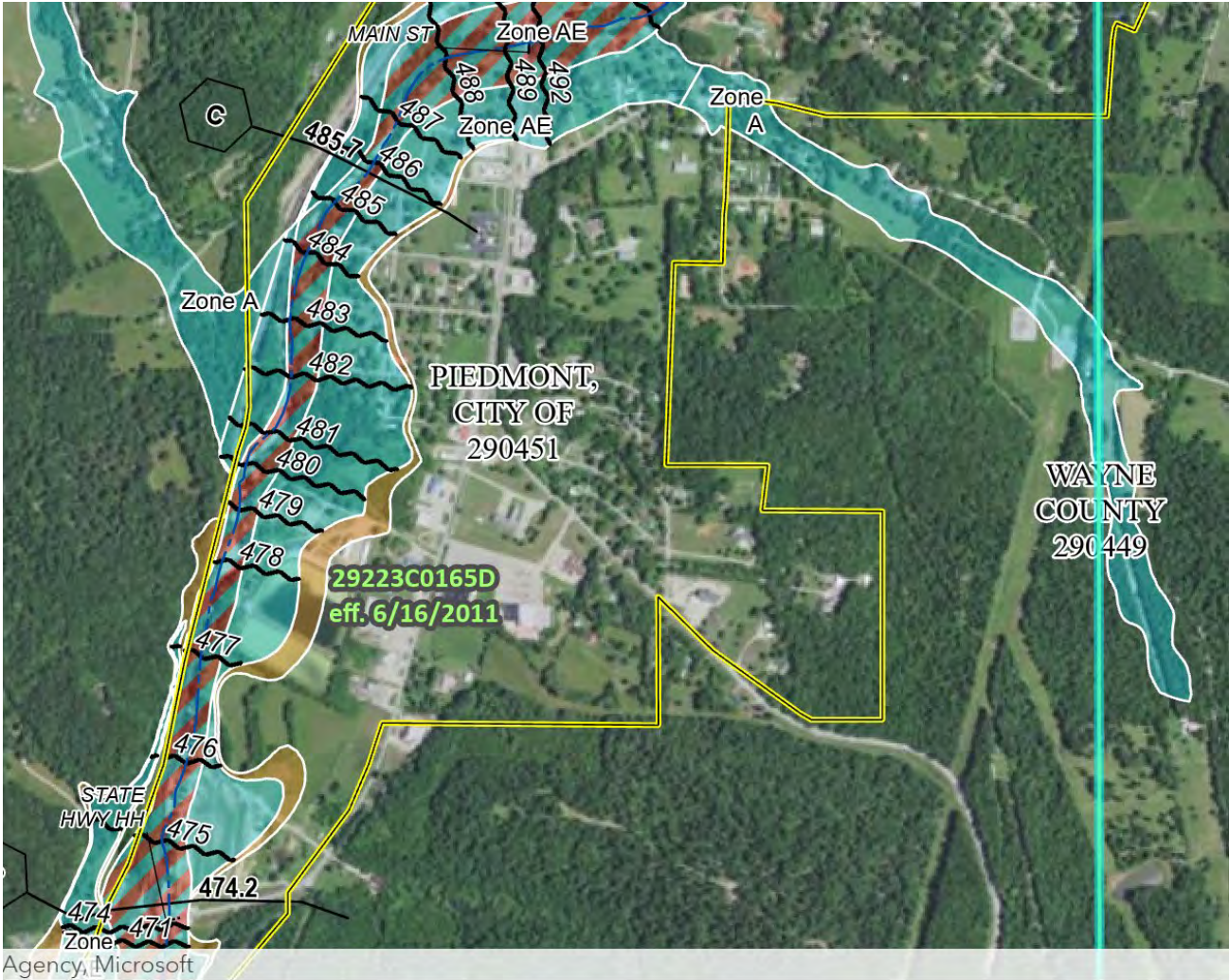


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SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth
		Regulatory Floodway Zone AE, AO, AH, VE, AR



	20.2	Cross Sections w
	17.5	Water Surface E
	---	Coastal Transect
	---	Base Flood Elev




**City of Piedmont, Missouri - South Central
Flood Insurance Rate Map - June 16, 2011**



Agency, Microsoft

Approximate location based on user input and does not represent an authoritative property location

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth
		Regulatory Floodway Zone AE, AO, AH, VE, AR

	20.2
	17.5
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**City of Piedmont, Missouri - South End
Flood Insurance Rate Map - June 16, 2011**



Based on user input
and an authoritative

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth
		Regulatory Floodway Zone AE, AO, AH, VE, AR


	20.2	Cross Sec
	17.5	Water Su
	1	Coastal T
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

Village of Mill Spring, Missouri
Jurisdictional Boundaries - June 16, 2011







**Village of Mill Spring, Missouri - North Portion
Flood Insurance Rate Map - June 16, 2011**

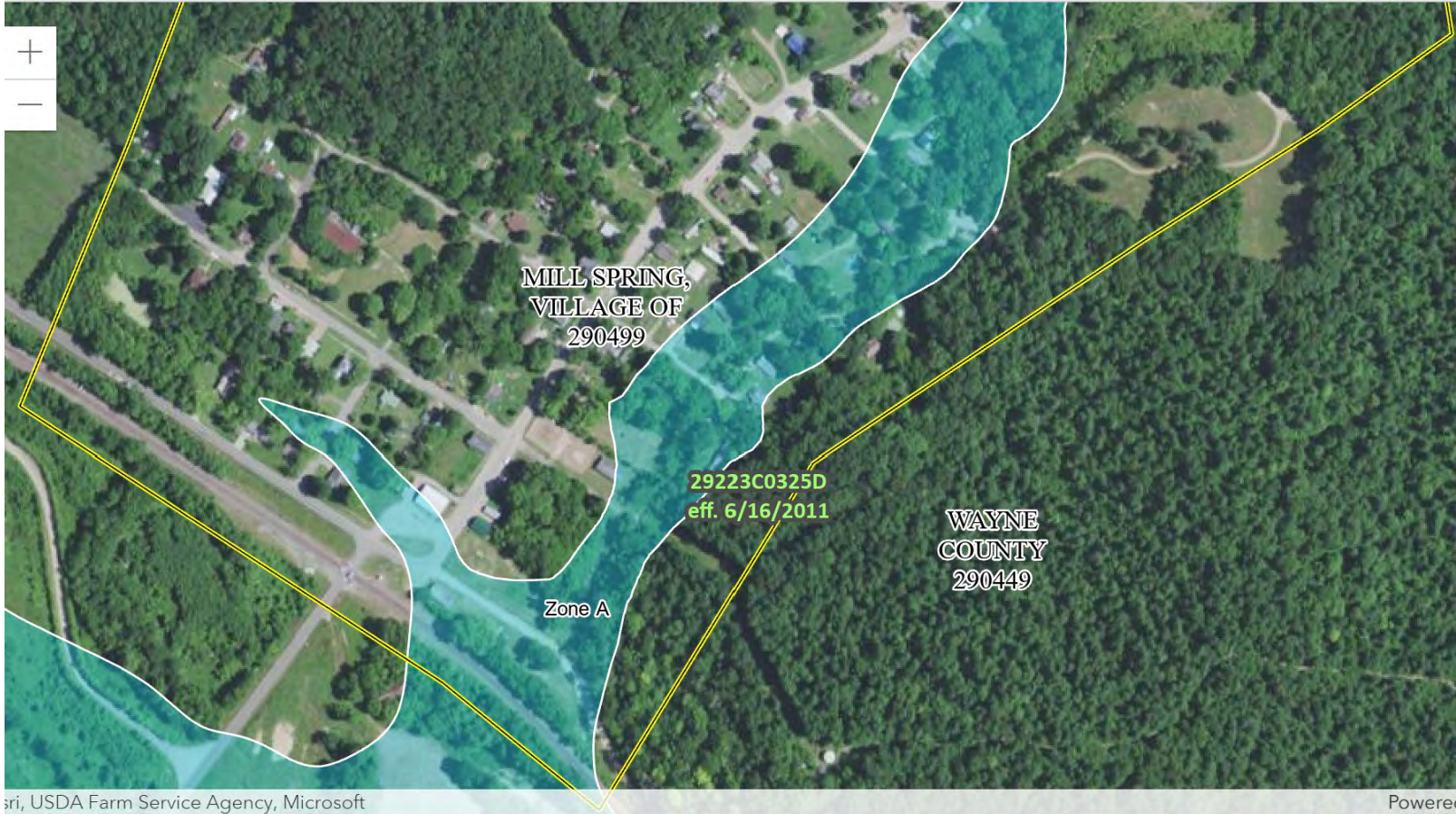


PIN  Approximate location based on user input and does not represent an authoritative property location

SPECIAL FLOOD HAZARD AREAS	
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AR























	20.2	Cross Sections with 1% Annual Cha
	17.5	Water Surface Elevation
	---	Coastal Transect
	---	Base Flood Elevation Line (BFE)

**Village of Mill Spring, Missouri - South Portion
Flood Insurance Rate Map - June 16, 2011**

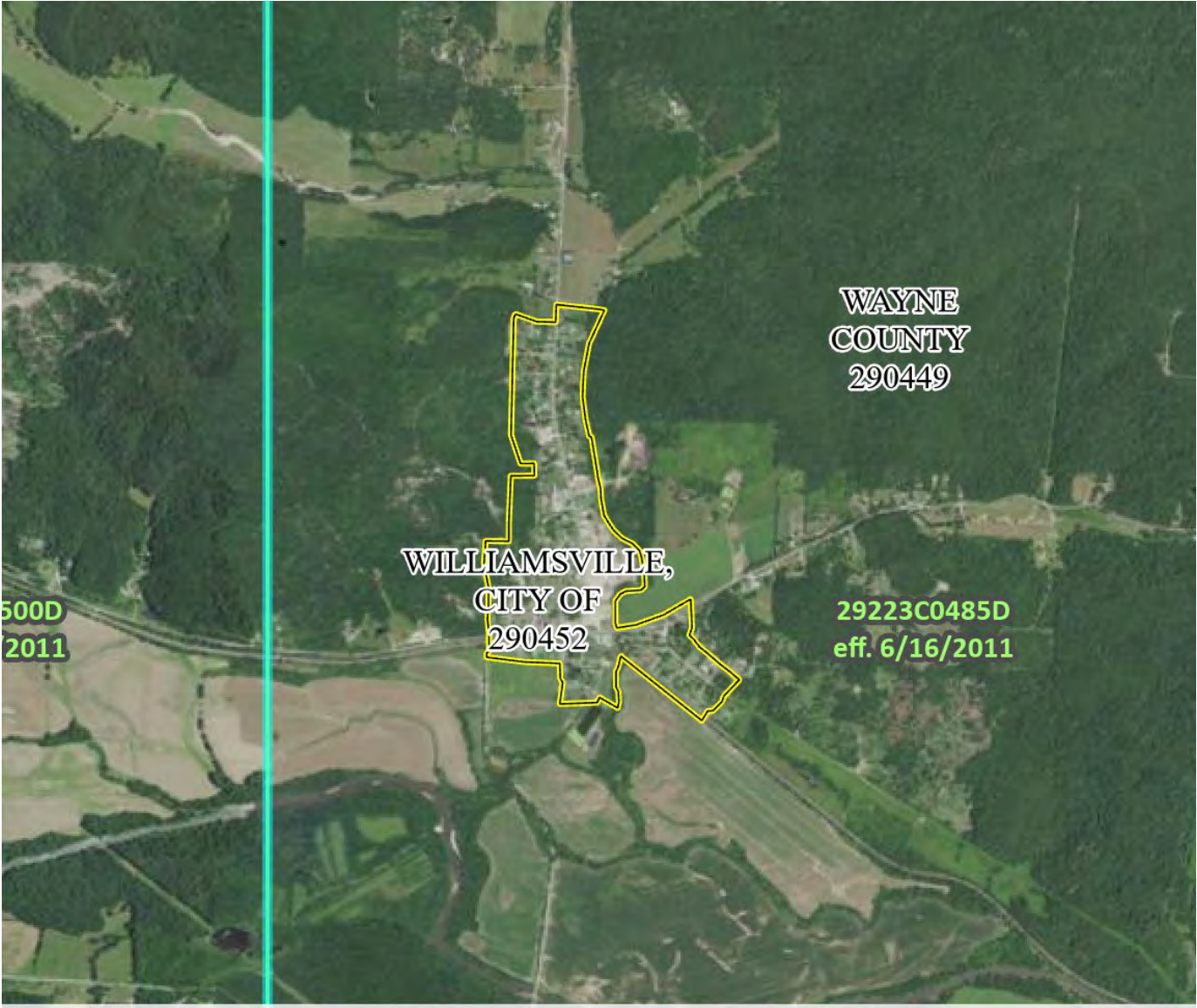


ari, USDA Farm Service Agency, Microsoft

Powerer

<p>PIN</p>  <p>Approximate location based on user input and does not represent an authoritative property location</p>	<p>SPECIAL FLOOD HAZARD AREAS</p> <table border="0"> <tr> <td></td> <td>Without Base Flood Elevation (BFE) Zone A, V, A99</td> </tr> <tr> <td></td> <td>With BFE or Depth</td> </tr> <tr> <td></td> <td>Regulatory Floodway Zone AE, AO, AH, VE, AR</td> </tr> </table>		Without Base Flood Elevation (BFE) Zone A, V, A99		With BFE or Depth		Regulatory Floodway Zone AE, AO, AH, VE, AR	<table border="0"> <tr> <td></td> <td>20.2</td> <td>Cross Sections with 1% Annual Char</td> </tr> <tr> <td></td> <td>17.5</td> <td>Water Surface Elevation</td> </tr> <tr> <td></td> <td></td> <td>Coastal Transect</td> </tr> <tr> <td></td> <td></td> <td>Base Flood Elevation Line (BFE)</td> </tr> </table>		20.2	Cross Sections with 1% Annual Char		17.5	Water Surface Elevation			Coastal Transect			Base Flood Elevation Line (BFE)
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		Base Flood Elevation Line (BFE)																		

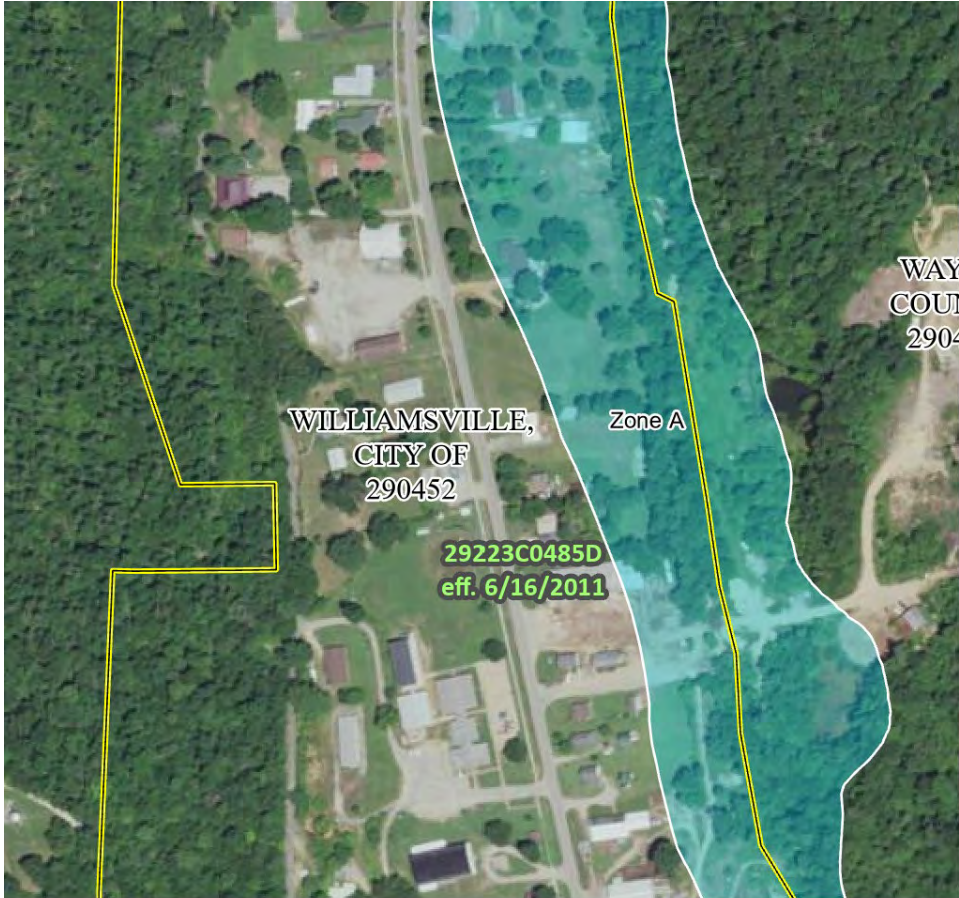
**City of Williamsville, Missouri
Jurisdictional Boundaries - June 16, 2011**



**City of Williamsville - North Portion
Flood Insurance Rate Map - June 16, 2011**

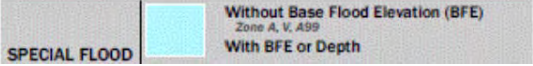


**City of Williamsville, Missouri - North Central Portion
Flood Insurance Rate Map - June 16, 2011**

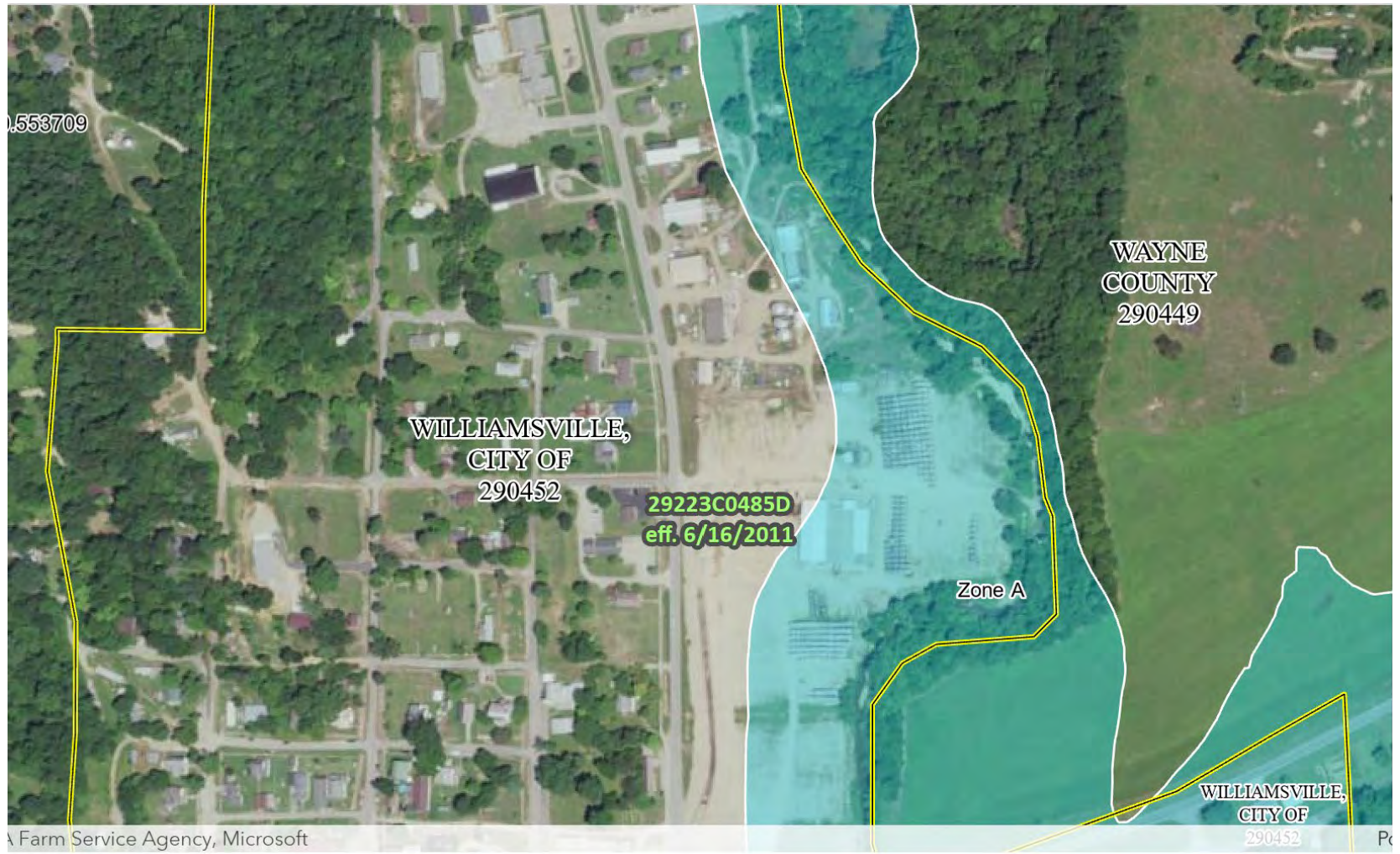



Microsoft

Information based on user input
does not present an authoritative
representation










**City of Williamsville, Missouri - South Central Portion
Flood Insurance Rate Map - June 16, 2011**



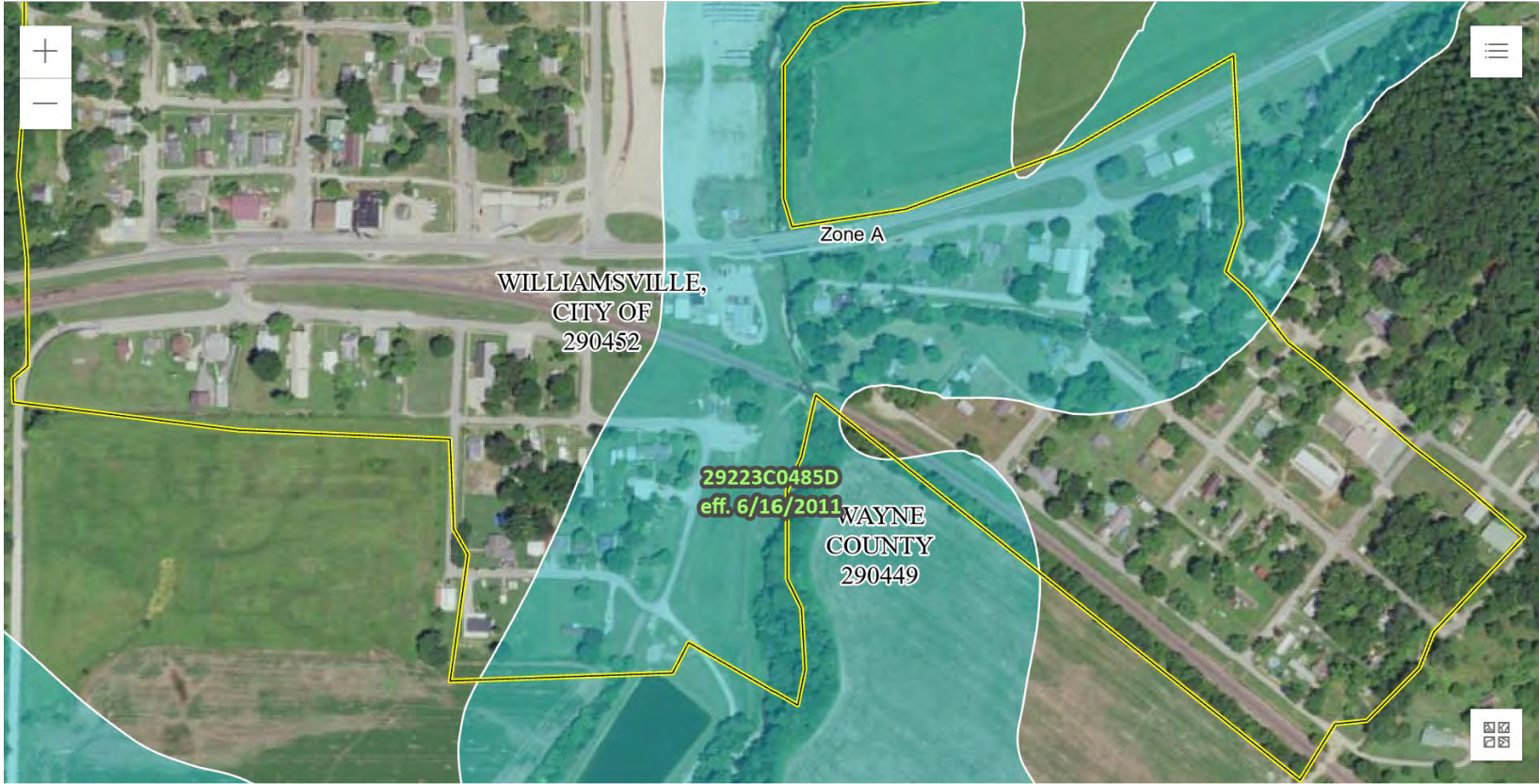
PIN  Approximate location based on user input and does not represent an authoritative property location

SPECIAL FLOOD HAZARD AREAS

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth
	Regulatory Floodway Zone AE, AO, AH, VE, AR


	20.2	Cross Sections with 1% Ann
	17.5	Water Surface Elevation
	---	Coastal Transect
	----	Base Flood Elevation Line (f



**City of Williamsville, Missouri - South Portion
Flood Insurance Rate Map - June 16, 2011**







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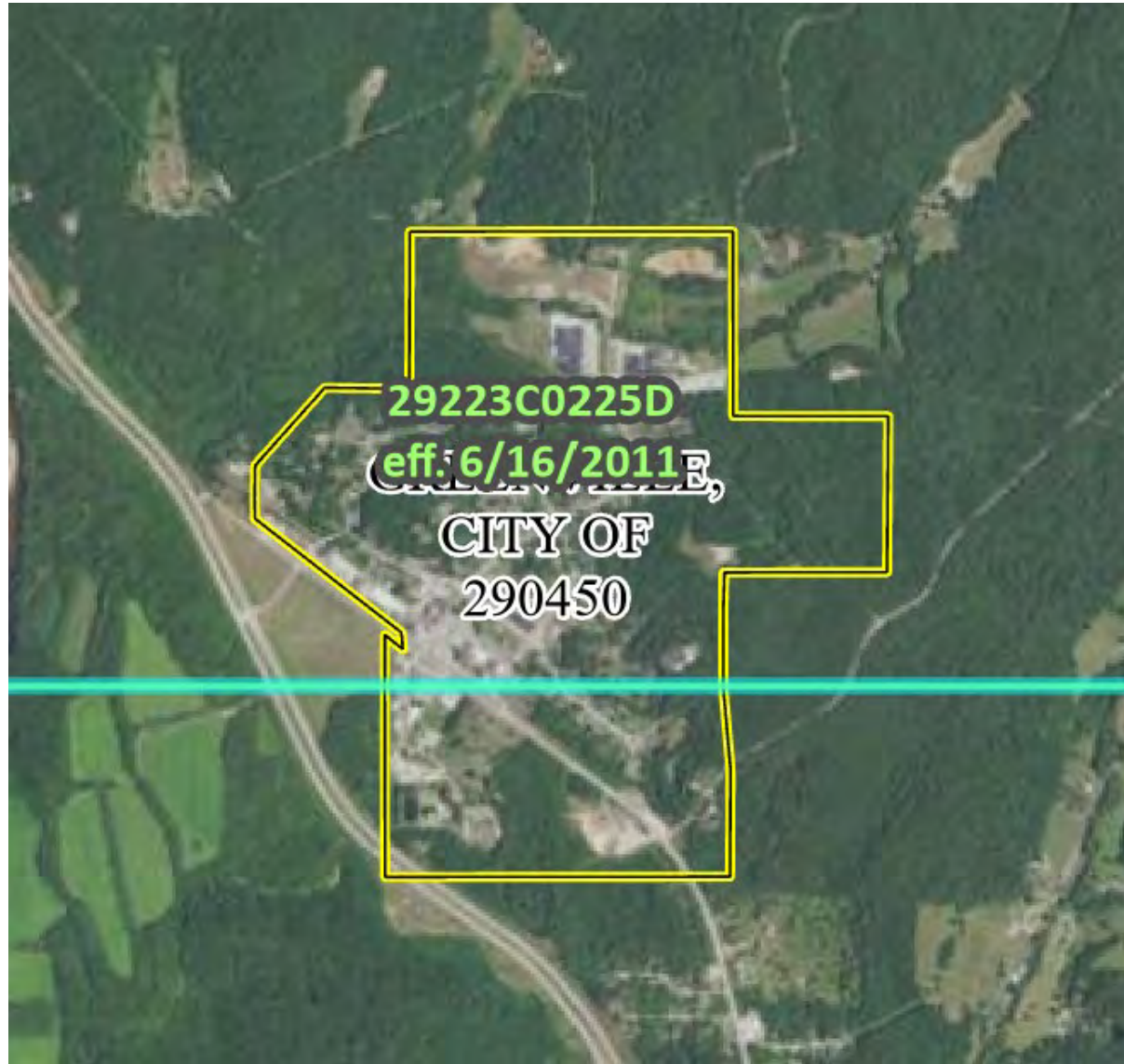
Powered by Esri

PIN
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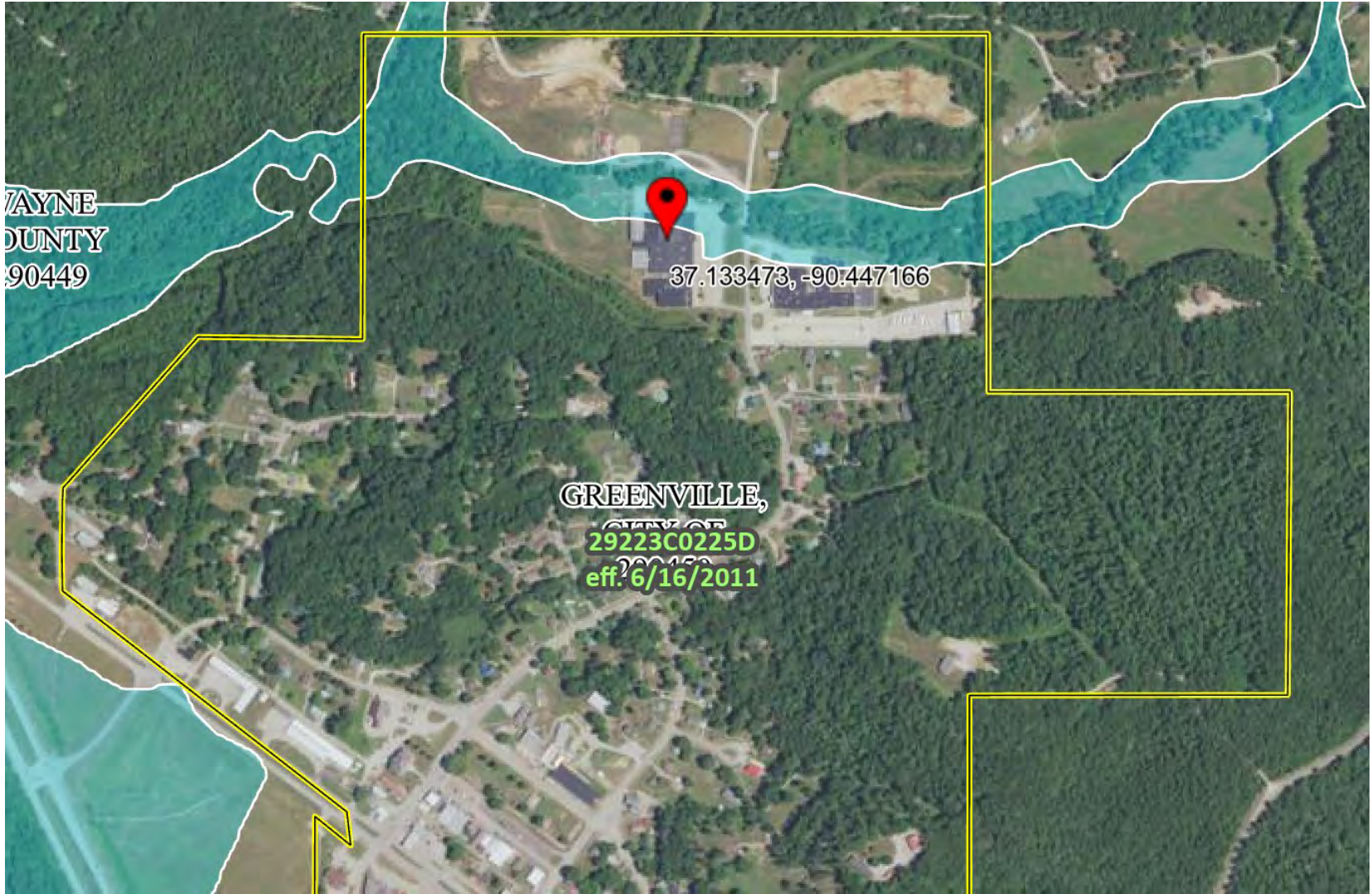
SPECIAL FLOOD HAZARD AREAS	
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AR

	20.2 Cross Sections with 1% Annual Chance
	17.5 Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)

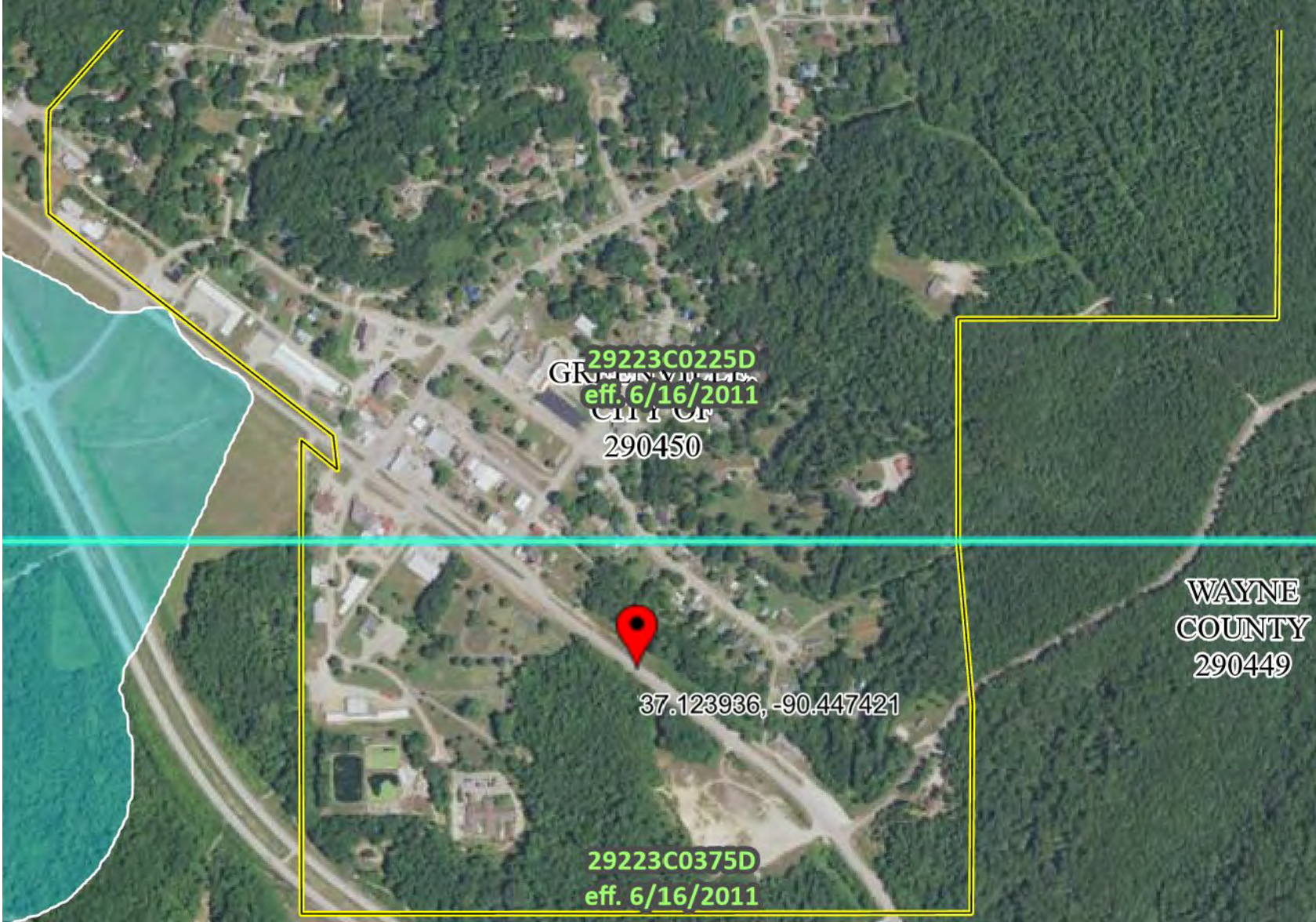
City of Greenville, Missouri
Jurisdictional Boundaries - June 16, 2011



City of Greenville, Missouri - North Portion
Flood Insurance Rate Map - June 16, 2011



City of Greenville, Missouri - South Portion
Flood Insurance Rate Map - June 16, 2011



Wayne County, Missouri Flood Insurance Rate Map - June 16, 2011

NDA4 NING512
National Geodetic Survey
SSMCI #R022
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12500, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

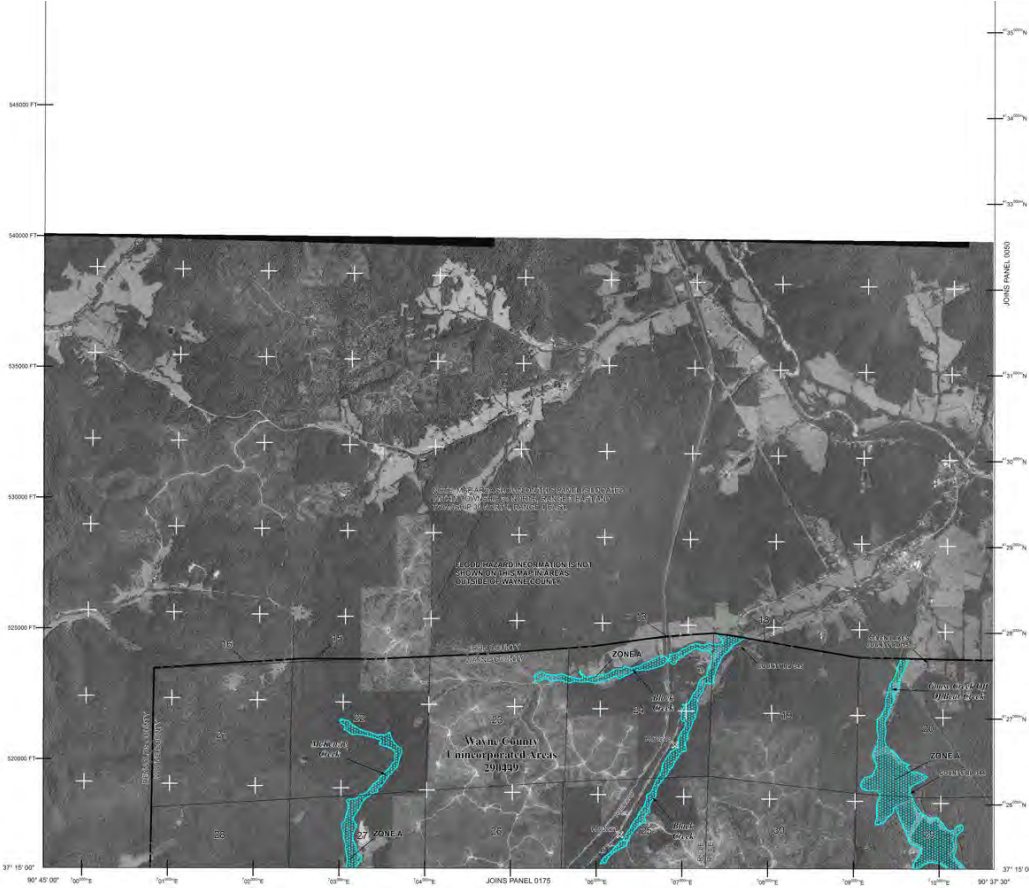
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For information on available products associated with this FIRM visit the Map Service Center (MSC) website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/nationalfip>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



Legend

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, Flood Depths, or Flood Velocities
- CRIS and OPI boundary
- Unimproved Stream
- Corporate, Extrajurisdictional, Jurisdictional, or Urban Growth boundary
- Area Not Included boundary
- History Recreation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet
- * Referenced to the North American Vertical Datum of 1988
- Cross section line
- Traversed line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 600000 FT
- 5000-foot grid (NAD 83), Missouri State Plane coordinate system, East zone (PROJCS=2415, Transverse Mercator projection)
- Bench mark (see explanation in notes to users section of the FIRM report)
- M.T.S.
- Baffle Wall
- Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table included in the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6623.

MAP SCALE 1" = 2000'
1000 2000 4000 FEET
800 0 600 1200 METERS

NFIP **PANEL 0025D**

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 25 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	25649	0025	D

Notes to User: The Map Number shown herein should be used when filing this report. The Community Number shown above should be used on insurance applications for the insured community.

MAP NUMBER
29223C0025D

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data** and/or **Summary of Stillwater Elevations** data contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **Floodways** were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway areas and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1989. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1989, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NIMS12
 National Geodetic Survey
 SSCM-3, 60202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

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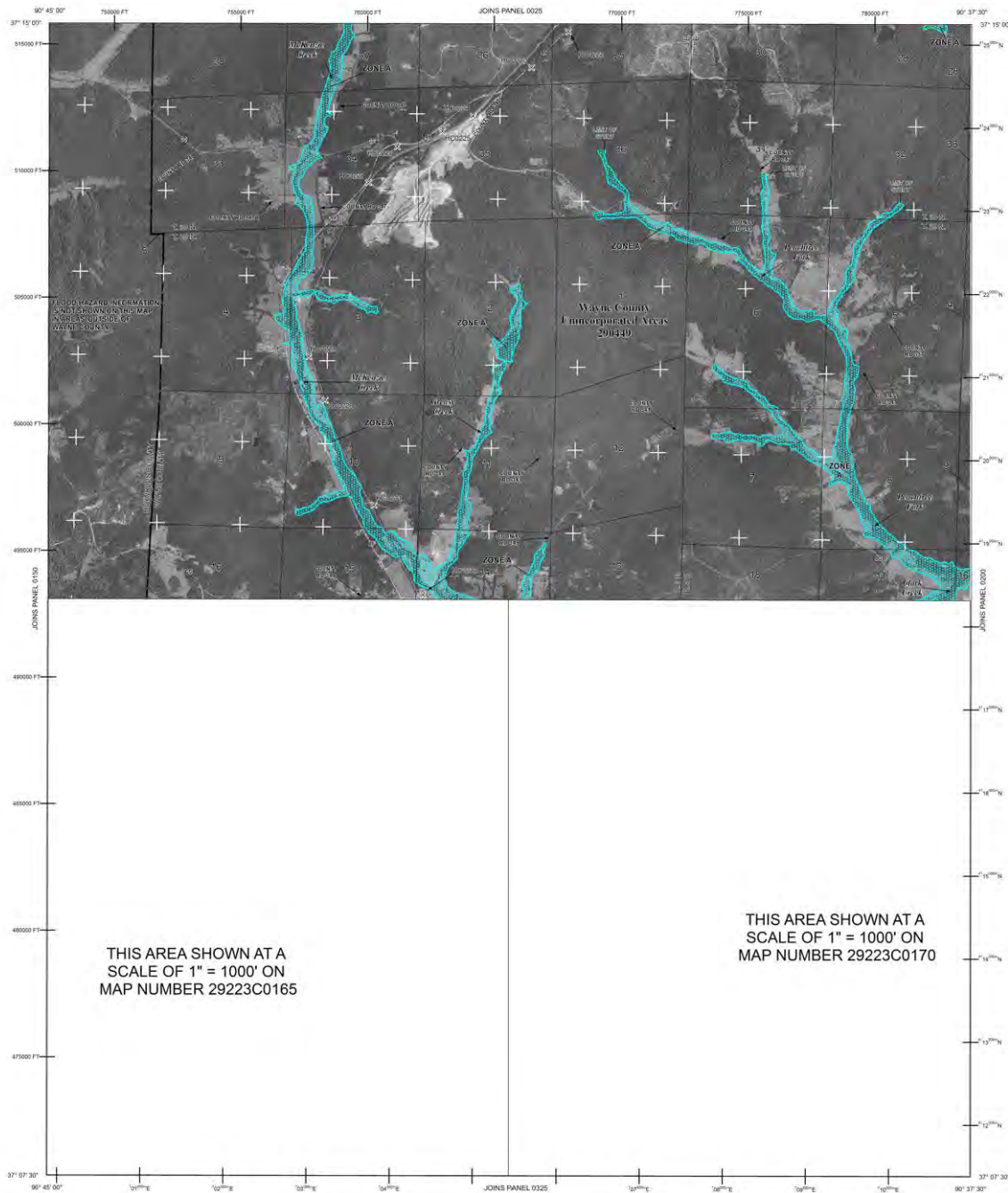
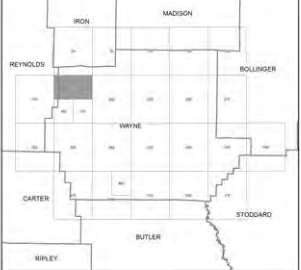
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



THIS AREA SHOWN AT A SCALE OF 1" = 1000' ON MAP NUMBER 29223C0165

THIS AREA SHOWN AT A SCALE OF 1" = 1000' ON MAP NUMBER 29223C0170

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AD, AR, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; for areas of shallow flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified; Zone AE indicates that the former flood control system is being removed to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal Flood Protection System under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood height.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE B Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

CBRS areas and OFAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OFA boundary
- International, State, or County boundary
- Corporate, Nonincorporated Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Historic Reservation, Native American Lands boundary
- Base Flood Elevation line and value elevation in feet (EL: 947)
- Base Flood Elevation value where uniform within zone, elevation in feet (Elevations to the North American Vertical Datum of 1989)
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000-foot grid scale; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of the FIS report)
- Spot Elevation
- Aqueduct, Culvert, Flume, Pipe, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY

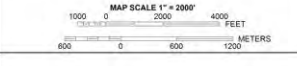
Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATES OF COUNTY-WIDE FLOOD INSURANCE RATE MAP

EFFECTIVE DATES (OF REVISIONS) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in your community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0175D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 17S OF 57S
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
 COMMUNITY NUMBER PANEL SUFFIX
 WAYNE COUNTY 20449 0175 D

NOTE TO USER: This Map Number sheet herein should be used only when shown on the community map. It is not to be used for insurance applications for the subject community.

MAP NUMBER 29223C0175D

EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

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NGS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSAC-3, #9202
 1314 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

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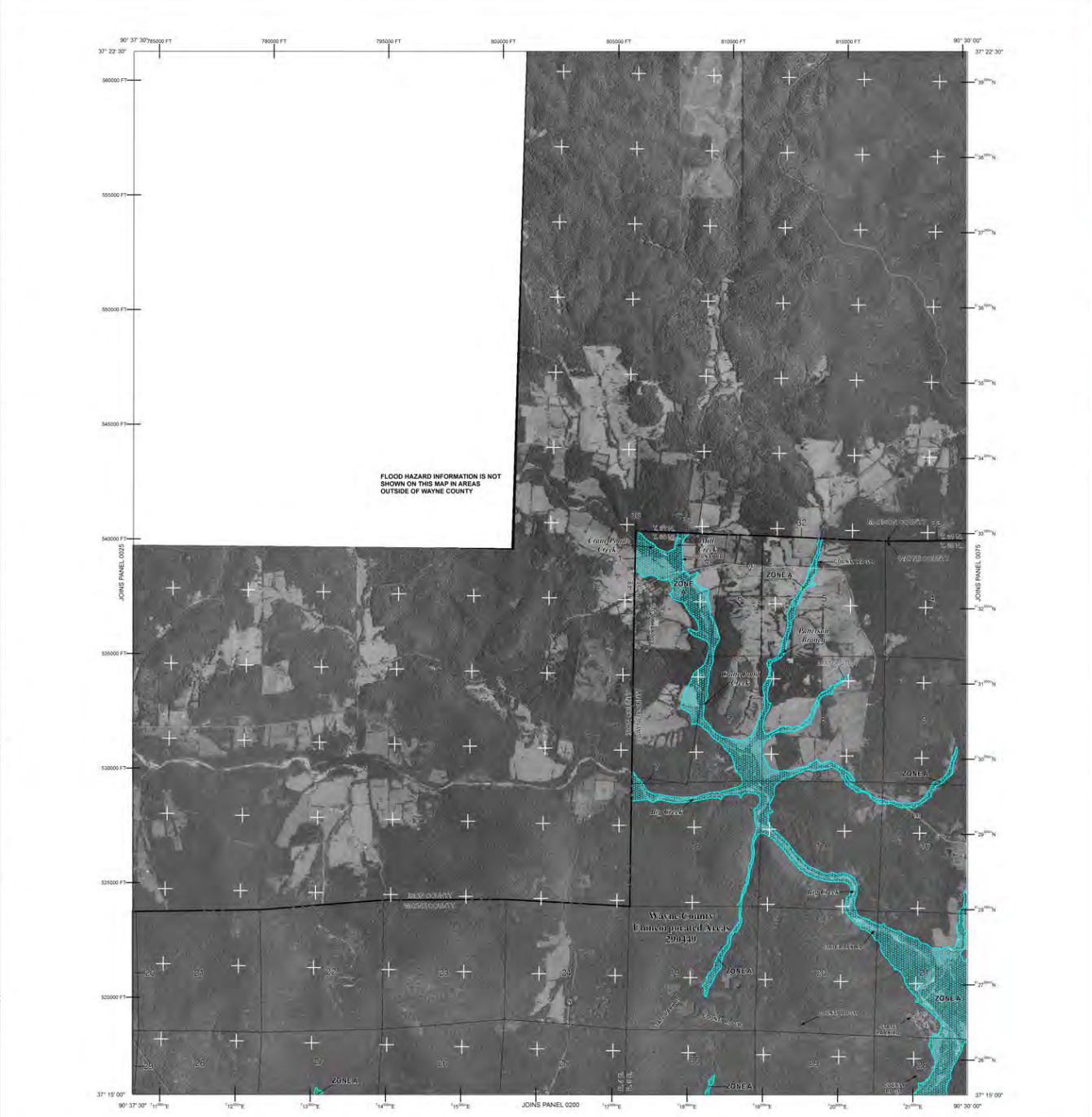
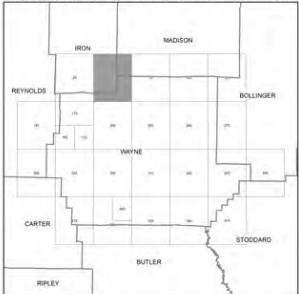
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For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of the map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-324-6277) or visit the FEMA website at <http://www.fema.gov/business/inf>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AO, AR, AV, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AR** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; for areas of shallow fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard areas protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

COASTAL FLOOD ZONE WITH VELOCITY HAZARD (wave action); no Base Flood Elevations determined.

OTHER FLOOD AREAS

ZONE X Areas of 2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot and with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone-D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Area Not Delineated boundary
- Corporate, Ecclesiastical Jurisdiction, or Urban Growth boundary
- Historical Reservation, Native American Lands boundary
- Base Flood Elevation line and water elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet
- * Referenced to the North American Vertical Datum of 1988
- Open water area
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 3000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIS report)
- Apex, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Right-of-Way

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP

JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

For community map revision history prior to computerized mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-368-7673.

1000 0 4000 FEET

MAP SCALE 1" = 2000'

800 0 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0050D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 50 OF 575

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY

WAYNE COUNTY 298449 0010 D

MAP NUMBER

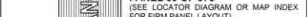
2923C0050D

EFFECTIVE DATE

JUNE 16, 2011

Federal Emergency Management Agency

Notice to User: The Map Number shown herein should be used when ordering products. The Community Map History table should be used for descriptive applications for the subject community.



2923C0050D

JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small magnitude. Community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the **Flood Insurance Study (FIS)** report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NCHA, NUNGS12
National Geodetic Survey
3343 S. 4620th
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12,000, and by the U.S. Geological Survey, Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24,000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile base lines in some cases may deviate significantly from the channel centerline or appear outside the SFHA.

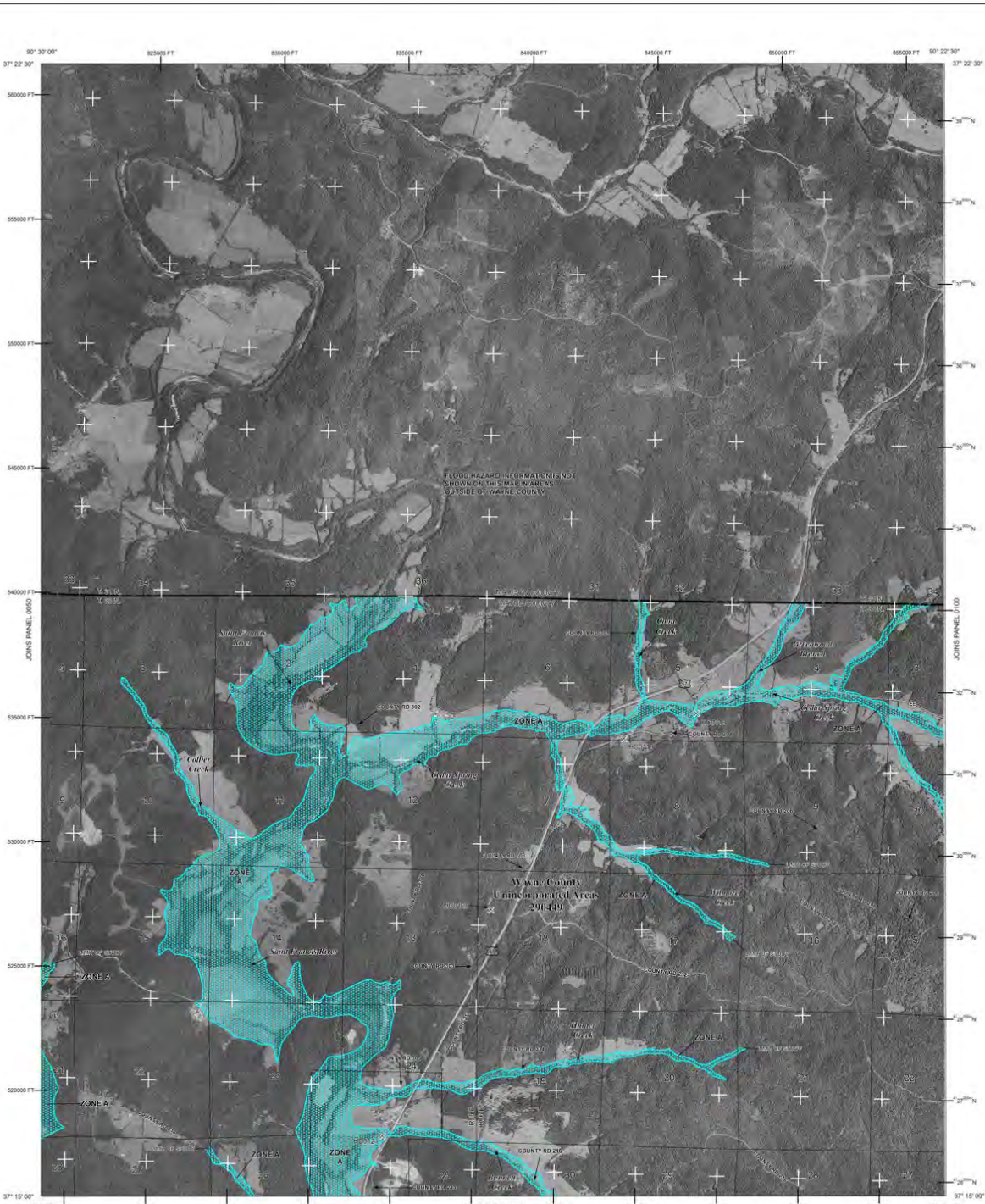
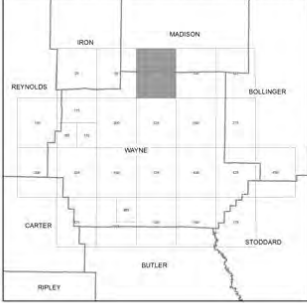
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (EMIX) at 1-877-FEMA-MA (1-877-336-2627), or visit the FEMA website at <http://www.fema.gov/business/info>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Zone AE indicates the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AH** Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on ponding terrain); Base Flood Elevations determined.
- ZONE AR** Flood depths of 1 to 3 feet (usually sheet flow on ponding terrain); average depths determined. For areas of actual flow flooding, velocities also determined.
- ZONE AP** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AP indicates the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

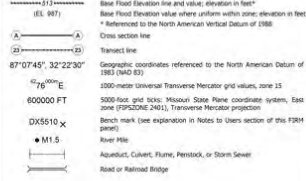
FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE A Areas of 2 to 2.99 annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas enclosed by levees from 1% annual chance flood.

OTHER AREAS
ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone B boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations; flood depths, or flood velocities.
- Zone C boundary
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extra-jurisdictional, or Urban Growth boundary
- Area not included boundary
- Historic Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform with zone; elevation in feet
- Referenced to the North American Vertical Datum of 1988 (E: 88')
- Cross section line
- Transect line



MAP REPOSITORY
Refer to Listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-338-6020.



NFP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0075D

FIRM FLOOD INSURANCE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 75 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	2923C	0075D	0

MAP NUMBER 2923C0075D

EFFECTIVE DATE JUNE 16, 2011

Notes to User: The Map Number shown herein should be used when placing this map. The Community Number shown should be used for reference opportunities to the jurisdiction.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible additional information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Shallowwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accuracy, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NINGS-12
 National Geodetic Survey
 SSMC-3, #6200
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

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Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey, Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel changes that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

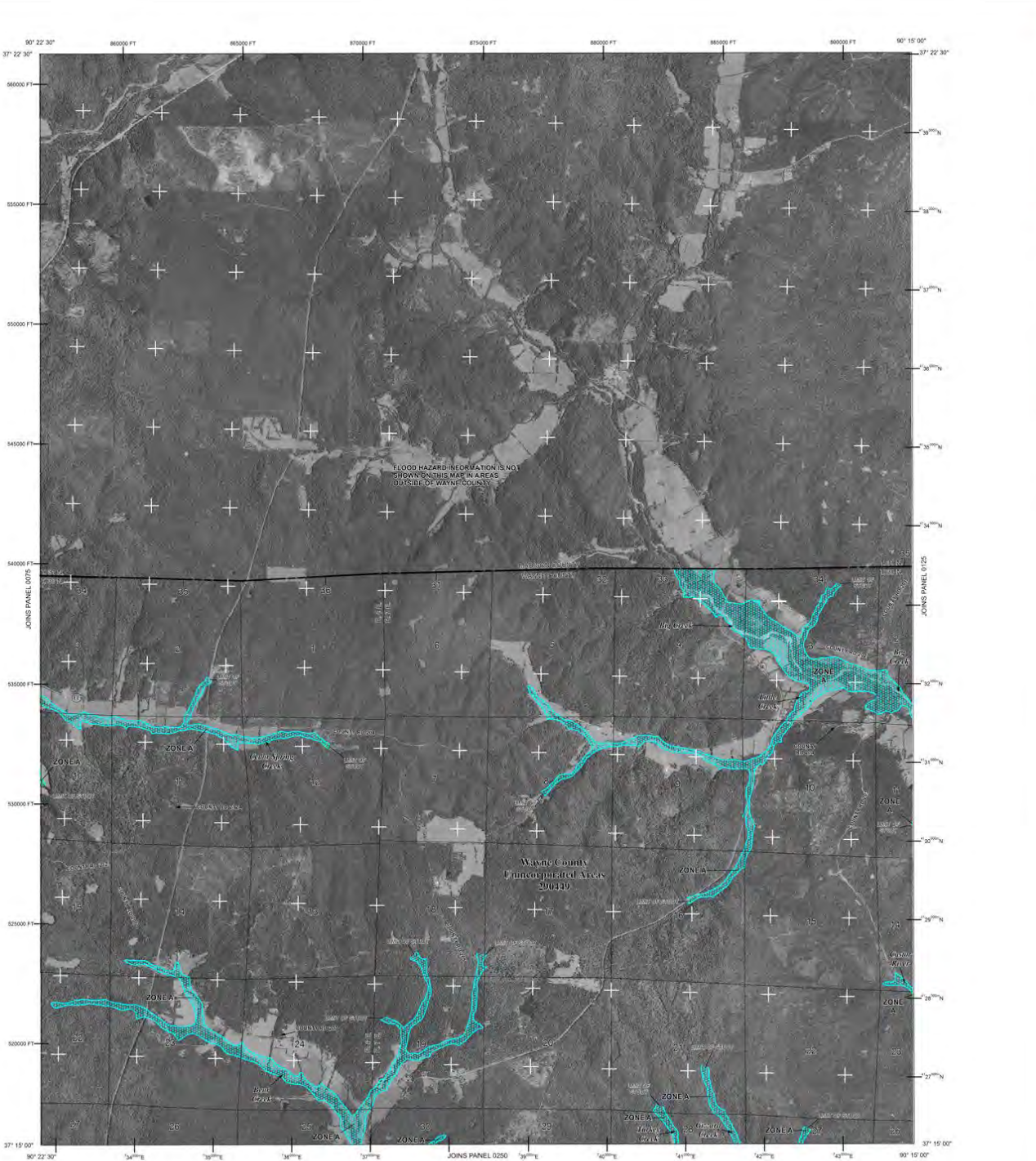
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



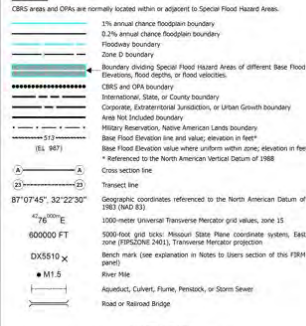
LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the base flood. The Special Flood Hazard Areas include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
 - ZONE AE** Base Flood Elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depth determined. For areas of annual flow for flooding, vehicles also determined.
 - ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
 - ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.
 - ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE D** Areas determined to be outside the 0.2% annual chance floodplain. Areas within flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.



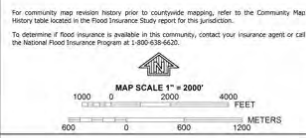
MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF CONTINGENT FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

The community map within floodplain also to coordinate mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0100D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 100 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY: WAYNE COUNTY
 NUMBER: 29223C0100D
 PANEL: 100
 SUFFIX: 0

MAP NUMBER 29223C0100D

EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for the jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, CGRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NWS/512
National Geodetic Survey
SSA/C-3, 90202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agriculture Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for the jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrecoded streams may differ from what is shown on previous maps.

The **profile base lines** depicted on this map may represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

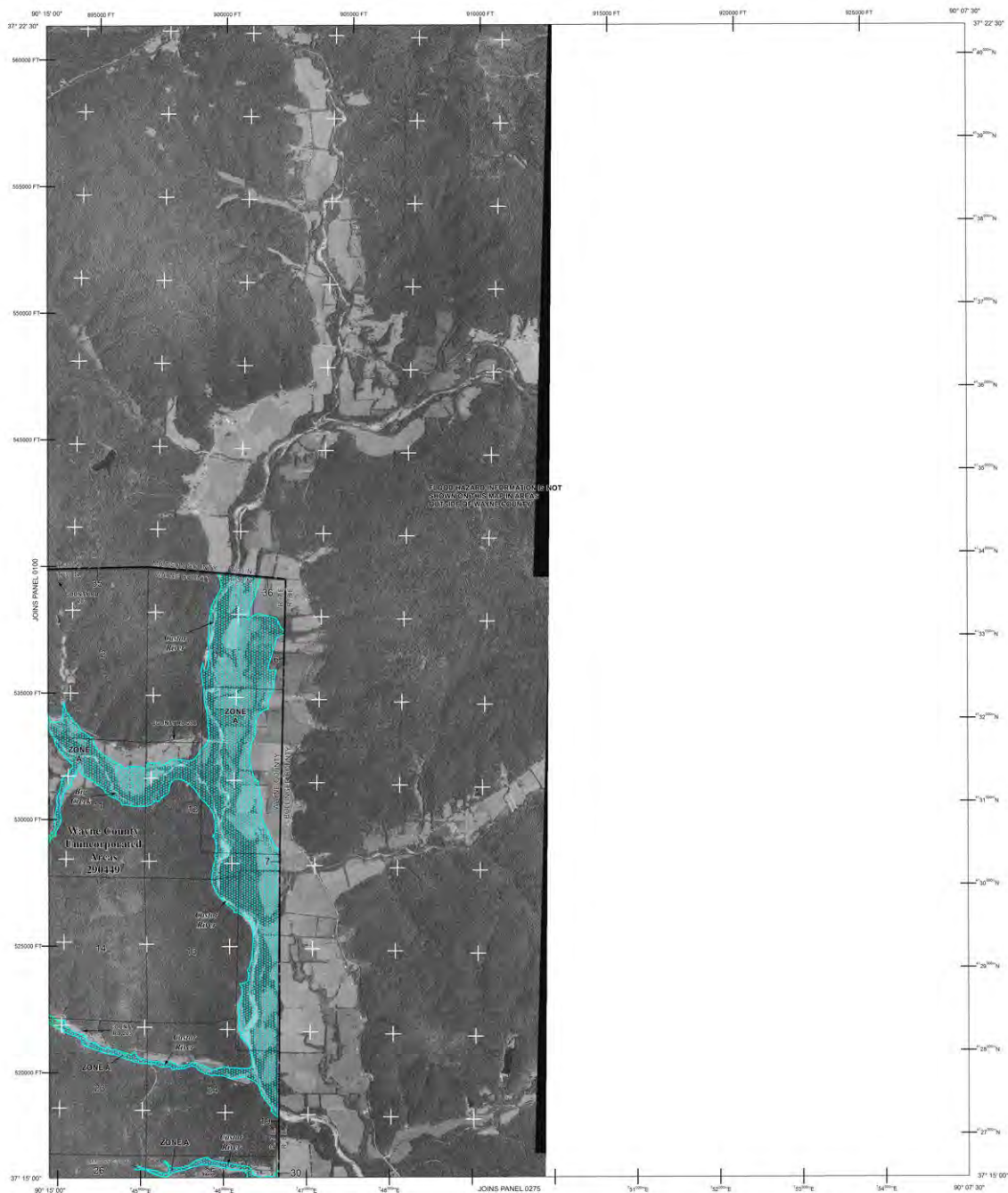
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For information on available products associated with the FIRM visit the **Map Service Center (MSC)** website at <http://nims.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AH** Base Flood Elevations determined; Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; Areas of shallow flooding; velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned; Zone AE indicates that the former flood control system is being retained to provide protection from the 1% annual chance flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction (no Base Flood Elevations determined).
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; Areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE B Areas determined to be outside the 1% annual chance floodplain.

ZONE D Areas in which flood heights are undetermined or not possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone A boundary
- Zone B boundary
- Zone D boundary
- Boundary delineating Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional Jurisdiction, or Unincorporated boundary
- Area Not Included boundary
- Military Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value when uniform within zone; elevation in feet
- Elevation to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000-foot grid (state); Missouri State Plane coordinate system, East zone (FIPSZONE15); Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM)
- Water Main
- M1 S
- Abseil, Culvert, Flume, Pipeline, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY

Refer to Listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTY/WIDE FLOOD INSURANCE RATE MAP

JUNE 16, 2011

EFFECTIVE DATES (IF REVISIONS) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0125D

FIRM

FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 125 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	26648	125C	D

Notes to User: The Map Number shown herein should be used when placing map orders. The Community Number shown above should be used when placing insurance orders to the local community.

MAP NUMBER
29232C0125D

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded and/or foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83. GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NUNGS12
 National Geodetic Survey
 SSC-3, #9202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

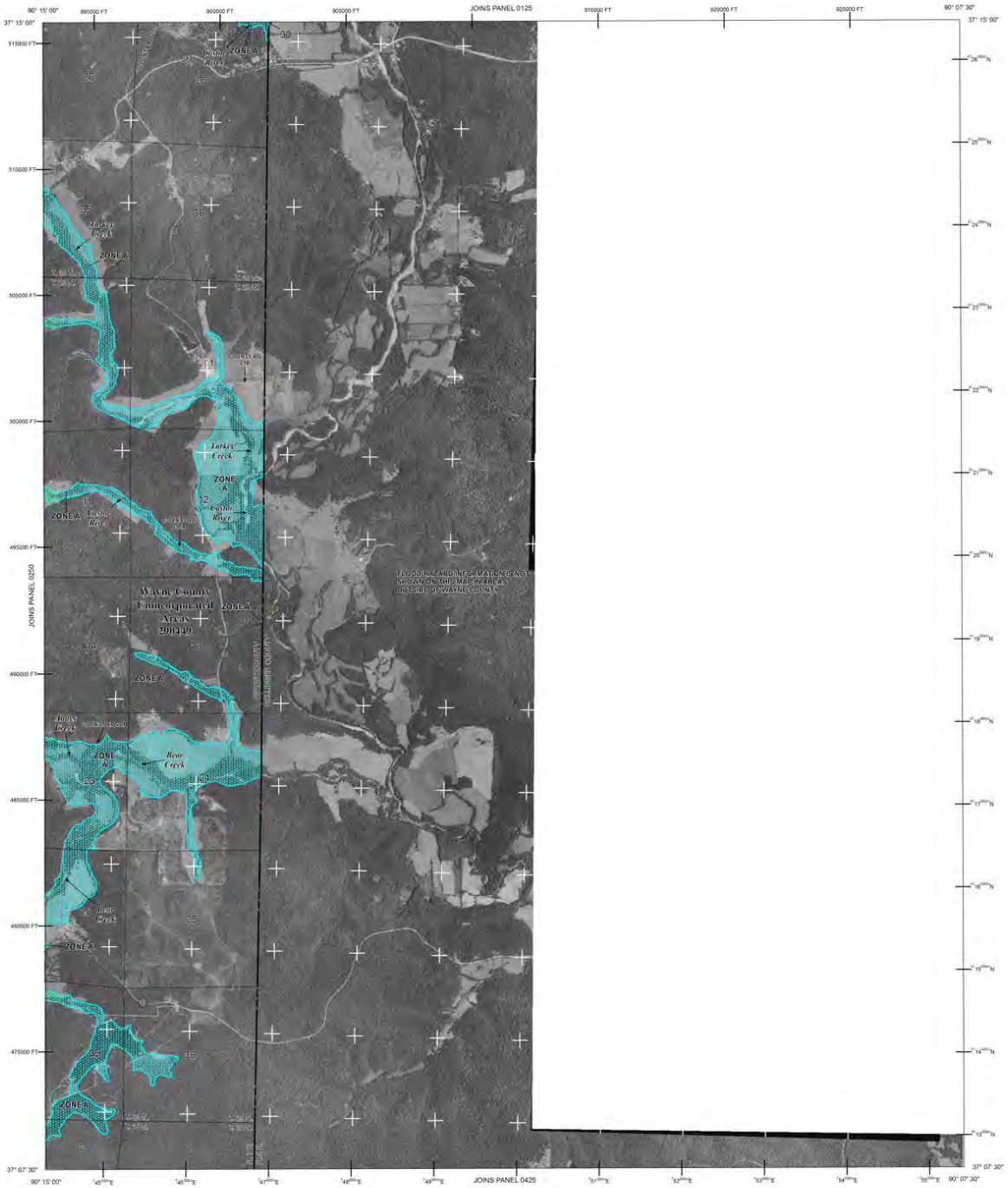
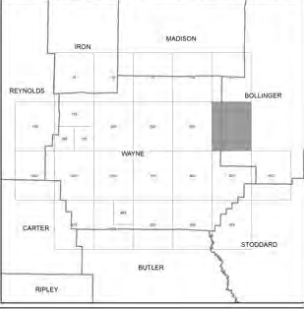
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information exchange (FMI) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/mfp>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood) also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to inundation by the 1% annual chance flood. Zone A indicates that flood depths will be 1 to 3 feet (locally areas of ponding). Base Flood Elevations determined.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (locally areas of ponding). Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on adjoining terrain); average depths determined. For areas of adverse flow, reduction and attenuation.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE D Areas determined to be outside the 0.2% annual chance floodplain.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional, or Urban Growth boundary
- Area Not Insured boundary
- Military Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within one-foot elevation in feet
- Referenced to the North American Vertical Datum of 1988



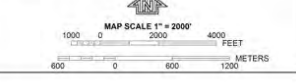
MAP REPOSITORY
 Refer to listing of Map Repository on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History letter located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-436-6242.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0275D

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 275 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	0275	0275	D

Know to User: The Map Number shown herein should be used when ordering map copies. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
 29223C0275D

EFFECTIVE DATE
 JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accuracy of flood elevation data presented in the FIS report should be checked in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with respect to requirements of the National Flood Insurance Program. Floodway width and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 approved. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NIMS12
 National Geodetic Survey
 SSMC-3, #6202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital form by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quads, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

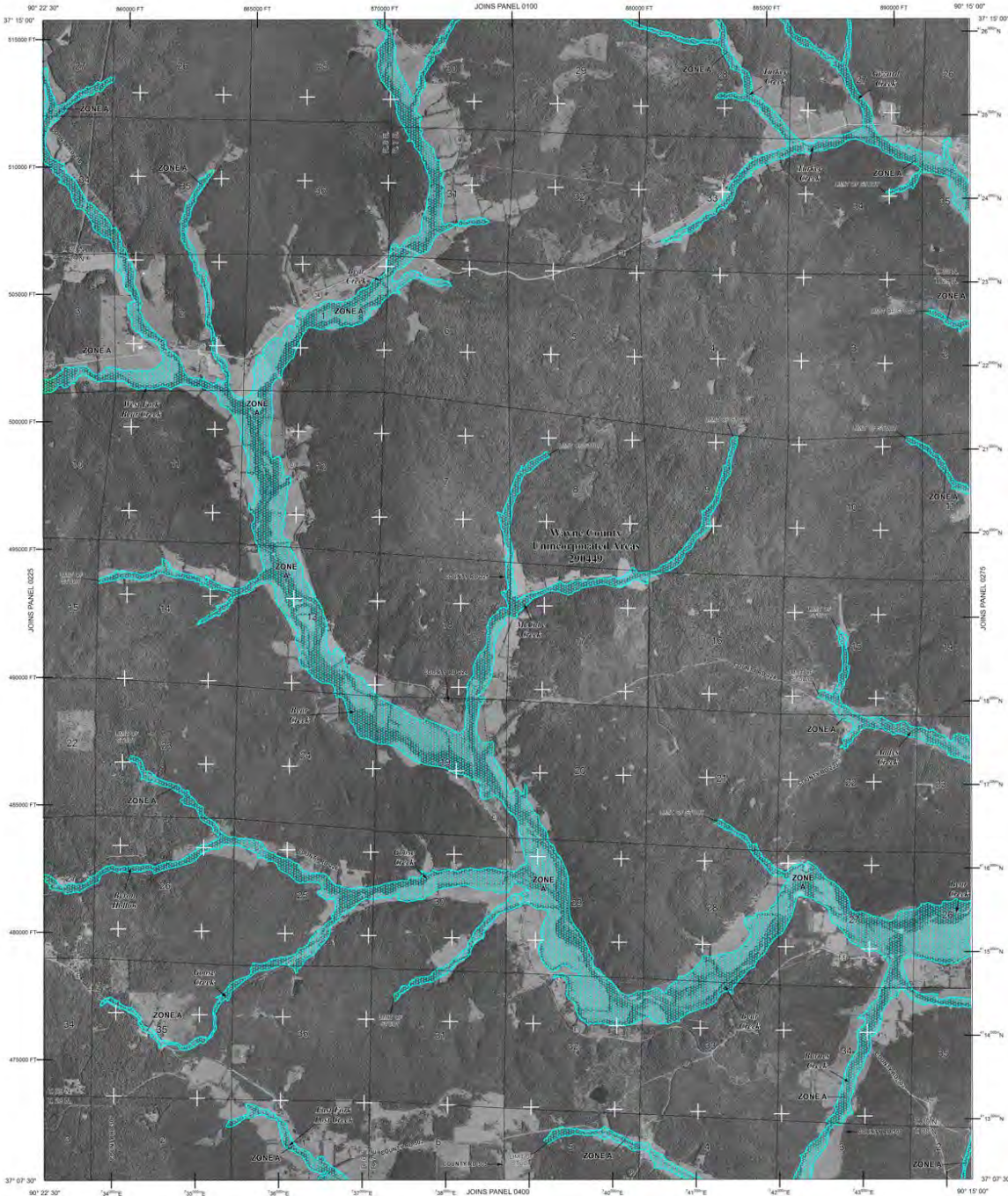
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/info>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); Average depths determined; Areas of altered flow flooding, structure also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that is subsequently identified; Zone AE indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; No Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); No Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 0.1% annual chance flood with average depths of less than 1 foot, or with damage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE X Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual chance flood boundary
- 0.2% Annual chance flood boundary
- Floodway boundary
- Zone V boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Ecclesiastical, Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Military Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet*
- Base Flood Elevation value where neither value, elevation in feet* nor referenced to the North American Vertical Datum of 1988
- Cross section line
- Transect line

- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000-foot grid cells; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile
- Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

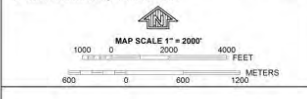
MAP REPOSITORY
 Refer to Issued Map Repository on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0250D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 250 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COORDINATES
 CORNERLET NUMBER PANEL SUFFIX
 WAYNE COUNTY 25048 0250 D

MAP NUMBER
 29223C0250D

EFFECTIVE DATE
 JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401). Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and/or elevation elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NIMS12
 National Geodetic Survey
 SSMC-3, #9202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:10,000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24,000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRMs for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unweaved streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

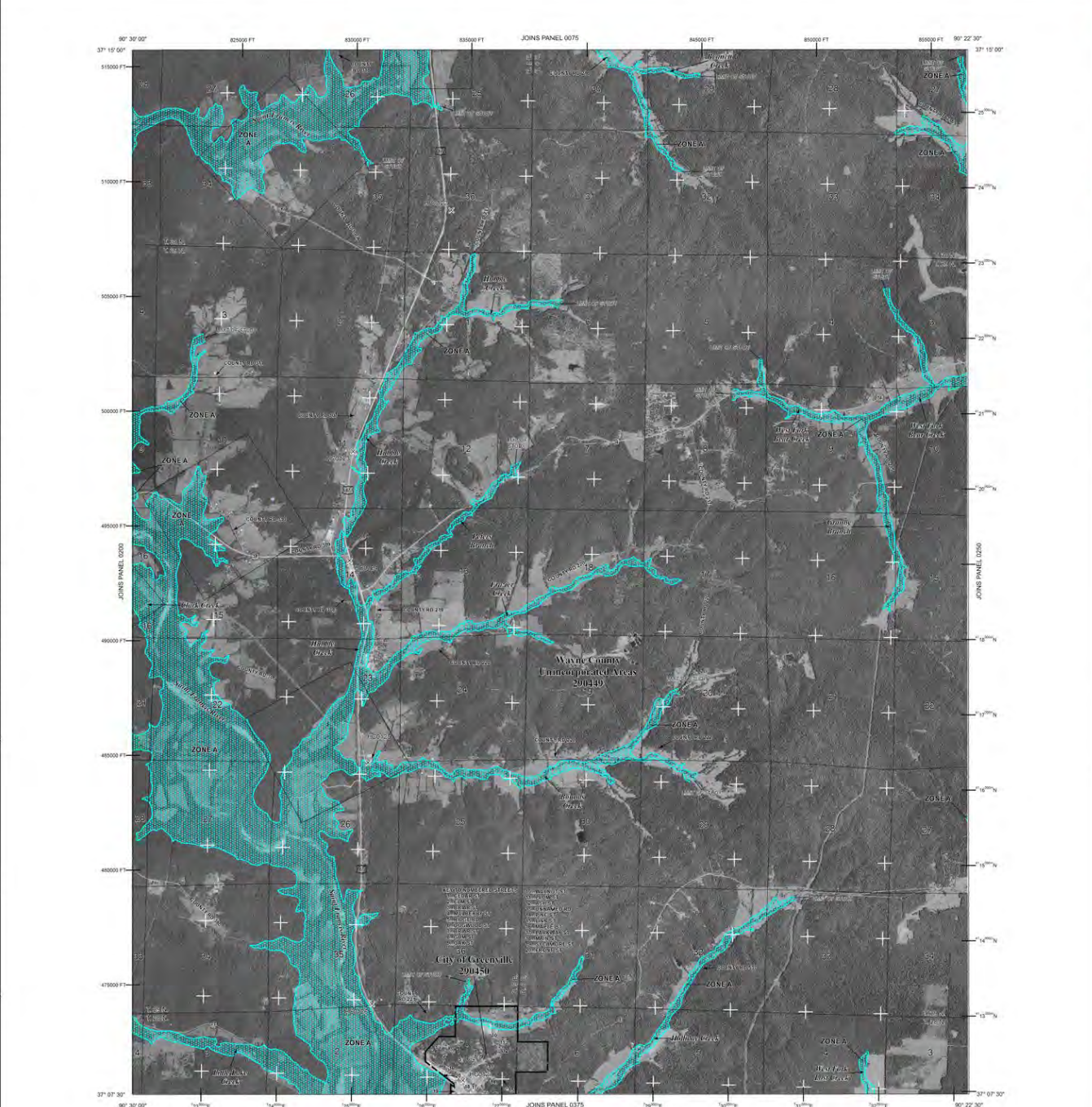
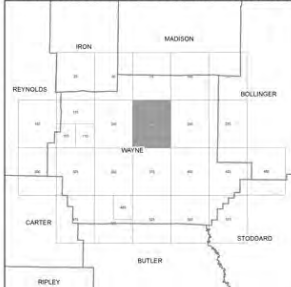
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Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fip>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- Zone A** The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding from the 1% annual chance flood.
- Zone AE** No Base Flood Elevations determined.
- Zone AH** Base Flood Elevations determined.
- Zone AO** Flood depths 1 to 3 feet (quality areas of ponding); Base Flood Elevations determined.
- Zone AR** Flood depths 1 to 3 feet (quality areas on sloping terrain); average depths determined; for areas of shallow flooding, velocities also determined.
- Zone AR99** Special Flood Hazard Areas provided from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- Zone AV** Area is protected from the annual chance flood by a Federal flood protection system under construction to Base Flood Elevations determined.
- Zone VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Zone X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from the 1% annual chance flood.

OTHER AREAS

Zone D Areas determined to be outside the 0.2% annual chance floodplain.

Zone U Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

CBRS AREAS AND CBRS AREAS are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and CBRS boundary
- International, State, or County boundary
- Corporate, Educational, Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Historical Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where under water zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83).

1000-meter Universal Transverse Mercator grid values, zone 18.

5000-foot and 1000-foot Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection.

Benchmark (see explanation in Notes to Users section of this FIRM panel).

Water Main

Abaque, Culvert, Pump, Penstock, or Storm Sewer

Road or Railroad Bridge

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-485-6847.

Scale: 1" = 2000'

1000 0 2000 4000 FEET

600 0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 225 OF 575 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY NUMBER PANEL SUFFIX

GREENVILLE CITY OF 28649 503 D

WAYNE COUNTY 28648 402 D

Notes to User: The Map Number shown herein should be used when placing map orders. The Community Number shown should be used in insurance applications for the subject community.

MAP NUMBER 29223C0225D

EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, CHRS90 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSMC-3, #6202
 1215 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the load to floodplain relationships for unweirred streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

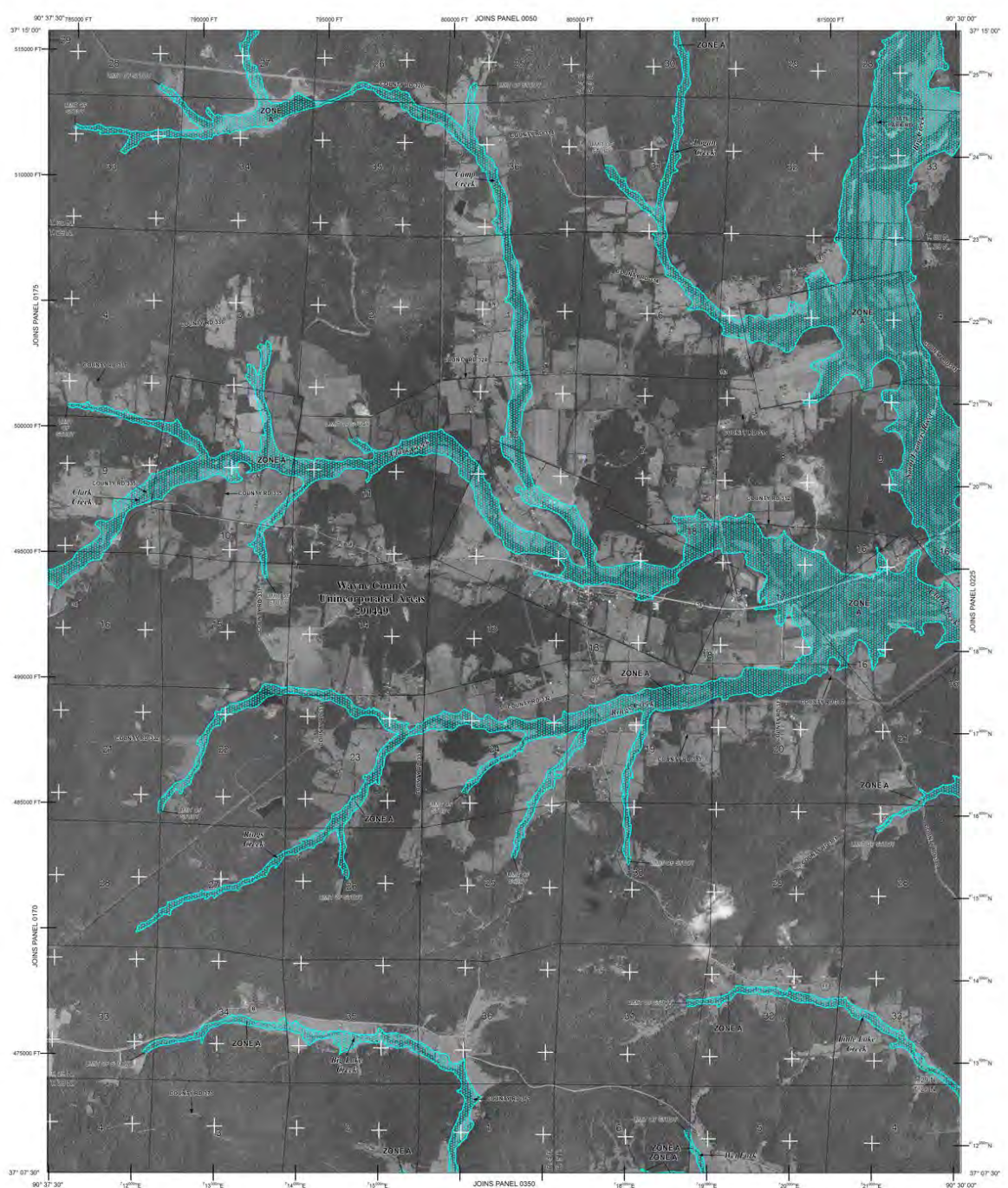
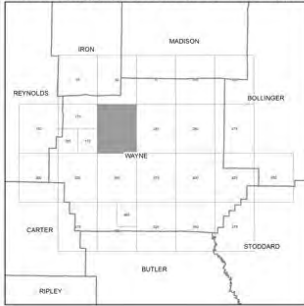
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the Map Service Center (MSC) website at <http://msc.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-6277) or visit the FEMA website at <http://www.fema.gov/businessinfo>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
 The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A:** No Base Flood Elevations determined.
- ZONE AE:** Base Flood Elevations determined. Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AH:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); Average depths determined for areas of usual flow flooding velocities also determined.
- ZONE AO:** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified; Zone AE indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AR:** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE AV:** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE:** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

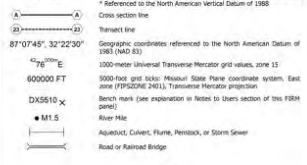
FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE K: Areas determined to be outside the 0.2% annual chance floodplain.
 Areas in which flood hazards are undetermined, but (CRS) AREAS

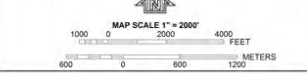
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary during Special Flood Hazard Areas of different Base Flood Elevations, Flood Depths, or Flood Velocities
- CBRS and OPA boundary
- International, State or County boundary
- Corporate, Ecclesiastical, Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Historical Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet*
- Base Flood Elevation value where elevation within elevation in feet*
- * Referenced to the North American Vertical Datum of 1988



MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index
 EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011
 EFFECTIVE DATES (IF REVISIONS) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6630.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0200D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 200 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COUNTY	COMMUNITY	NUMBER	PANEL	SUPER
WAYNE COUNTY		2000A	0200	D

Notes to User: The Map Number shown herein should be used when ordering map copies. The Community Number shown herein should be used on insurance applications for the subject community.

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAP NUMBER 29223C0200D
EFFECTIVE DATE JUNE 16, 2011

NOTES TO USERS

The map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NDA, NGS512
National Geodetic Survey
SSM-C-#6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:10,000, and by the U.S. Geological Survey, Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24,000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the need to floodplain relationships for unvisited streams may differ from what is shown on previous maps.

The **profile base lines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile base line in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

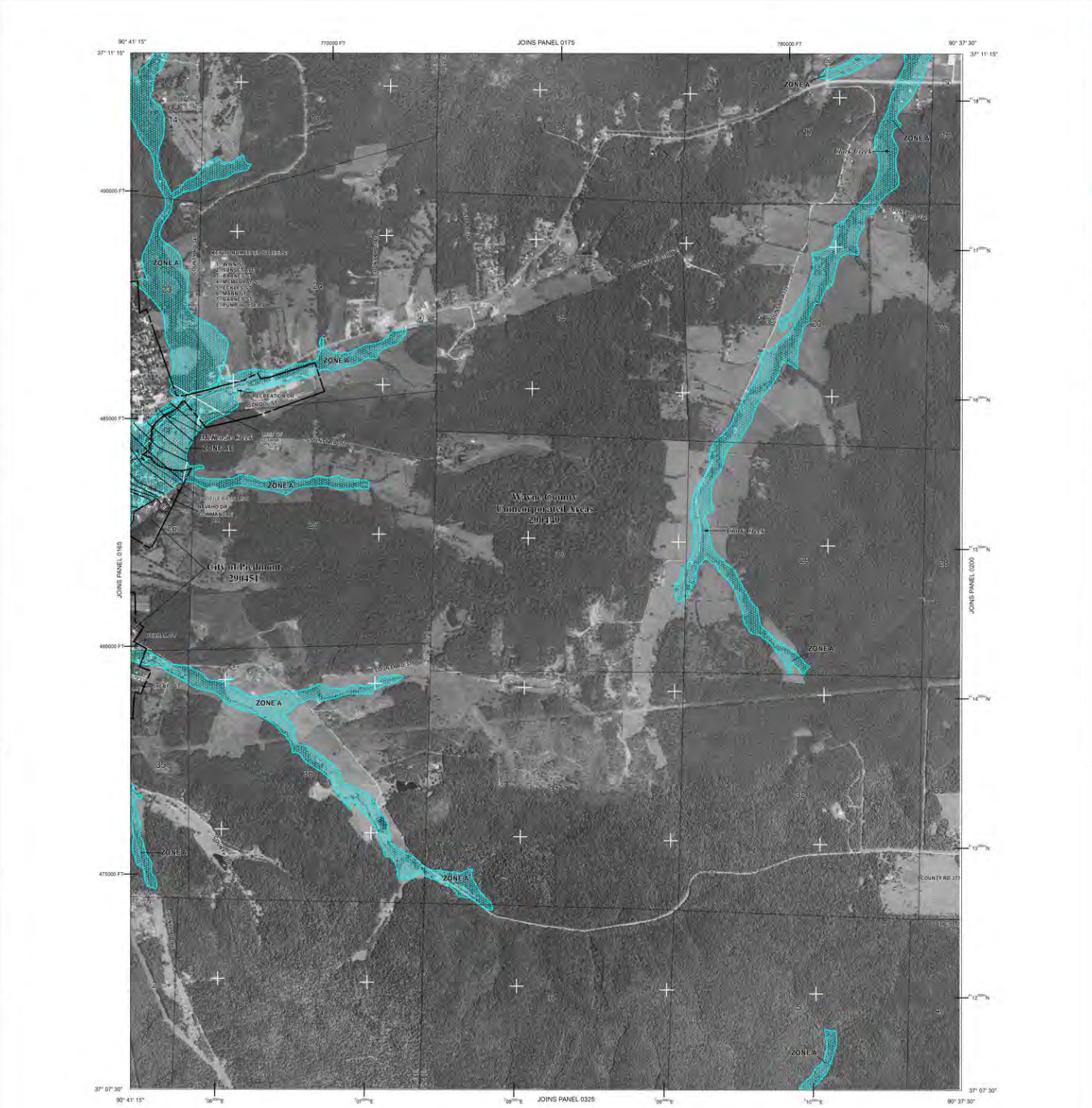
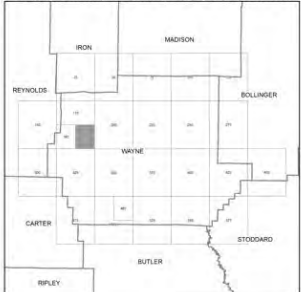
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For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://mfc.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fip/>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- ZONE A:** The 1% annual chance flood (100-year flood) plus areas that are the Base Flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AD, AR, ARH, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
 - ZONE AE:** No Base Flood Elevations determined. Base Flood Elevations determined.
 - ZONE AD:** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AR:** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. The areas of actual flow flooding, leveage depths determined, are areas of actual flow flooding, leveage depths determined.
 - ZONE ARH:** Special Flood Hazard Area boundary protected from the 1% annual chance flood by a flood control system that was substantially completed. Zone AE indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
 - ZONE V:** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
 - ZONE VE:** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X:** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot, or with drainage areas less than 1 square mile, and areas protected by levees from the 1% annual chance flood.
- OTHER AREAS**
- ZONE D:** Areas determined to be outside the 0.2% annual chance floodplain.
 - COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
 - OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
 - 0.2% annual chance floodplain boundary
 - Floodway boundary
 - Zone D boundary
 - Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
 - CBRS and OPA boundary
 - International, State, or County boundary
 - Corporate, Educational Jurisdiction, or Urban Growth boundary
 - Area Not Included boundary
 - Historical Reservation, Native American Lands boundary
 - Base Flood Elevation line and value; elevation in feet
 - Base Flood Elevation value when uniform within zone elevation in feet
 - Referenced to the North American Vertical Datum of 1988
- Other symbols include: Cross section line, Elevation, Geographic coordinates, 100-foot Universal Transverse Mercator grid values, Zone 15, 100-foot grid lines, Missouri State Plane coordinate system, East zone (FIPS ZONE 2401), Transverse Mercator projection, Bench mark (see explanation in Notes to Users section of this FIRM panel), Rise, Mile, Abutment, Culvert, Flume, Pier, or Storm Sewer, Road or Railroad Bridge.

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-453-5847.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0170D

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY,
MISSOURI
AND INCORPORATED AREAS

PANEL 170 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
PREMIERE CITY OF WAYNE COUNTY	29451	0170	D
WAYNE COUNTY	29449	0170	D

COORDINATES
EASTING: 29451
NORTHING: 0170

MAP NUMBER
29223C0170D

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

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To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic elevations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, west zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
 NOAA, NINGS12
 National Geodetic Survey
 SSC-3, 8220
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AO, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** Base Flood Elevation determined.
- ZONE AE** Base Flood Elevation determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevation determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually areas of ponding); average depths determined; the areas of shallow flooding; velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was substantially abandoned. Zone all indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; Base Flood Elevation determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain.
 Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Corporates, Extrajurisdictional, or Urban Growth boundary
- Area Not Excluded boundary
- Historical Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet (EL: 197)
- Addressed to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000-foot grid ticks; Missouri State Plane coordinate system, East Zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile
- Aqueduct, Canal, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY

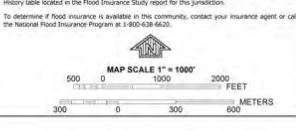
Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map history table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NFP

PANEL 0165D

FIRM

FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 165 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
RESIDENTIAL CITY OF WAYNE COUNTY	20441	0165	D
WAYNE COUNTY	20644	0165	D

Notes to User: The Map Number shown below should be used when filing this map. The Community Number shown above should be used on insurance applications to the output community.

MAP NUMBER
 29223C0165D

EFFECTIVE DATE
 JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible flood hazard information.

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NCS Information Services
NOAA, NNGS12
National Geodetic Survey
OSMC-3, #902
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12,000, and by the U.S. Geological Survey, Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24,000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel changes that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The **"profile base line"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or special outside the SFHA.

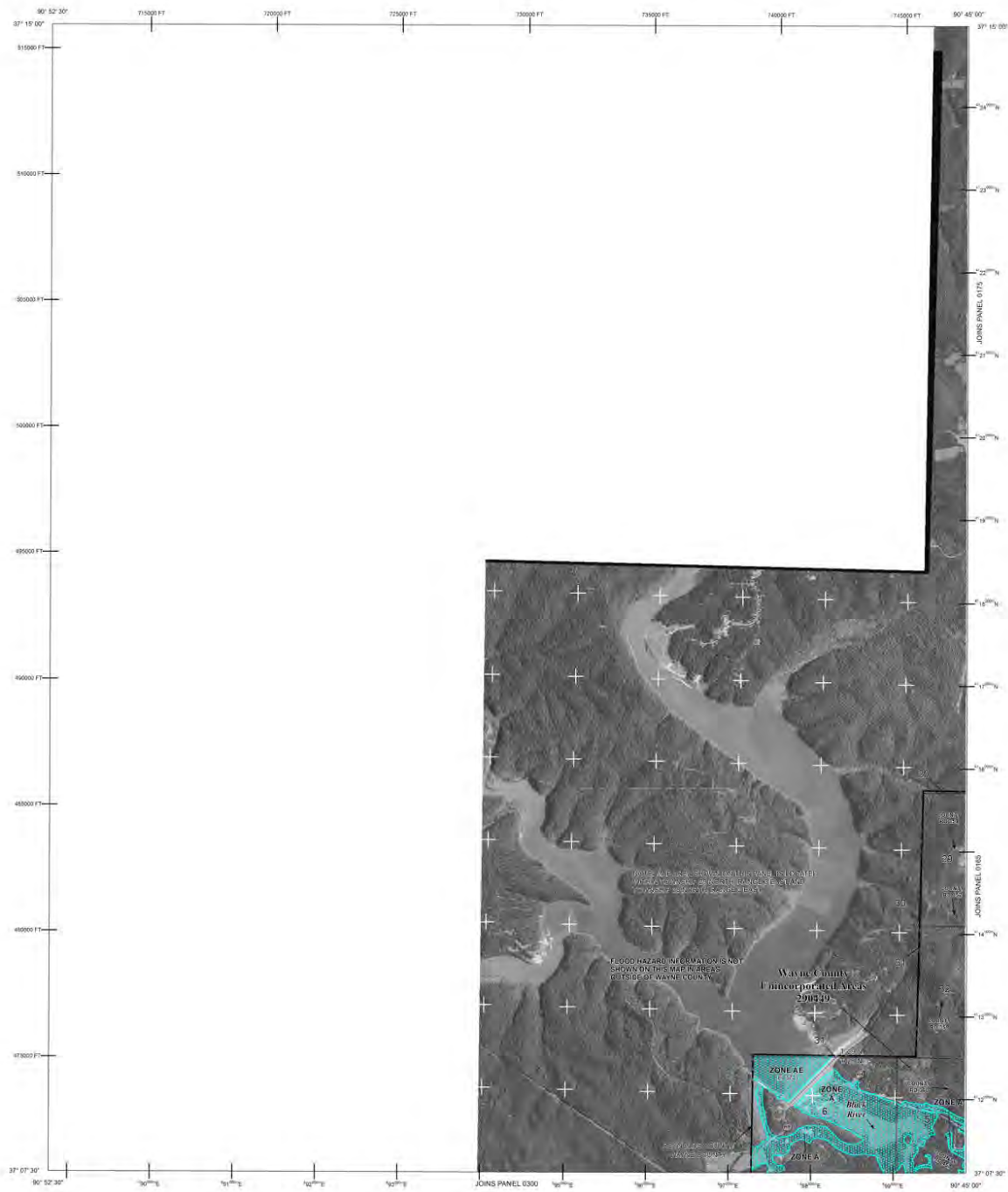
Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FIRM) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/firm>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area in the area subject to flooding by the 1% annual chance flood is the Special Flood Hazard Zone. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A**
No Base Flood Elevations determined.
- ZONE AE**
Base Flood Elevations determined.
- ZONE AH**
Flood depths of 1 to 3 feet (usually areas of ponds); Base Flood Elevation determined.
- ZONE AD**
Flood depths of 1 to 3 feet (usually sheet flow or sloping terrain); average depth determined; for areas of shallow flow flooding velocities also determined.
- ZONE AR**
Special Flood Hazard Area primarily protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE AV**
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction. No Base Flood Elevations determined.
- ZONE V**
Coastal flood zone with velocity hazard (wave action); No Base Flood Elevations determined.
- ZONE VE**
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway in the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
Areas determined to be outside the 0.2% annual chance floodplain; Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Coastline, Embankment, Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Historical Information, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet
- Elevation to the North American Vertical Datum of 1988
- Cross section line
- Transect line

- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values; zone 15
- 500-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPS/ZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in notes to users section of this FIRM)
- Blue line
- M1 S
- Abandoned, Current, Future, Periodic, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

If the community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-455-6622.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0150D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 150 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER: 20448
PANEL: 150
SUFFIX: D

MAP NUMBER 2923C0150D
EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accuracy, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSM-C3, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

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Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

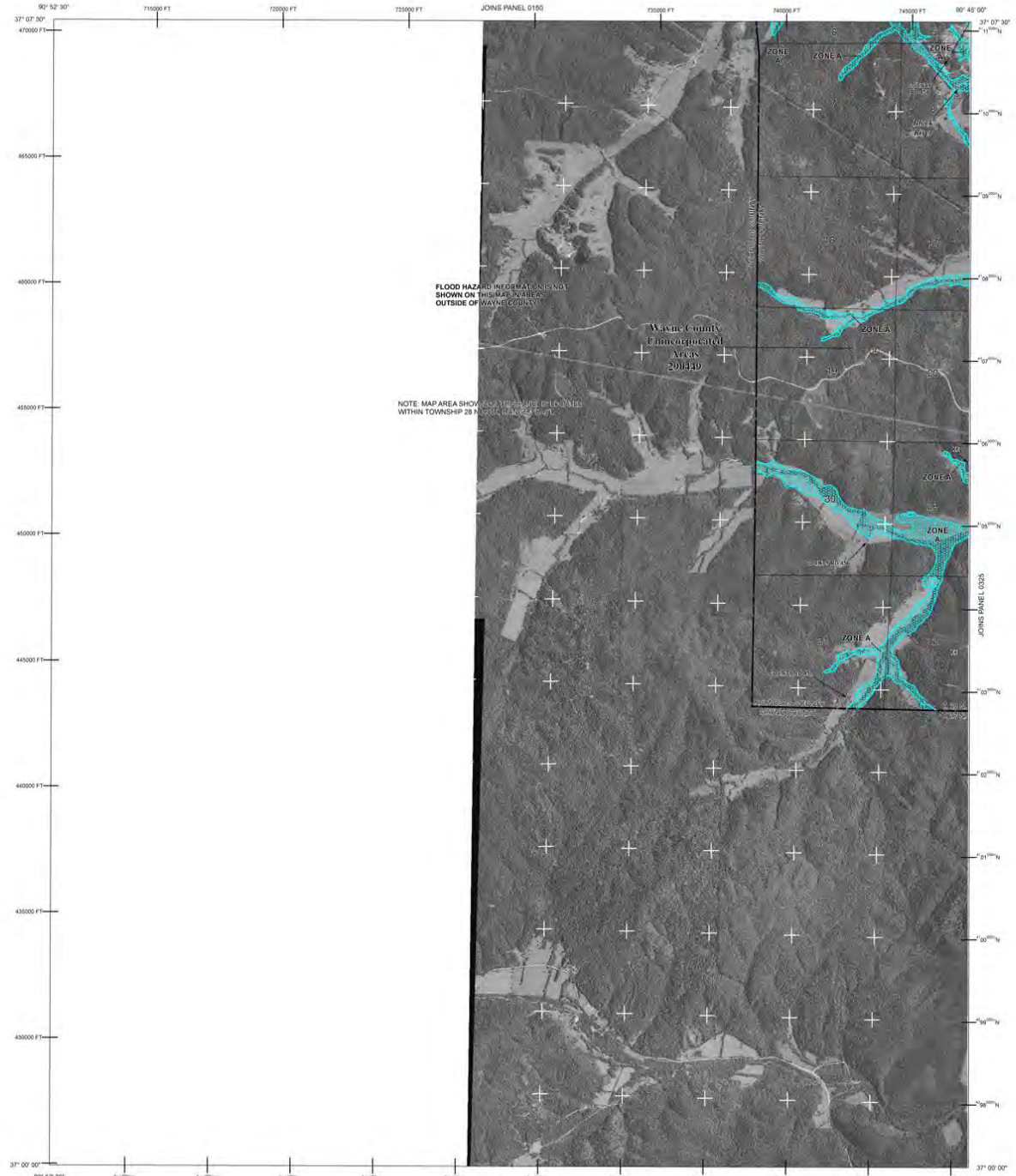
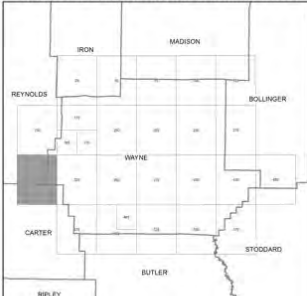
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- Zone A** The 1% annual chance flood (100-year flood) shown as the base flood. The flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to inundation by the 1% annual chance flood.
- Zone AH** No Base Flood Elevations determined.
- Zone A99** No Base Flood Elevations determined.
- Zone AR** Base Flood Elevations determined.
- Zone VE** Flood depths of 1 to 3 feet (locally areas of ponding); Base Flood Elevations determined.
- Zone V** Flood depths of 1 to 3 feet (locally where flow on rippling terrain); average depth determined. For areas of still water flooding, velocities also determined.
- Zone VE** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone VE indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- Zone A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- Zone V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- Zone VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE A

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

- OTHER FLOOD AREAS**
- Zone X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

- OTHER AREAS**
- Zone X** Areas determined to be outside the 0.2% annual chance floodplain.
- Zone D** Areas in which flood hazards are undetermined, but possible.

- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**

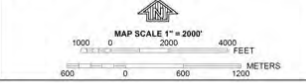
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary**
- 0.2% annual chance floodplain boundary**
- Floodway boundary**
- Zone D boundary**
- Boundary defining Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities**
- CBRS and OPA boundary**
- International, State, or County boundary**
- Corporate, Extrajurisdictional, or Urban Growth boundary**
- Area Not Included boundary**
- History Reservation, Native American Lands boundary**
- Base Flood Elevation line and value, elevation in feet**
- Base Flood Elevation value shown uniform within zone, elevation in feet**
- Referenced to the North American Vertical Datum of 1988**
- Cross section line**
- Transect line**

Geographic coordinates referenced to the North American Datum of 1983 (NAD83)
 1000-meter Universal Transverse Mercator grid values, zone 15
 600000 FT
 5000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
 Bench mark (see explanation in Notes to Users section of this FIRM) (BM)
 Iron Map
 M1.5
 Appurtenant, Culvert, Flume, Penstock, or Storm Sewer
 Road or Railroad Bridge

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0300D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 300 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY: WAYNE COUNTY
 NUMBER: 28046
 PANEL: 0300
 SUFFIX: D

MAP NUMBER 29223C0300D
EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

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To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS90 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSM-C-3, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the relationship to floodplains for unreviewed streams may differ from what is shown on previous maps.

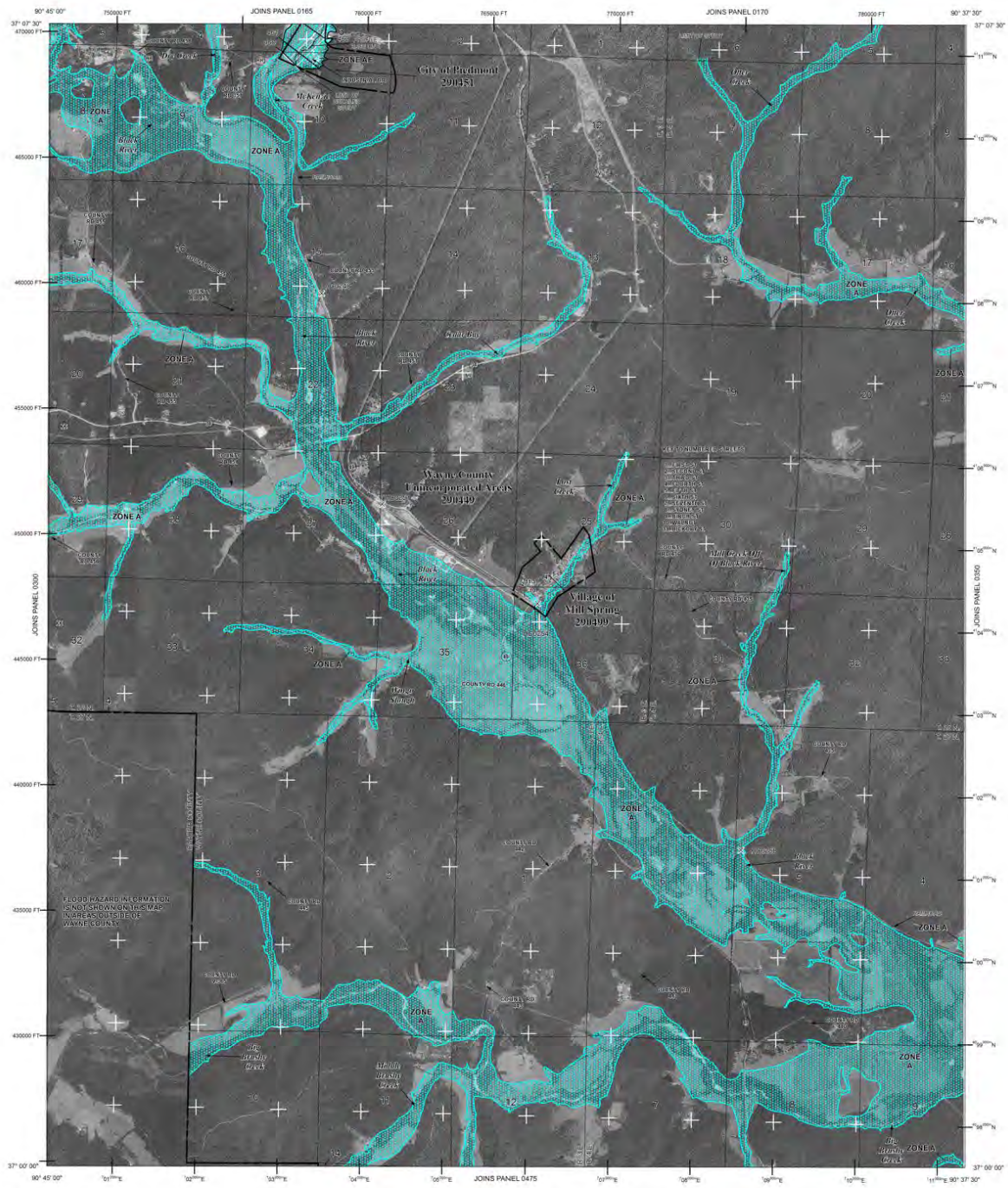
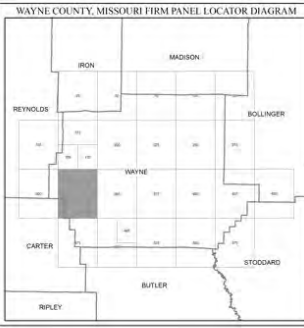
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LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- Zone A** The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- Zone AE** No Base Flood Elevation determined.
- Zone AH** Base Flood Elevation determined.
- Zone AO** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevation determined. The area of shallow flooding, velocities also determined.
- Zone AR** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. The area of shallow flooding, velocities also determined.
- Zone AV** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AV indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- Zone VE** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.
- Zone V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
- Zone VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.
- FLOODWAY AREAS IN ZONE AE**
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- Zone X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with damage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- Zone X** Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood heights are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone A boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
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- Area not included boundary
- Historic Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform within zone, elevation in feet
- Reference to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 1000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to users section of this FIRM panel)
- Over hill
- M1.5
- Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
Refer to Listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in your community, contact your insurance agent or call the National Flood Insurance Program at 1-800-336-6633.

MAP SCALE 1" = 2000'

0 1000 2000 4000 FEET

0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0325D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 325 OF 575
SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	29640	0325	D
WAYNE COUNTY	29641	0325	D
WAYNE COUNTY	29642	0325	D

Notes to User: The Map Number shown above should be used when ordering map copies. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 29223C0325D

EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

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NGS Information Services
 NOAA, NINGS12
 National Geodetic Survey
 SSMC-3, #8202
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

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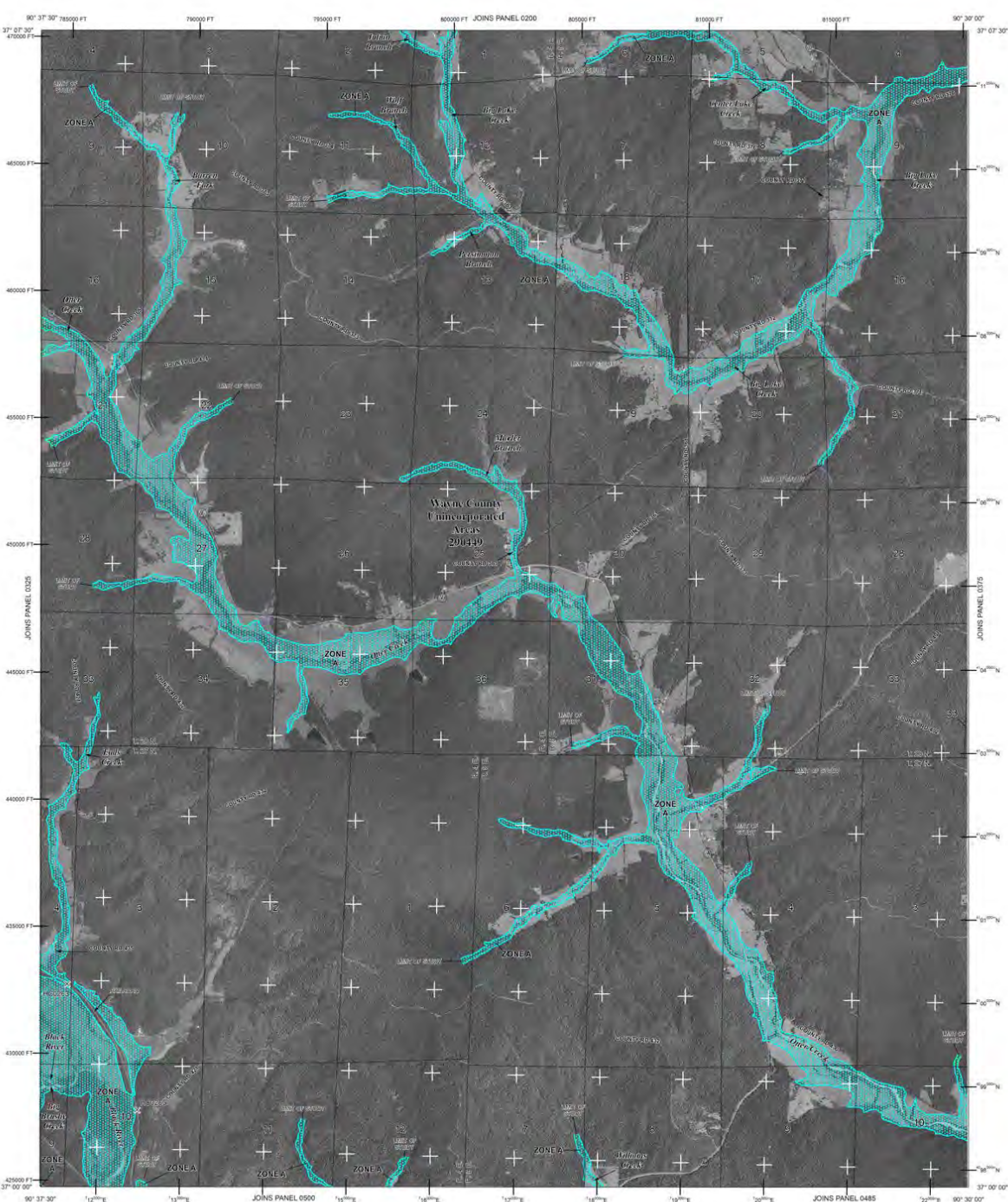
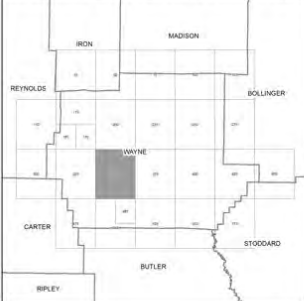
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For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information Exchange (FMX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fip>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
 The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AD, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** Base Flood Elevation determined.
- ZONE AE** Base Flood Elevation determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevation determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually short flow on rising terrain); average depths determined; for areas of about the flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone AH indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot and with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

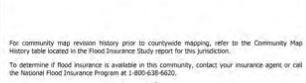
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extra-jurisdictional, or Urban Growth boundary
- Area Not Included boundary
- History Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet
- Base Flood Elevation value where uniform with note: elevation in feet
- Elevation to the North American Vertical Datum of 1988
- Cross section line
- Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
 3000-meter Universal Transverse Mercator grid values, Zone 18
 3000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPS ZONE 2401), Transverse Mercator projection
 Bench marks (see explanation in Notes to Users section of this FIRM panel)

MTS River Mile
 Aqueduct, Culvert, Flume, Weir, or Storm Sewer
 Road or Railroad Bridge

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0350D
FIRM FLOOD INSURANCE RATE MAP
WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS
PANEL 350 OF 675
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)
 CONTAINS: COMMUNITY NUMBER PANEL SUPERF
 WAYNE COUNTY 200449 0350 D

Notes to User: The Map Number shown below should be used when placing this order. The Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER 2923C0350D
EFFECTIVE DATE JUNE 16, 2011

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSMC-3 #9202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

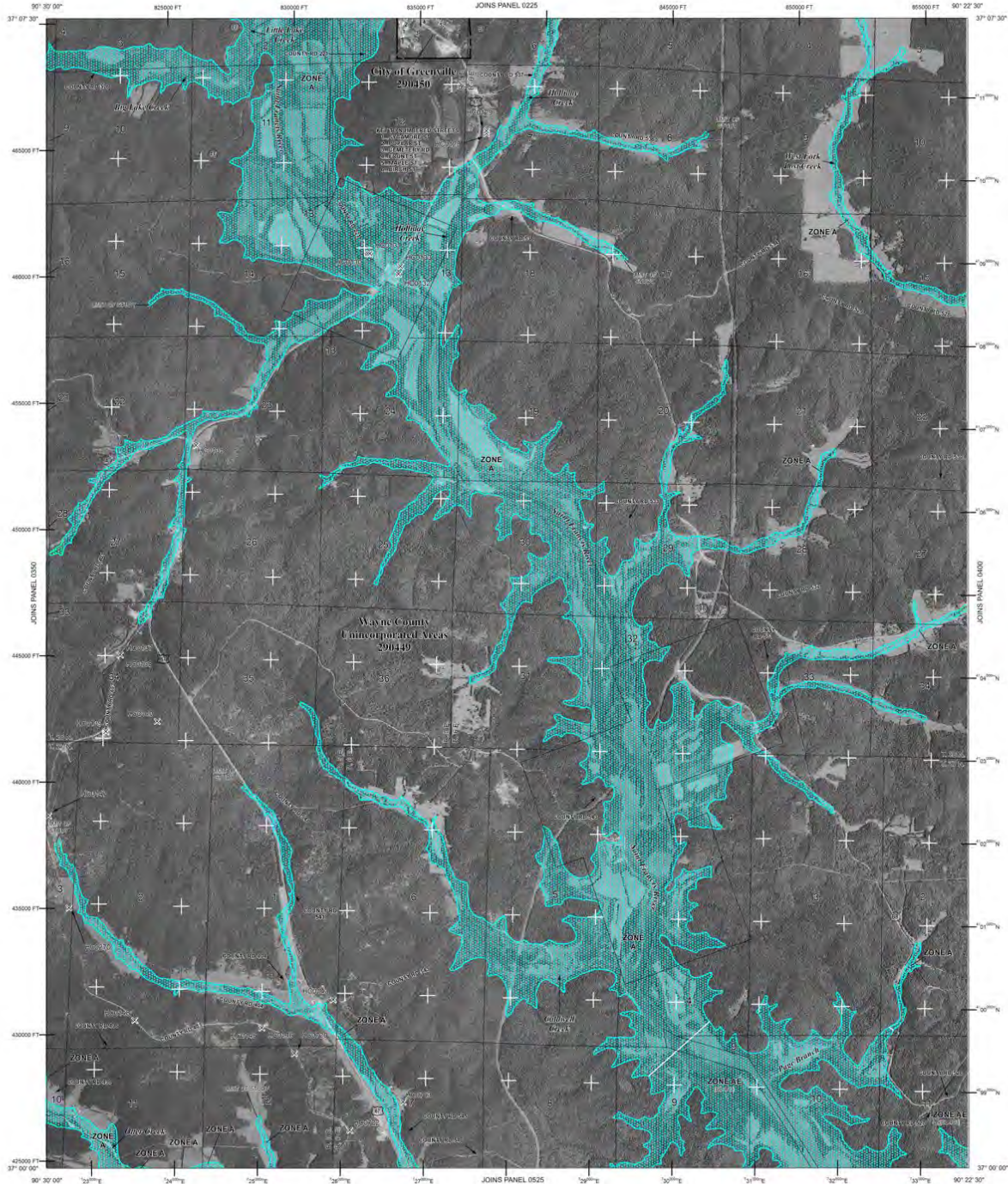
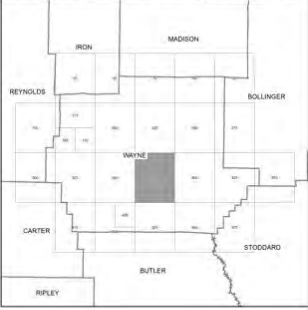
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** 1% Base Flood Elevation determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; areas of sheet flow flooding; velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone AH indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. 1% annual chance floodplain boundary. 0.2% annual chance floodplain boundary. Floodway boundary. Zone D boundary.

Boundary shading Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

CBRS and OPA boundary. Dispersional, State, or County boundary. Corporate, Extrajurisdictional, or Urban Growth boundary. Area not included boundary. History Reservation, Native American Lands boundary. Base Flood Elevation line and value; elevation in feet (EL 987).

Base Flood Elevation value where uniform within zone; elevation in feet. *referenced to the North American Vertical Datum of 1988. Cross section line. Transect line.

Geographic coordinates referenced to the North American Datum of 1983 (NAD83). 1000-meter Universal Transverse Mercator grid values, zone 15. 5000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection.

Bench mark (see explanation in Notes to Users section of this FIRM panel). M 1.5. Aseptic, Culvert, Flume, or Storm Sewer. Road or Railroad Bridge.

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.
 EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: JUNE 16, 2011
 EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

For community map revision history prior to countywide mapping, refer to the Community Map History table included in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6633.

MAP SCALE 1" = 2000'
 1000 0 2000 4000 FEET
 600 0 600 1200 METERS

NFIP **PANEL 0375D**

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 375 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
 COMMUNITY NUMBER PANEL SUFFIX
 GREENFIELD CITY OF 29048 3075 D

MAP NUMBER 29223C0375D
EFFECTIVE DATE JUNE 16, 2011

NATIONAL FLOOD INSURANCE PROGRAM

FEDERAL EMERGENCY MANAGEMENT AGENCY

NOTES TO USERS

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To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NGS12
National Geodetic Survey
SSM-C, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel delineations that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

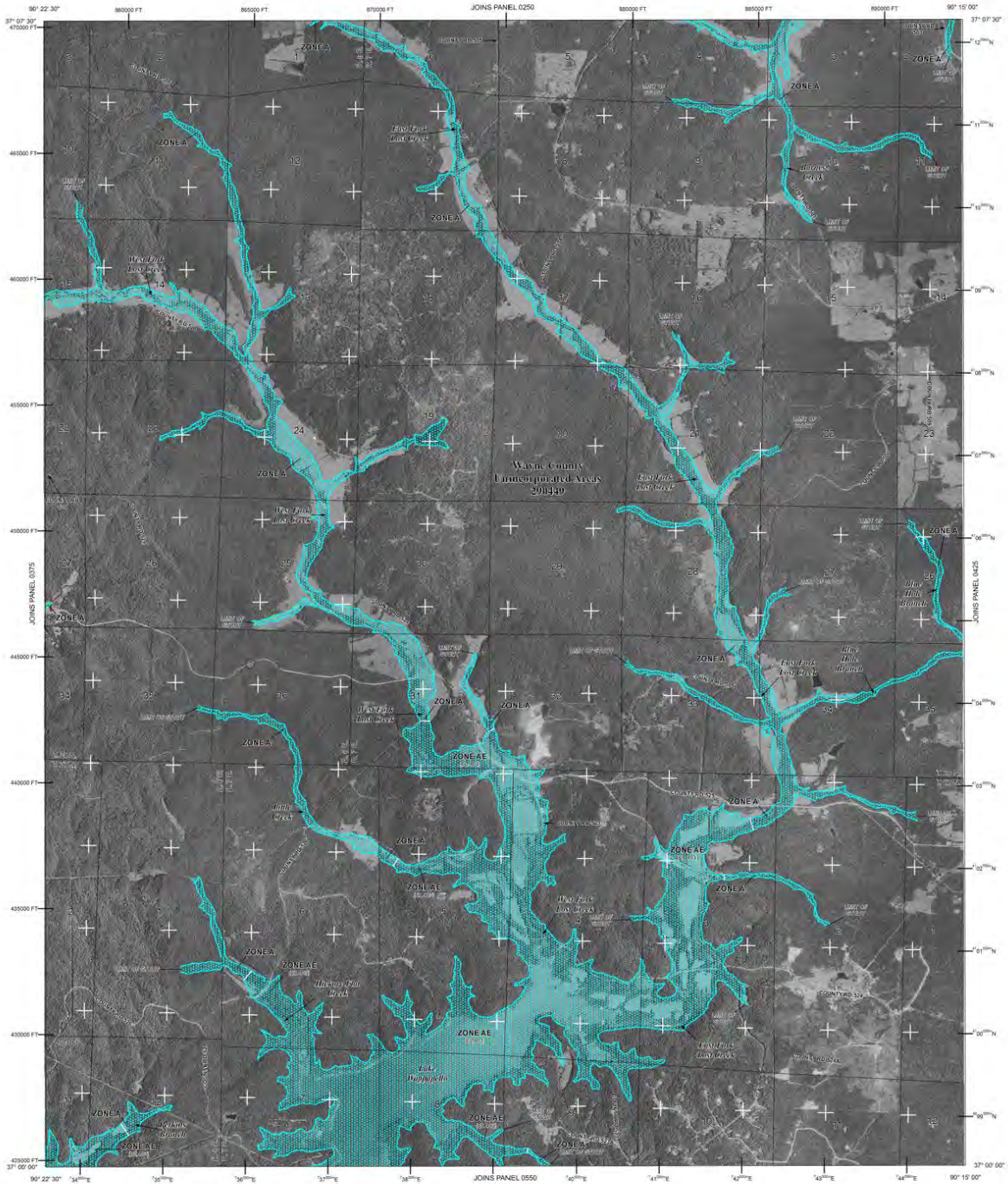
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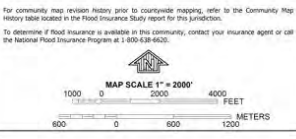
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
- ZONE A: No Base Flood Elevations determined; Base Flood Elevations determined.
- ZONE AE: Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. The area of sheet flow flooding, where also determined.
- ZONE AR: Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE ARN: Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V: Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE: Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS
- ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS
- Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are unassessed, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPAs)
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional, or Urban Growth Boundary
- Area Not Included boundary
- Major Reservation, Native American Lands boundary
- Base Flood Elevation line and value, elevation in feet*
- Base Flood Elevation value where surface water elevation in feet*
- * Referenced to the North American Vertical Datum of 1988.
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 1000-foot grid scale: Missouri State Plane coordinate system, East zone (FPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIRM report)
- Spot Elevation
- Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge
- MAP REPOSITORY
- Refer to listing on Map Repository on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
- JUNE 16, 2011
- EFFECTIVE DATES OF REVISIONS TO THIS PANEL



NFIP PANEL 0400D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 400 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
WAYNE COUNTY 29223C0400D

MAP NUMBER 29223C0400D
EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

Notes to User: The Map Number shown below should be used when changing map numbers. The Community Number shown above should be placed on insurance applications for the subject community.



NOTES TO USERS

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To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data** and/or **Summary of Subleveled Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
 NOAA/NUNES/12
 National Geodetic Survey
 SSMC-3, #5202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations** and **floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

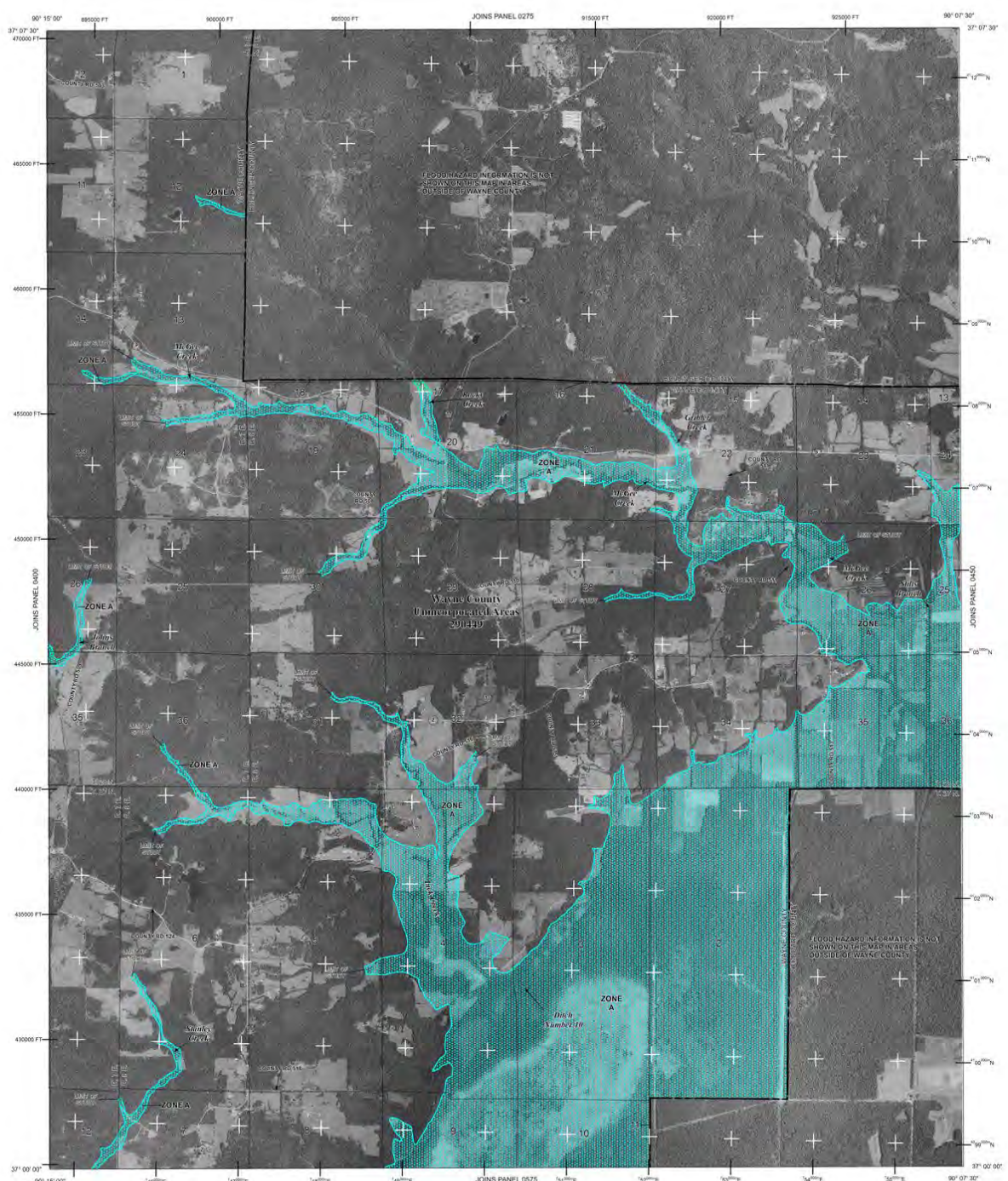
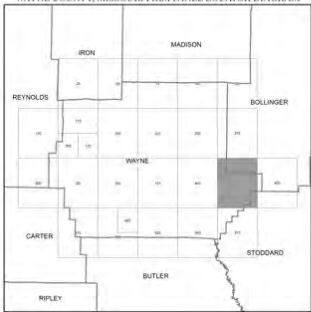
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WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- Zone A:** No Base Flood Elevations determined.
- Zone AE:** Base Flood Elevations determined.
- Zone AH:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined for areas of shallow flooding; velocities also determined.
- Zone AR:** Special Flood Hazard Area is known protection from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- Zone AN:** Area to be protected from the 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- Zone V:** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- Zone VE:** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment to that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Zone X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot, or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

Zone A: Areas determined to be outside the 0.2% annual chance floodplain areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

Otherwise Protected Areas (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone A boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- Interstate, State, or County boundary
- Corporate, Extrajurisdictional, or Urban Growth boundary
- Area Not Insured boundary
- Historic Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where unknown within zone; elevation in feet*
- 311 (feet)
- Referenced to the North American Vertical Datum of 1988
- Cross section line
- Traverse line
- Geographic coordinate referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values; zone 15
- 3000-foot grid ticks; Missouri State Plane coordinate system; East zone (FIPS ZONE 2401), Transverse Mercator projection
- DX5510 x Flood Mile
- M 1.5 Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY

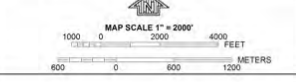
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-368-6626.



NFIP **PANEL 0425D**

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 425 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	28649	0425	D

Notes to User: The Map Number shown above should be used when filing map orders. The Community Number shown above should be used in insurance applications for the subject community.

MAP NUMBER
 29223C0425D

EFFECTIVE DATE
 JUNE 16, 2011

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Foodways** have been determined, users are encouraged to consult the **Flood Profiles and Foodway Data and/or Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **Foodways** were computed at cross sections and interpolated between cross sections. The foodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Foodway widths and other pertinent foodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **Flood Control Structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS/ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSMC-3, #6202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12500, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Foodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

The **profile base lines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile base line in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

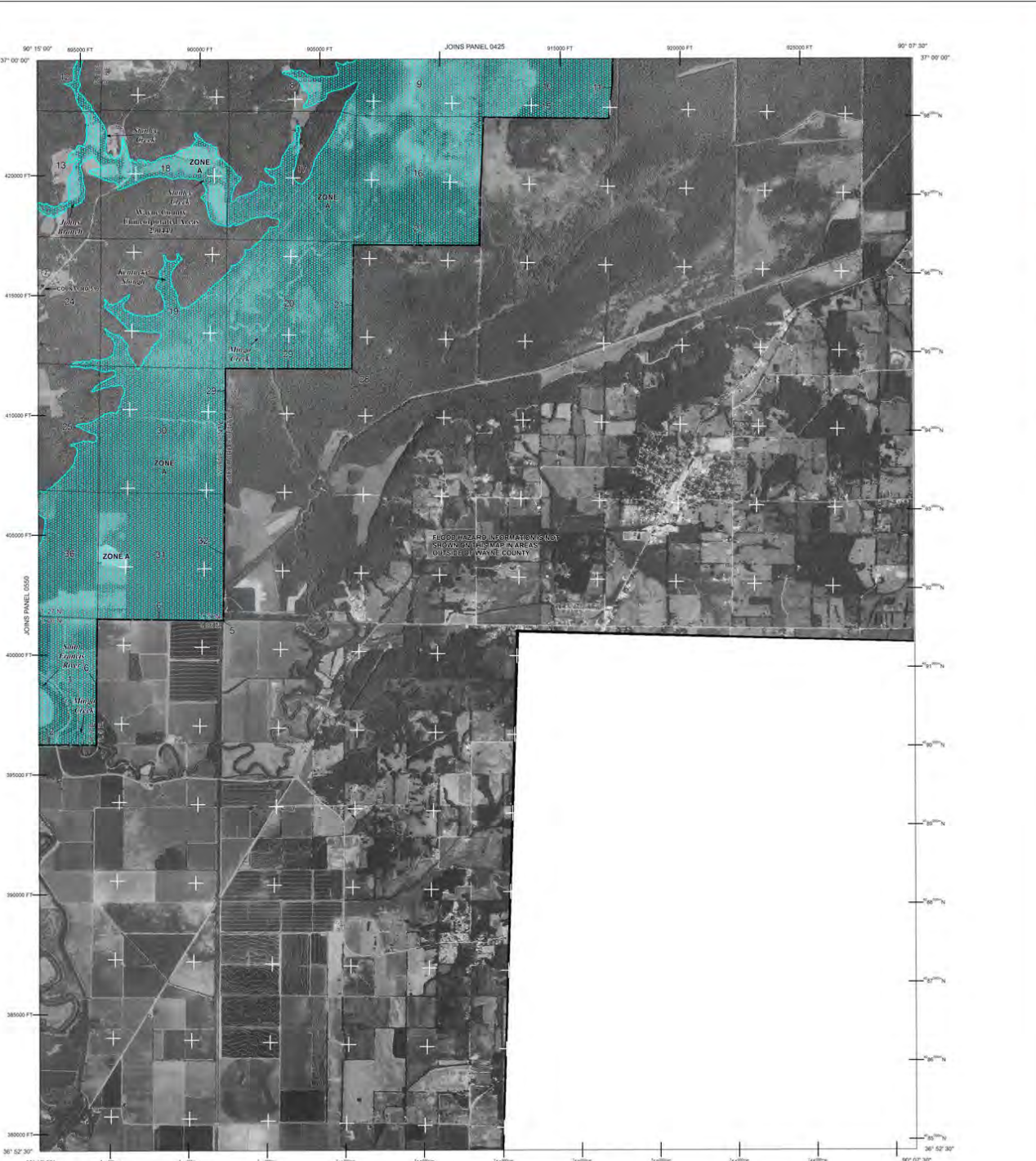
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions** about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information Exchange (FMIEX) at 1-877-FEMA-MAP (1-877-338-2627) or visit the FEMA website at <http://www.fema.gov/businessinfo>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
 The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AG, AR, ARF, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AG** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; for areas with flat flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE ARF** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood height.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot with drainage areas less than 3 square miles; and areas protected to a level from 1% annual chance flood.

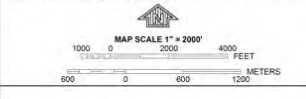
OTHER AREAS
ZONE D Areas determined to be outside the 0.2% annual chance floodplain; Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
 CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Incorporation, Jurisdiction, or Urban Growth boundary
- Area Not Includer boundary
- History Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet
- Reference to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 2000-meter Universal Transverse Mercator grid values, zone 15
- 600000 FT
- 5000-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPS/ZONE 2401), Transverse Mercator projection
- Bench mark (see elevation in Notes to Users section of this FIRM panel)
- River Mile
- Apogee, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history, prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0575D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 575 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	0000	0575D	1

Notice to User: The Map Number shown below should be used when identifying map sheets. The Community Number shown above should be used on request applications for the subject community.

MAP NUMBER 2923C0575D
EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodway Data have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevation data contained within the Flood Insurance Study (FIS) report that accompanies this FIRI. Users should be aware that BFEs shown on the FIRI represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRI for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401). Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRI for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRI.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversions between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NDS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSCM-3, #0202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRI for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unimproved streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

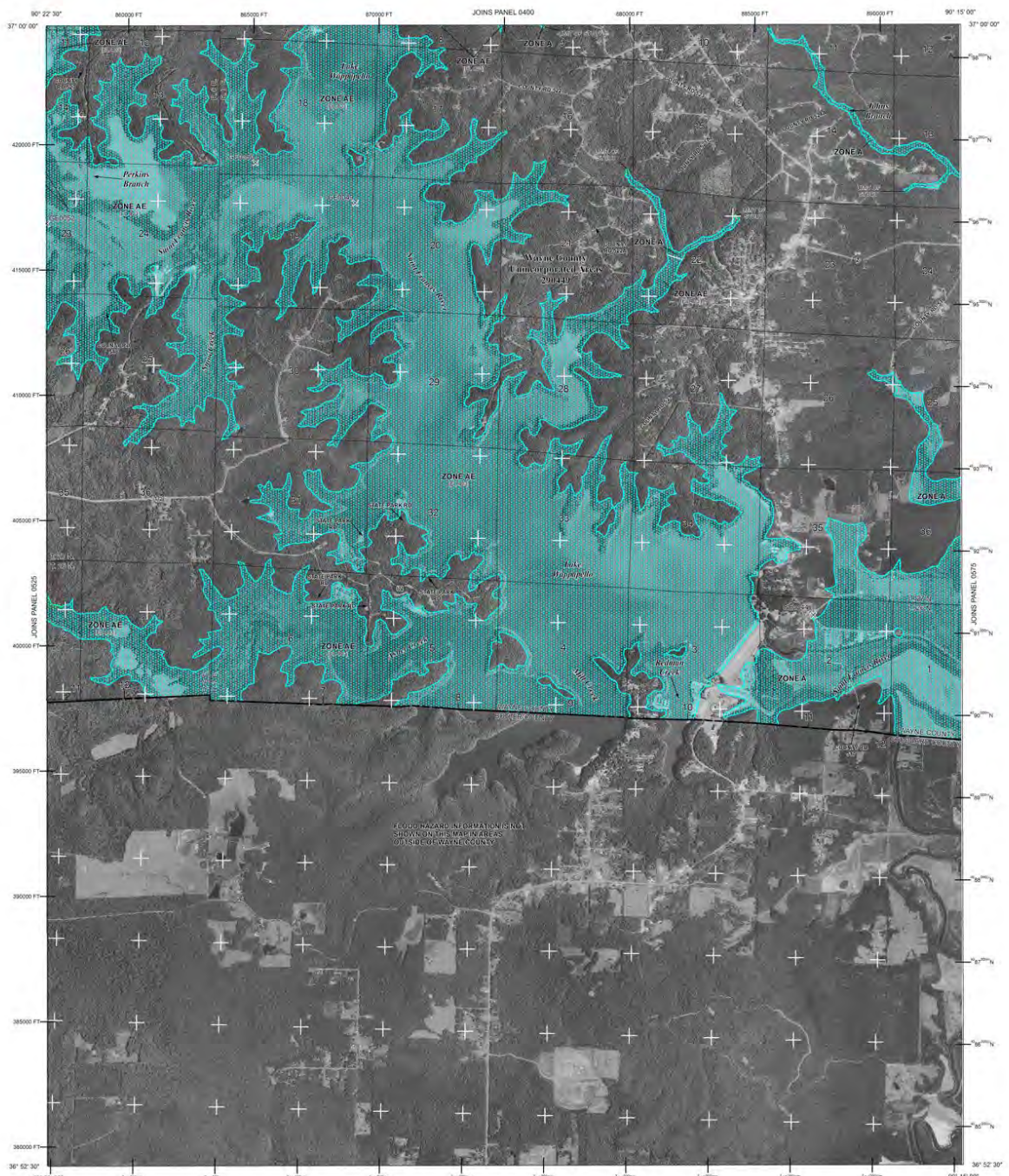
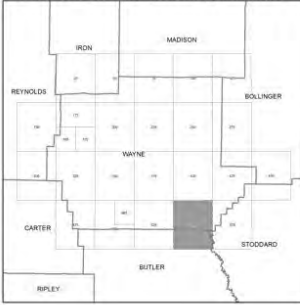
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WAYNE COUNTY, MISSOURI FIRI PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
 The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AR, AV, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined; Base Flood Elevations determined.
- ZONE AE** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); average depths determined. For areas of shallow flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone all indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal Flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal Flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
 The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
Zone D Areas in which flood heights are undetermined, but possible.

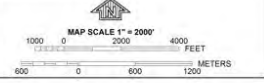
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- Inter-jurisdictional, State or County boundary
- Corporate, Extrajurisdictional Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Military Reservation, Native American Lands boundary
- Base Flood Elevation (the actual elevation in feet)
- Base Flood Elevation (the actual elevation in feet; elevation in feet)
- Section line to the North American Vertical Datum of 1988
- Cross section line
- Transect line

- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 500-foot grid ticks; Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of the FIRI panel)
- M15
- Four Mile
- Adapted, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

Refer to MAP OF MAP REVISIONS on Map Index.
 EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: JUNE 16, 2011
 EFFECTIVE DATES OF REVISIONS TO THIS PANEL:

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6650.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0550D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 550 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	DATE	SUFFIX
WAYNE COUNTY	29449	0550	D

Map Scale: 1" = 2000'

MAP NUMBER: 29223C0550D

EFFECTIVE DATE: JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
 NOAA, NGS12
 National Geodetic Survey
 SSMC-3 #2000
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distance that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

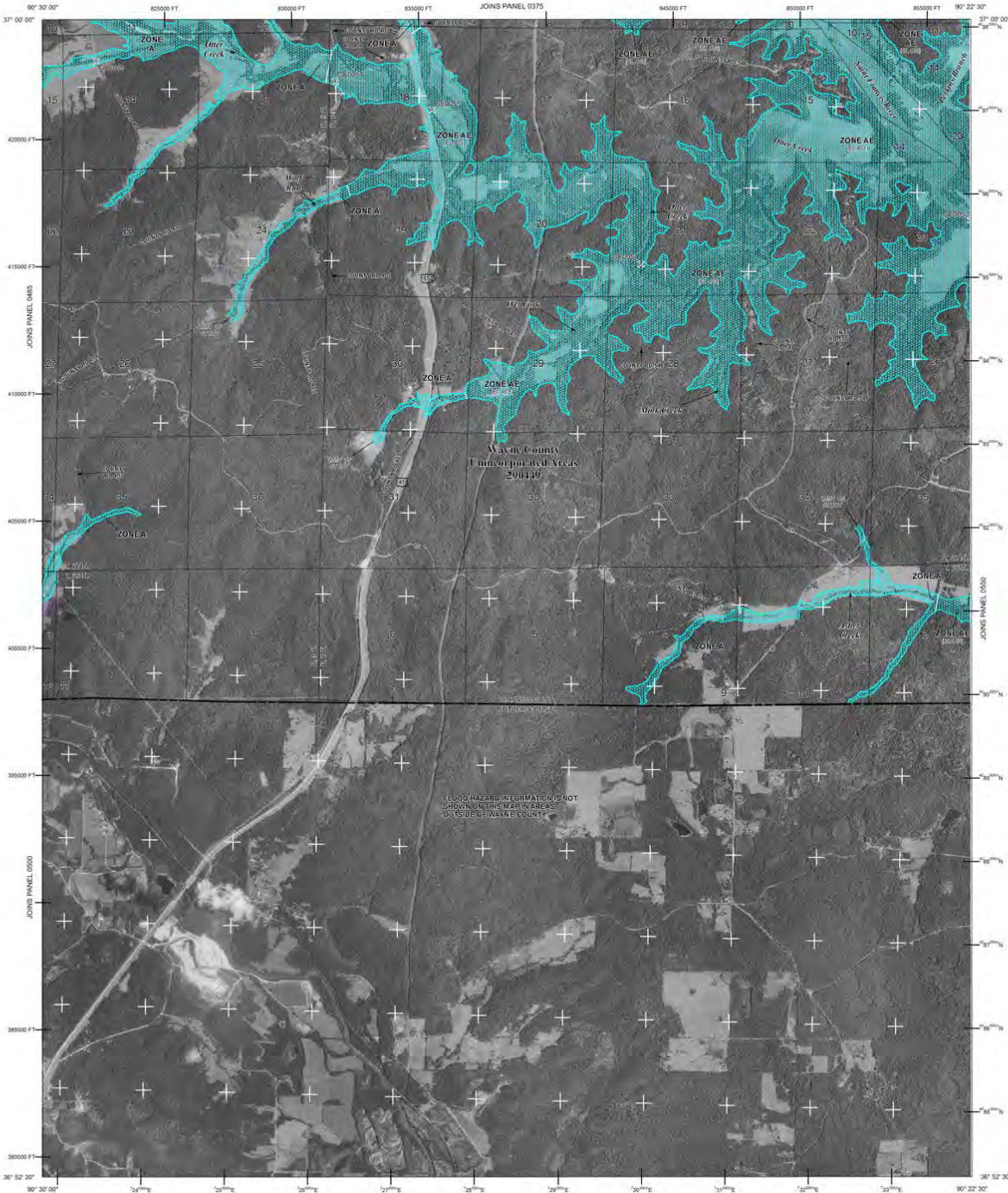
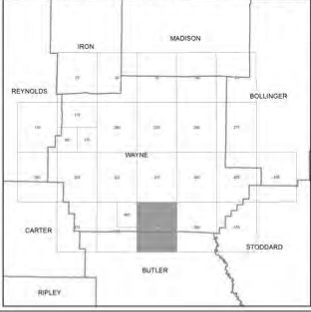
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Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program details for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the Map Service Center (MSC) website at <http://mfc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fip>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AR, VE, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** - Base Flood Elevations determined.
- ZONE AH** - Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** - Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain; average depth determined); for areas of sheet flow flooding, depths also determined.
- ZONE AR** - Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE ARP** - Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** - Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** - Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

- FLOODWAY AREAS IN ZONE AE** - The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS** - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or such drainage areas less than 1 square mile, and areas protected by areas from 1% annual chance flood.

- OTHER AREAS** - Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS** - CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- History Reservation, Native American Lands boundary
- Base Flood Elevation line and value (elevation in feet)
- Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988
- Cross section line
- Transect line

- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 5000-foot grid (NAD 83); Missouri State Plane coordinate system, East zone (FIPSZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of this FIS) (BM)
- River Mile
- Aguebunt, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

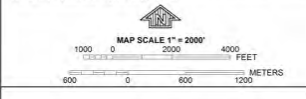
MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6632.



NFP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0525D

FIRM FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 525 OF 575
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
WAYNE COUNTY	0525D	525D	D

Notes to User: The Map Number shown below should be used when ordering products from the Map Service Center. The Map Number shown below should be used on insurance applications for the subject community.

MAP NUMBER 29223C0525D

EFFECTIVE DATE JUNE 16, 2011

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Missouri State Plane coordinate system, east zone (IPRSZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geospatial Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at <http://www.ngs.noaa.gov> or contact the National Geospatial Survey at the following address:

NGS Information Services
NOAA, NGS12
National Geospatial Survey
SSMVC 2 #0202
1315 East-West Highway
Silver Spring, Maryland 20910-3262
(301) 713-3342

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3342, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12,000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24,000.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unretained streams may differ from what is shown on previous maps.

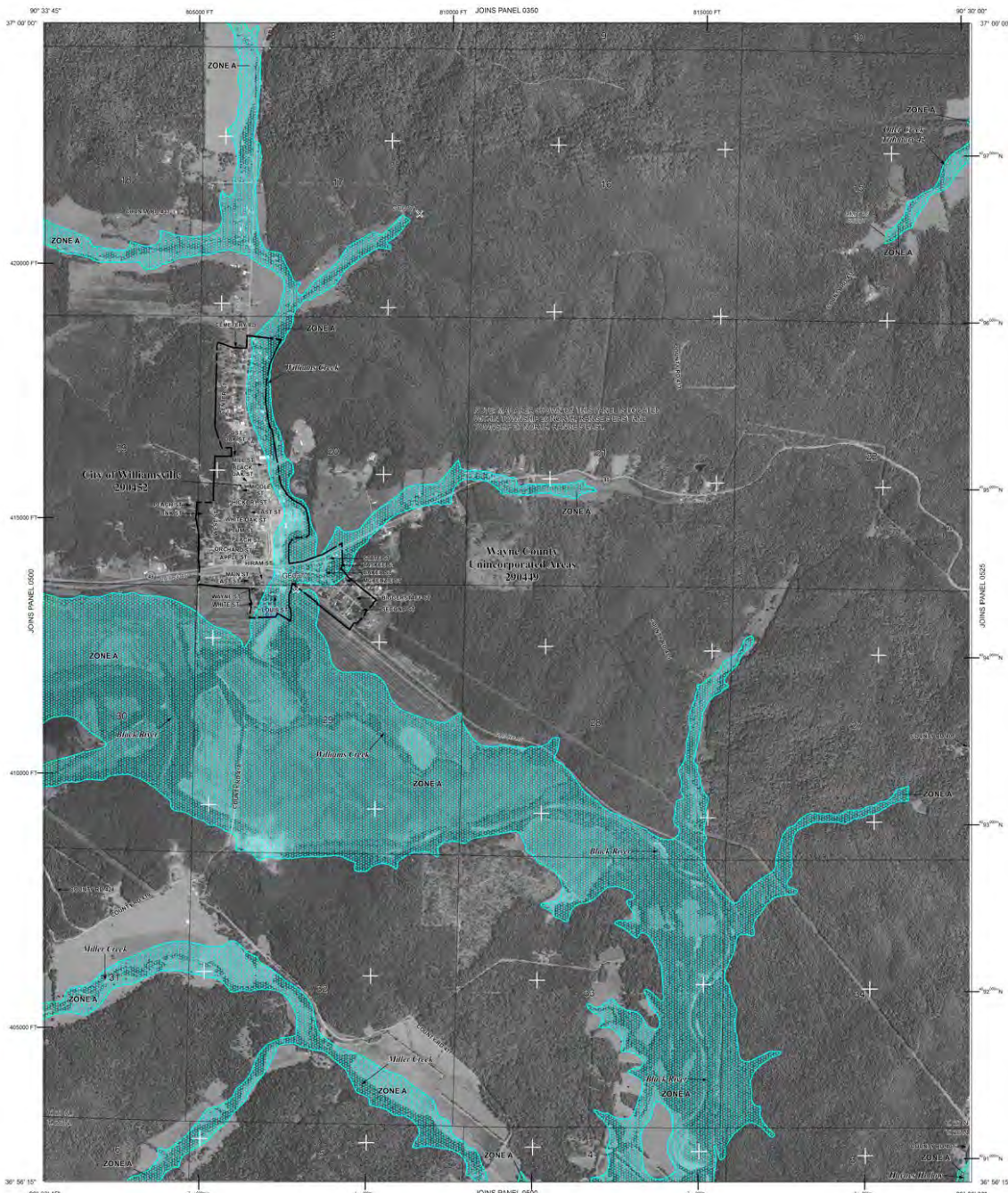
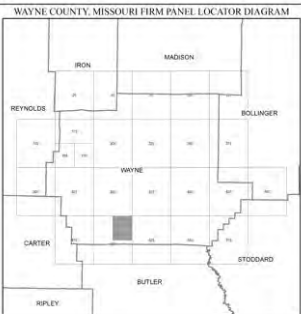
The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the Map Service Center (MSC) website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-6627) or visit the FEMA website at <http://www.fema.gov/business/mfp>.



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- ZONE A** 1% Base Flood Elevations determined.
- ZONE AH** Base Flood Elevations determined. Flood depths of 1 to 3 feet (locality areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (locality sheet flow on sloping terrain); average depths determined; for areas of shallow flow floodway, structure also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified; Zone A all indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- COASTAL FLOOD ZONE WITH VELOCITY HAZARD (wave action);** Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE A**
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot and with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE B** Areas determined to be suitable for the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are minimal, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS walls and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary of Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County Boundary
- Corporate, Incorporational Jurisdiction, or Urban Growth Boundary
- Area Not Included boundary
- Military Reservation, Native American Land, or Sanctuary
- Base Flood Elevation line and value elevation in feet (EL 987)
- Base Flood Elevation value where uniform within zone, elevation in feet* (Referenced to the North American Vertical Datum of 1988)
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83):
 - 87°07'45" 32" 22" 30" W
 - 32°16'00" E
- 1000-meter Universal Transverse Mercator grid values, zone 13
- 3000-foot grid (54x); Missouri State Plane coordinate system, East Zone (IPRSZONE 2401); Transverse Mercator projection
- DMS510 FT
- Bench mark (last expiration in dates to latest section of this FIRM panel)
- Blue Hill
- M 118
- Aqueduct, Canal, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
Refer to Item #1 Map Repository on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATES (IF REVISIONS) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-686-6622.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0485D

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 485 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COUNTY	COMMUNITY	NUMBER	PANEL	BUFFER
WAYNE COUNTY	BELLAMORE	28445	0485	0
WAYNE COUNTY	WILLIAMSVILLE CITY OF	28452	0485	0

MAP NUMBER
29223C0485D
EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodways** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data** and/or **Summary of Stillwater Elevations** tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane coordinate system, east zone (FIPS ZONE 2401), Transverse Mercator projection. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid or projection used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of FIRMs.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSM-C, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this map was provided in digital format by the U.S. Farm Service Agency, National Agricultural Imagery Program (NAIP), published October 2007 at a scale of 1:12000, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 1993 and later, produced at a scale of 1:24000.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations** and **floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from previous maps.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

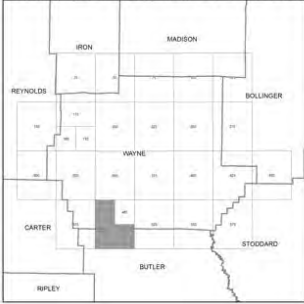
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If you have **questions** about this map, how to order products of the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/mfp>.

WAYNE COUNTY, MISSOURI FIRM PANEL LOCATOR DIAGRAM



THIS AREA SHOWN AT A SCALE OF 1" = 1000' ON MAP NUMBER 29232C0485

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AV, VE, and X. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depth determined; for areas of shallow flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was substantially dismantled; Zone AE indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal Flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE X Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCE SYSTEMS (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- Boundary defining Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional Jurisdiction, or Urban Growth boundary
- Area Not Included boundary
- Historical Reservation, Native American Lands boundary
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within area; elevation in feet
- * Referenced to the North American Vertical Datum of 1988.

- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 3000-meter Universal Transverse Mercator grid values, zone 15
- 500-foot grid (also Missouri State Plane coordinate system, East zone (FIPS ZONE 2401), Transverse Mercator projection)
- Bench mark (see explanation in Notes to Users section of this FIRM report)
- River Mile
- Aqueduct, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

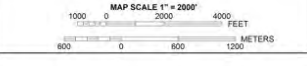
Refer to MAP OF MAP REPOSITORIES ON MAP INDEX

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP: JUNE 18, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

For community map revision history prior to community mapping, refer to the Community Map history table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in your community, contact your insurance agent or call the National Flood Insurance Program at 1-800-538-6620.



NFP **PANEL 0500D**

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 500 OF 575
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COORDINATE: NUMBER PANEL SUFFIX
WAYNE COUNTY 29232C0500 D

NATIONAL FLOOD INSURANCE PROGRAM

MAP NUMBER 29232C0500D
EFFECTIVE DATE JUNE 16, 2011

Federal Emergency Management Agency

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NGS Information Services
 NCMA, INVS/12
 National Geodetic Survey
 SSMC-3, #6202
 1315 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

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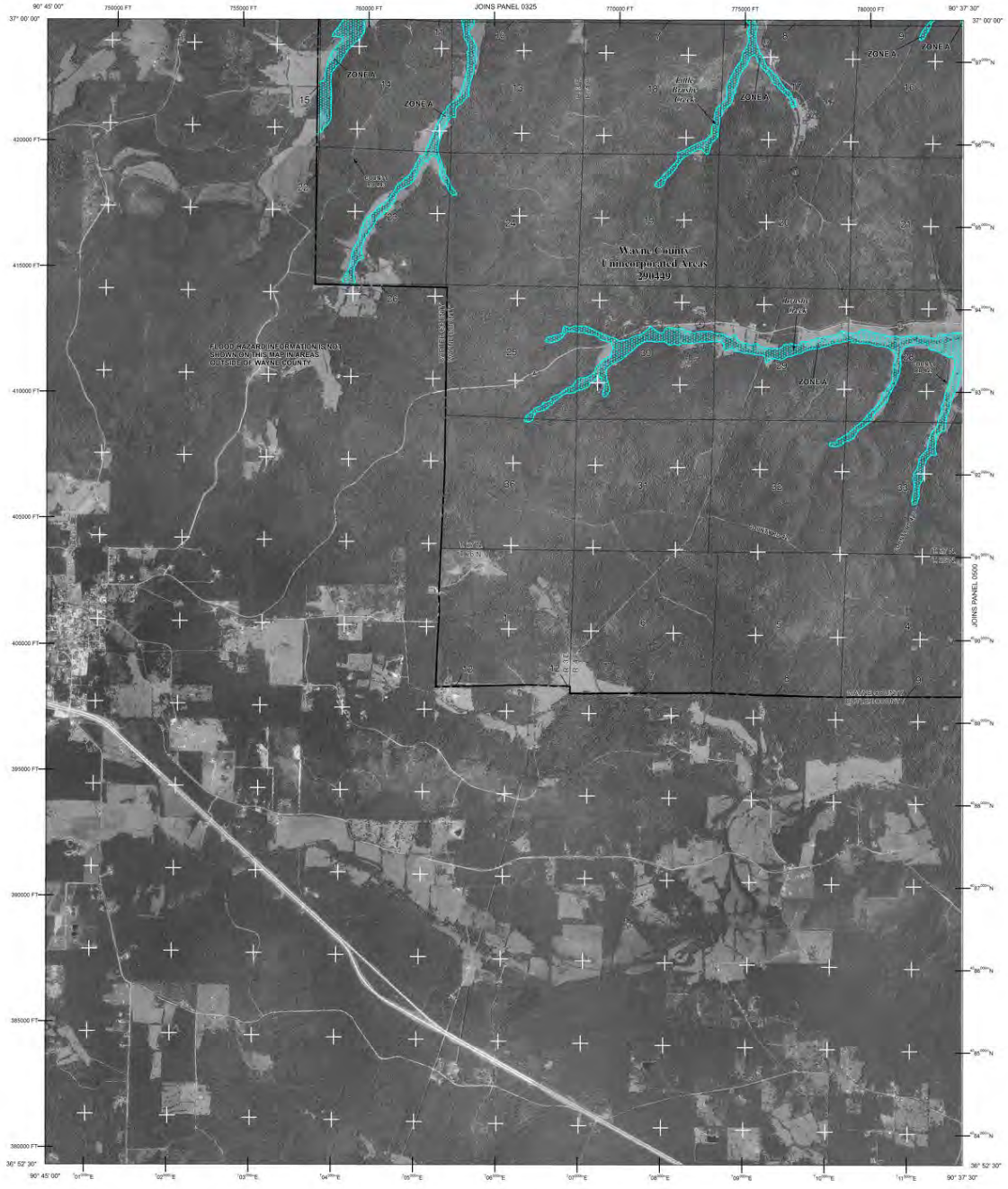
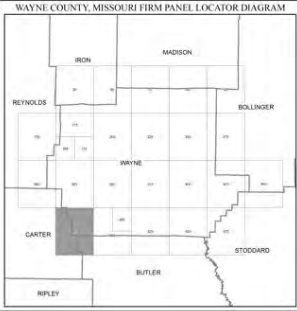
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LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AN, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually sheet flow or sloping terrain); average depths determined. For areas of unusual fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
ZONE AN Area to be protected from the 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone B boundary
- Boundary dividing Special Flood Hazard areas of different Base Flood Elevations, flood depths, or flood velocities
- CBRS and OPA boundary
- International, State, or County boundary
- Corporate, Extrajurisdictional, or Urban Growth boundary
- Area Not Included boundary
- Water Reservation, Native American Lands boundary
- Base Flood Elevation line and water elevation in feet
- Base Flood Elevation value uniform within zone, elevation in feet**
- ** Referenced to the North American Vertical Datum of 1988
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 15
- 600000 FT
- 5000-foot grid scale: Missouri State Plane coordinate system, East zone (FIPS ZONE 2401), Transverse Mercator projection
- Bench mark (see explanation in Notes to Users section of the FIRM report)
- Water line
- Acaducel, Culvert, Flume, Penstock, or Storm Sewer
- Road or Railroad Bridge

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 JUNE 15, 2011

EFFECTIVE DATES (IF REVISIONS) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in your community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
 1000 0 2000 4000 FEET
 600 0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0475D

FIRM
FLOOD INSURANCE RATE MAP

WAYNE COUNTY, MISSOURI AND INCORPORATED AREAS

PANEL 475 OF 575
 SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY	NUMBER	PANEL	SUFFIX
(NAME)			

MAP NUMBER
 29223C0475D

EFFECTIVE DATE
 JUNE 15, 2011

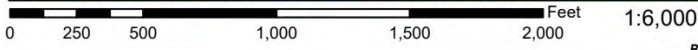
Federal Emergency Management Agency

Community of Silva - North Portion Flood Insurance Rate Map - June 16, 2011

National Flood Hazard Layer FIRMette



90°28'5"W 37°11'22"N



Basemap Imagery Source: USGS National Map 2023

Legend

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

<p>SPECIAL FLOOD HAZARD AREAS</p>	<p>Without Base Flood Elevation (BFE) <i>Zone A, V, AE9</i></p> <p>With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i></p> <p>Regulatory Floodway</p>
<p>OTHER AREAS OF FLOOD HAZARD</p>	<p>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 <i>Zone X</i></p> <p>Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i></p> <p>Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i></p> <p>Area with Flood Risk due to Levee <i>Zone D</i></p>
<p>OTHER AREAS</p>	<p>NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i></p> <p>Effective LOMRs</p> <p>Area of Undetermined Flood Hazard <i>Zone D</i></p>
<p>GENERAL STRUCTURES</p>	<p>Channel, Culvert, or Storm Sewer</p> <p>Levee, Dike, or Floodwall</p>
<p>OTHER FEATURES</p>	<p>Cross Sections with 1% Annual Chance Water Surface Elevation</p> <p>Coastal Transect</p> <p>Base Flood Elevation Line (BFE)</p> <p>Limit of Study</p> <p>Jurisdiction Boundary</p> <p>Coastal Transect Baseline</p> <p>Profile Baseline</p> <p>Hydrographic Feature</p>
<p>MAP PANELS</p>	<p>Digital Data Available</p> <p>No Digital Data Available</p> <p>Unmapped</p> <p>The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.</p>

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 1/8/2024 at 10:21 AM 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.

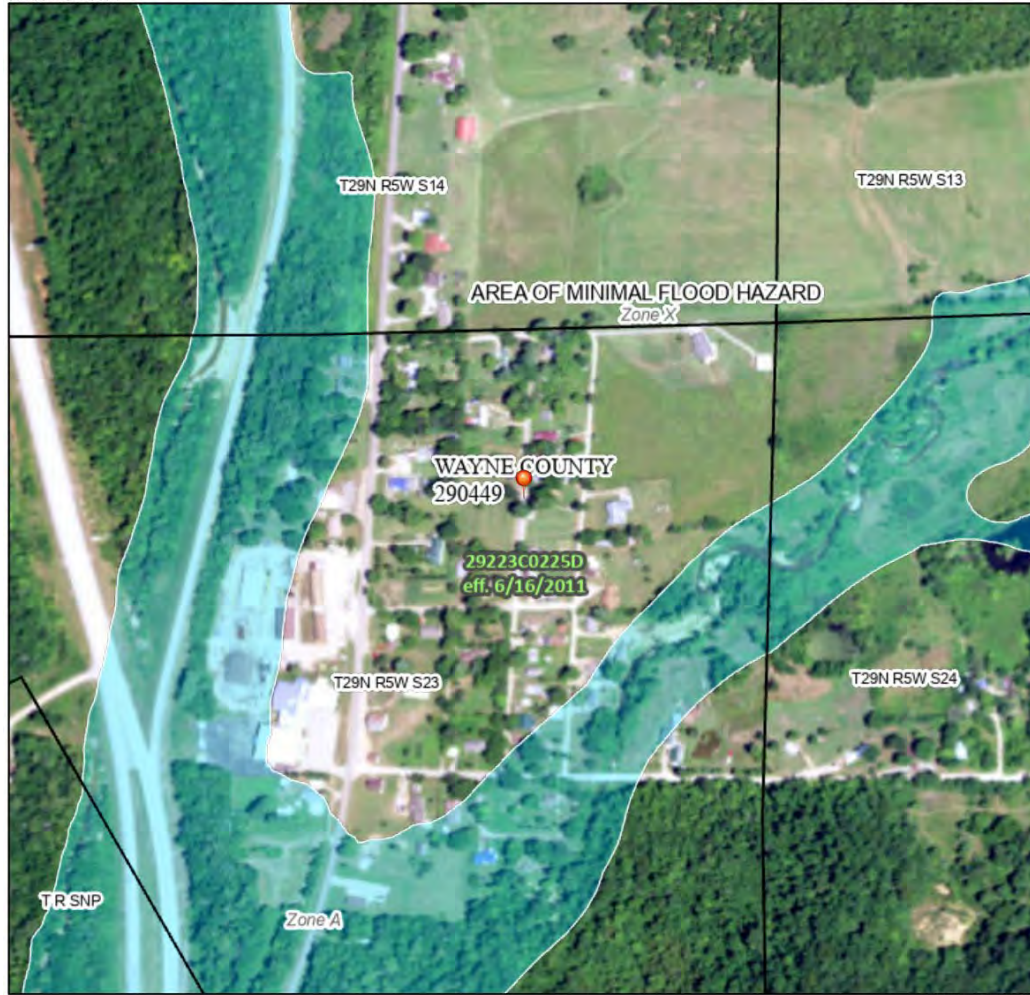
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Community of Silva - South Portion Flood Insurance Rate Map - June 16, 2011

National Flood Hazard Layer FIRMeTte



90°28'3"W 37°10'56"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

90°27'26"W 37°10'27"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		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 1/8/2024 at 10:19 AM 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.

Wayne County Hazard Mitigation Plan, 2024

Appendix B – Dam Inundation Maps & Emergency Action Plans (EAP's)







INUNDATION MAPS

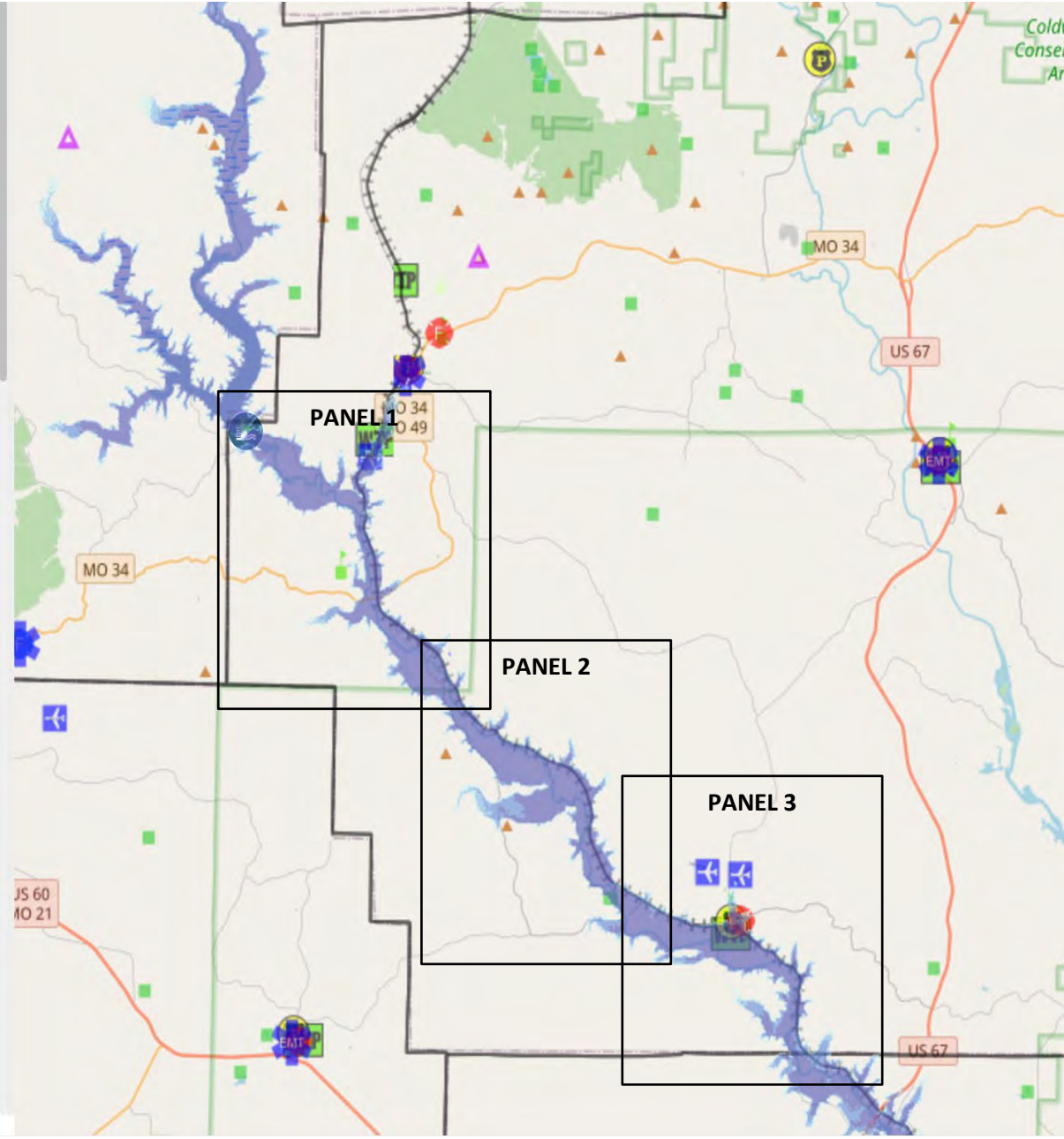
- *Clearwater Lake Dam*
- *Wappapello Lake Dam*
- *Seven Lakes Dam #1*
- *Seven Lades Dam #3*
- *Lake Lynn Dam*
- *Lake Ray Dam*
- *Eagle Sky Lake Dam*

EMERGENCY ACTION PLANS (EAP'S)

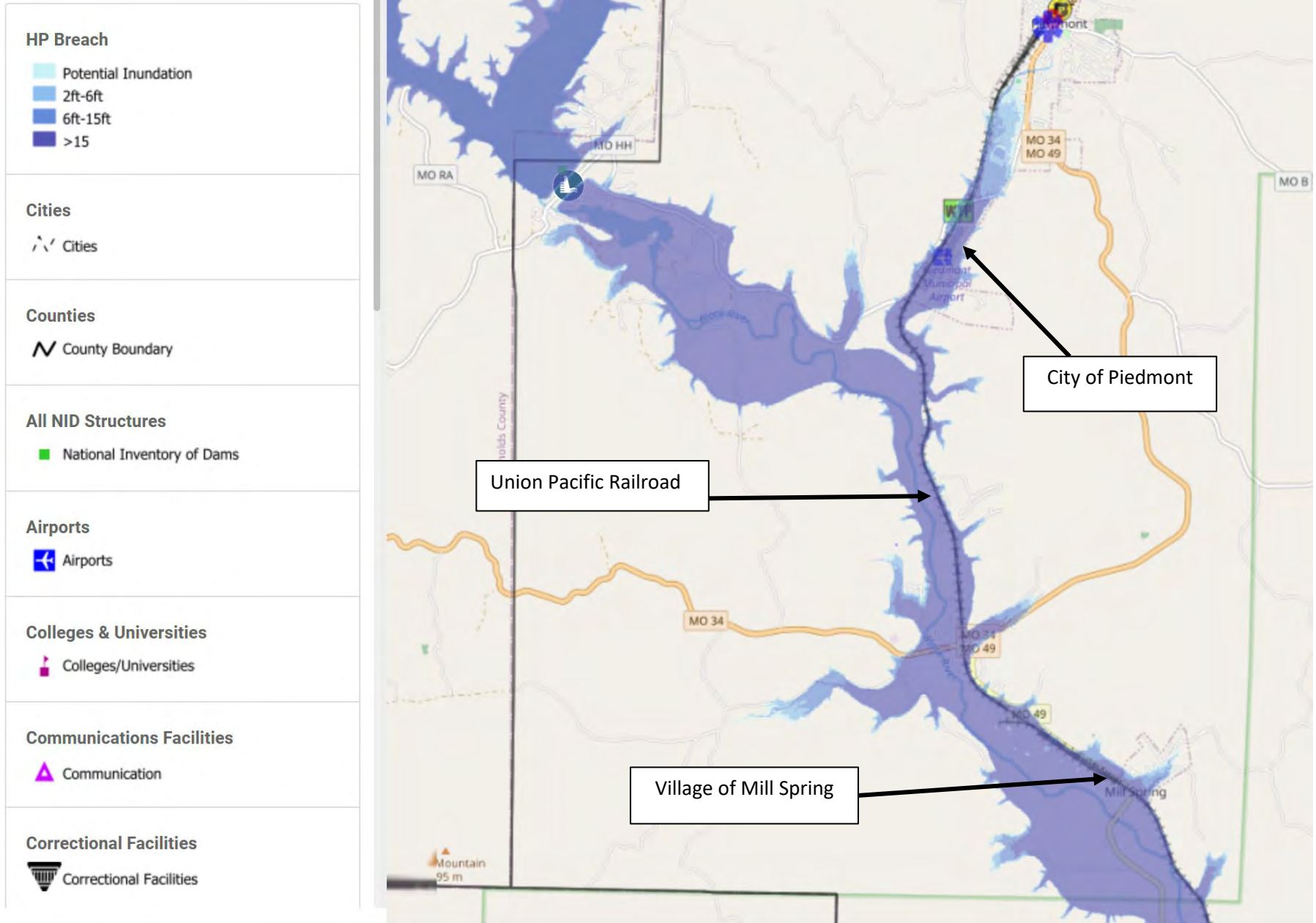
- *Lake Lynn Dam EAP*
- *Lake Ray Dam EAP*
- *Seven Lakes #1 & #3 Dams EAP*

Clearwater Lake Inundation Area Wayne County, Missouri

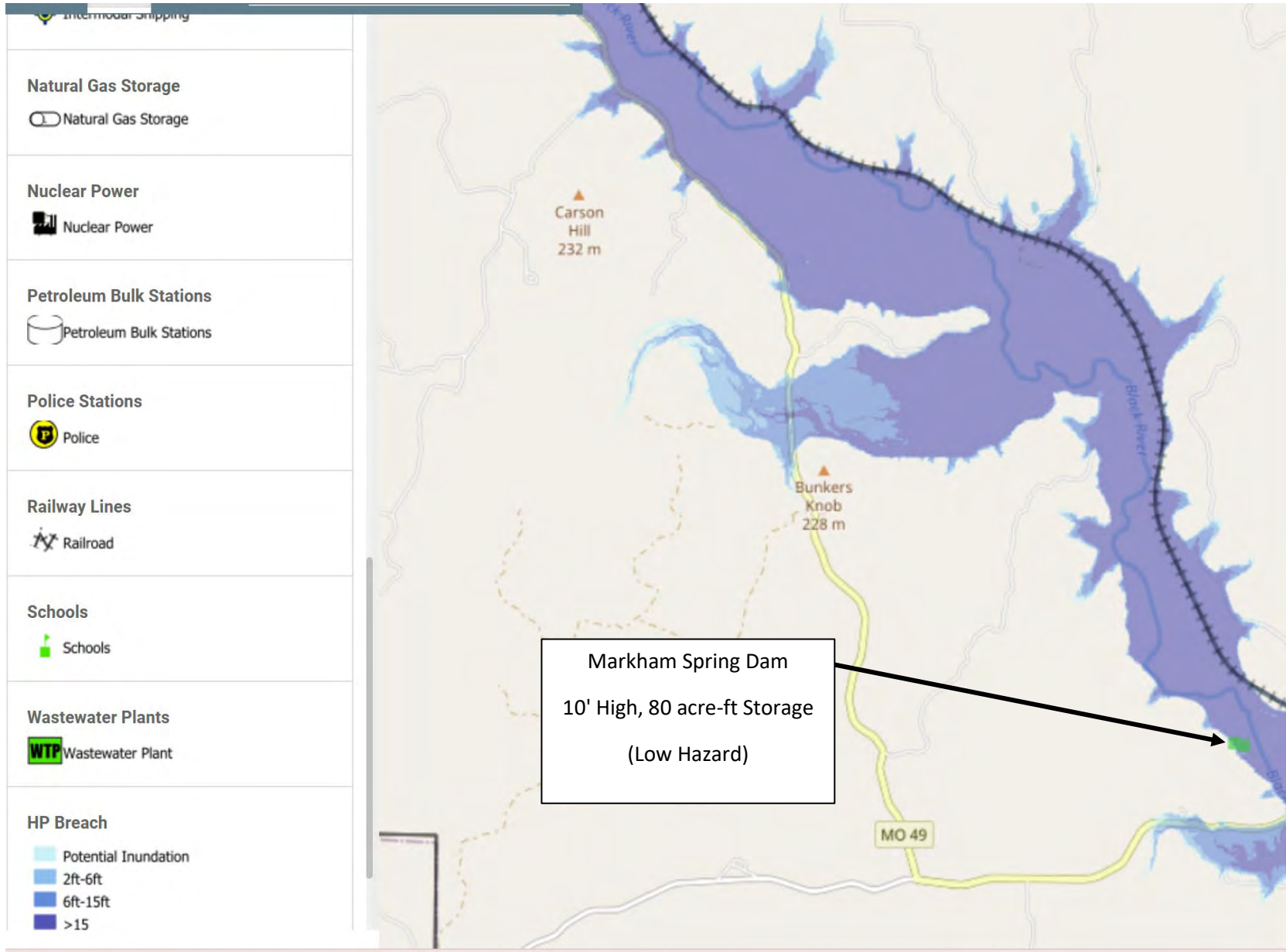
HP Breach	
	Potential Inundation
	2ft-6ft
	6ft-15ft
	>15
Cities	
	Cities
Counties	
	County Boundary
All NID Structures	
	National Inventory of Dams
Airports	
	Airports
Colleges & Universities	
	Colleges/Universities
Communications Facilities	
	Communication
Correctional Facilities	
	Correctional Facilities



**Critical Facilities in the Clearwater Lake Inundation Area per USACE
Wayne County, Missouri - Zoomed In, Panel 1 of 3**

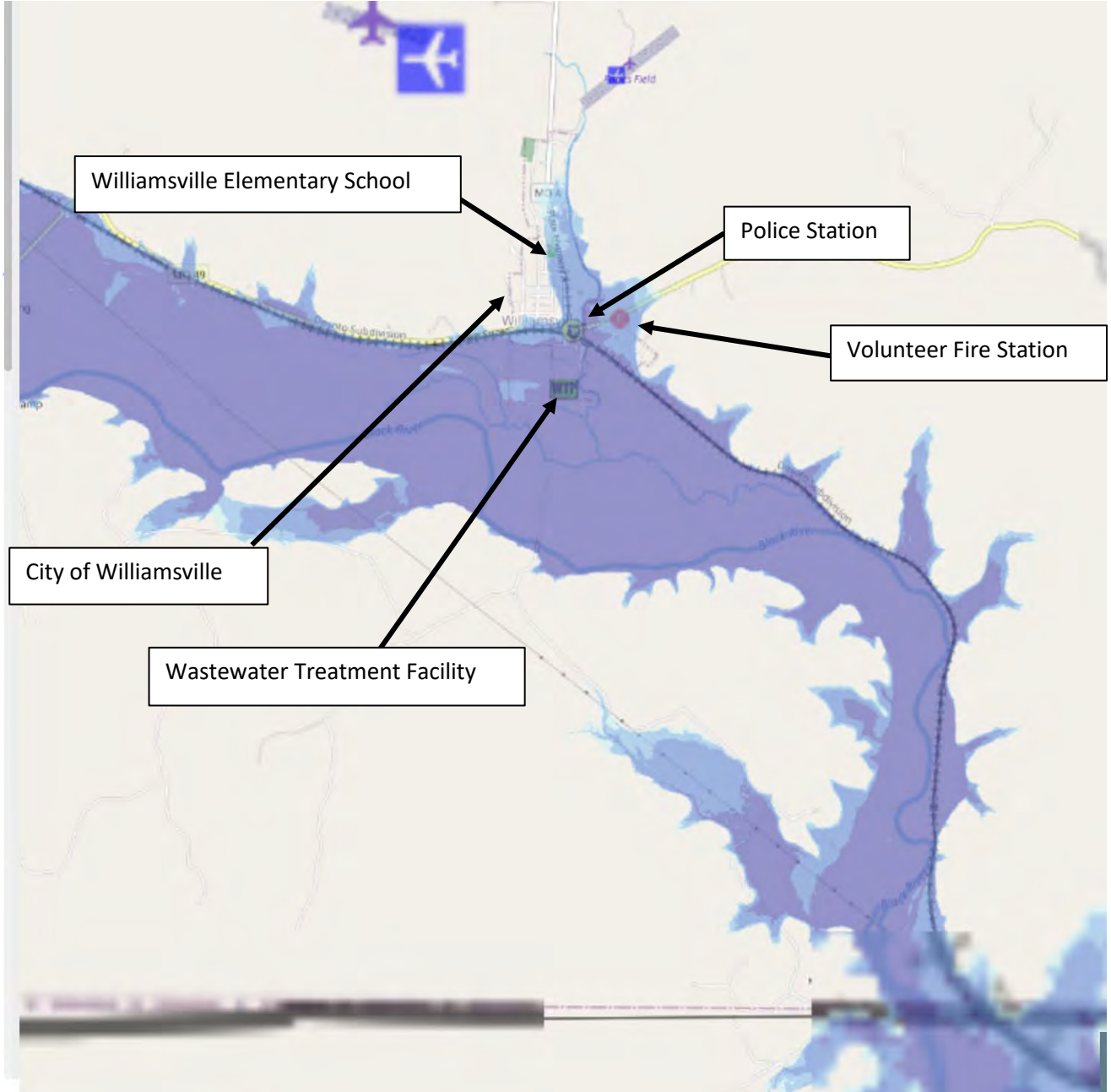


Critical Facilities in the Clearwater Lake Inundation Area per USACE
Wayne County, Missouri - Zoomed In, Panel 2 of 3

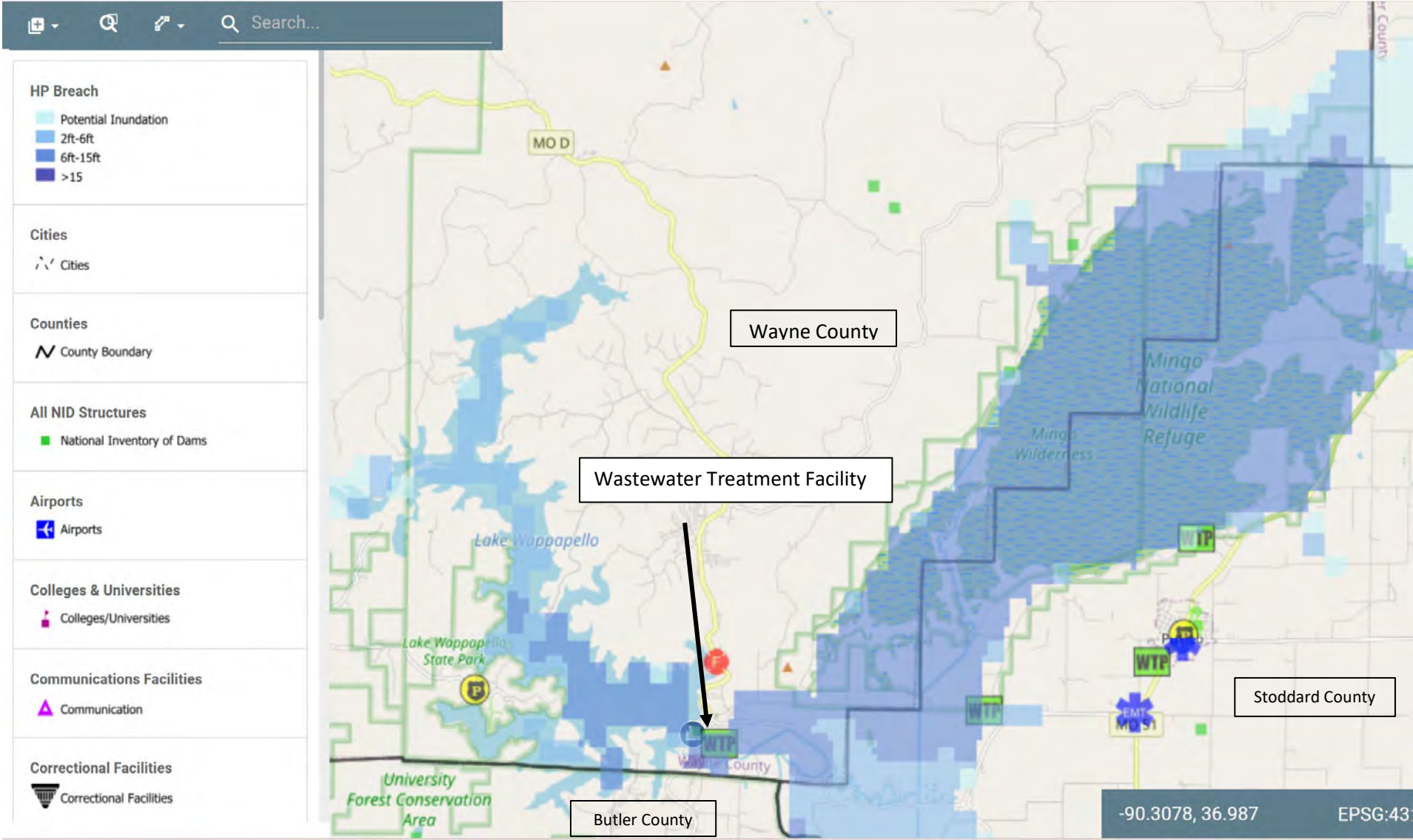


**Critical Facilities in the Clearwater Lake Inundation Area per USACE
Wayne County, Missouri - Zoomed In, Panel 3 of 3**

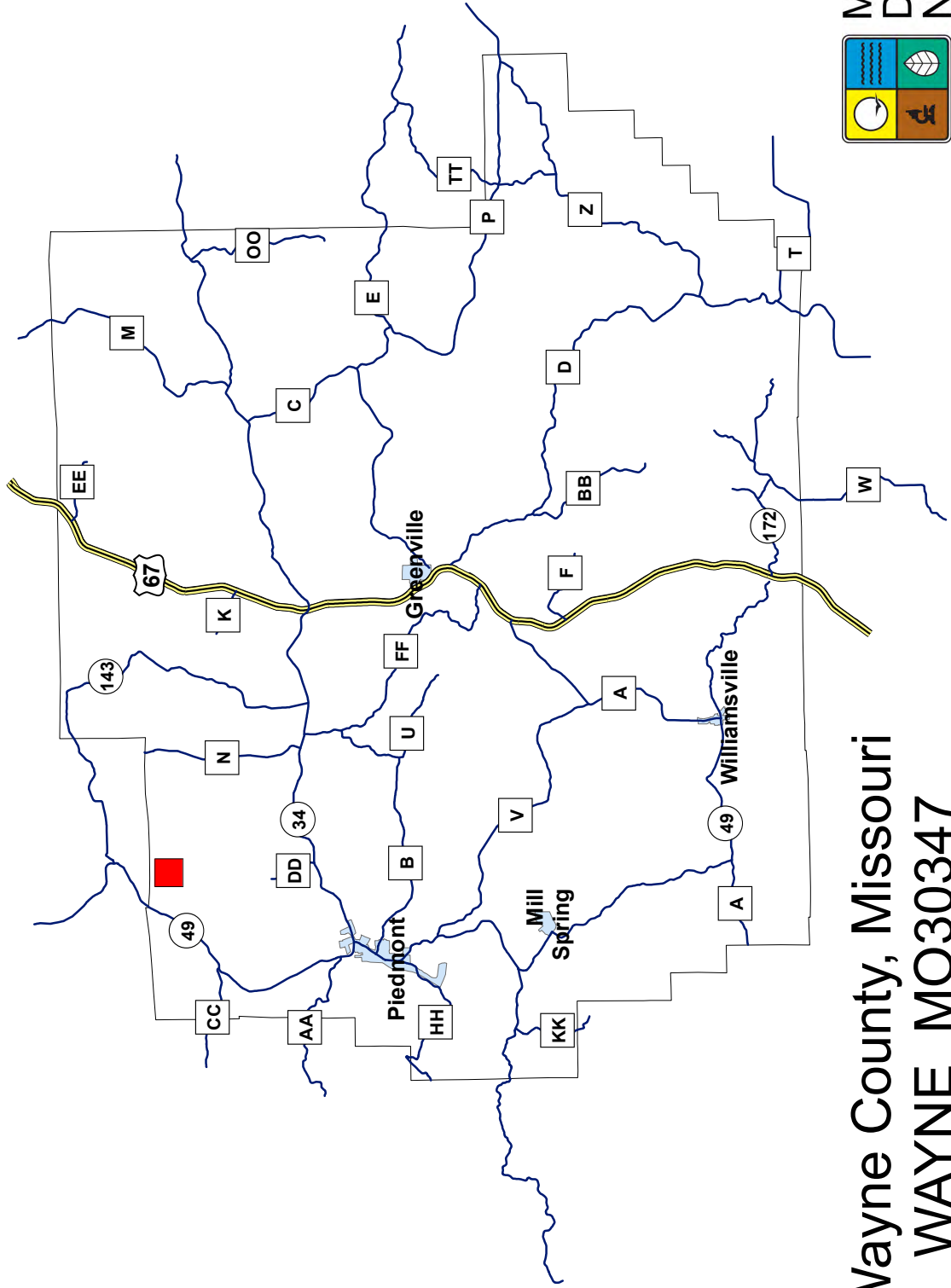
HP Breach
<ul style="list-style-type: none"> Potential Inundation 2ft-6ft 6ft-15ft >15
Cities
 Cities
Counties
 County Boundary
All NID Structures
 National Inventory of Dams
Airports
✈ Airports
Colleges & Universities
 Colleges/Universities
Communications Facilities
 Communication
Correctional Facilities
 Correctional Facilities



**Critical Facilities in the Wappapello Lake Inundation Area per USACE
Wayne County, Missouri**



Seven Lakes #1 Dam Breach Inundation Map



Missouri
 Department of
 Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

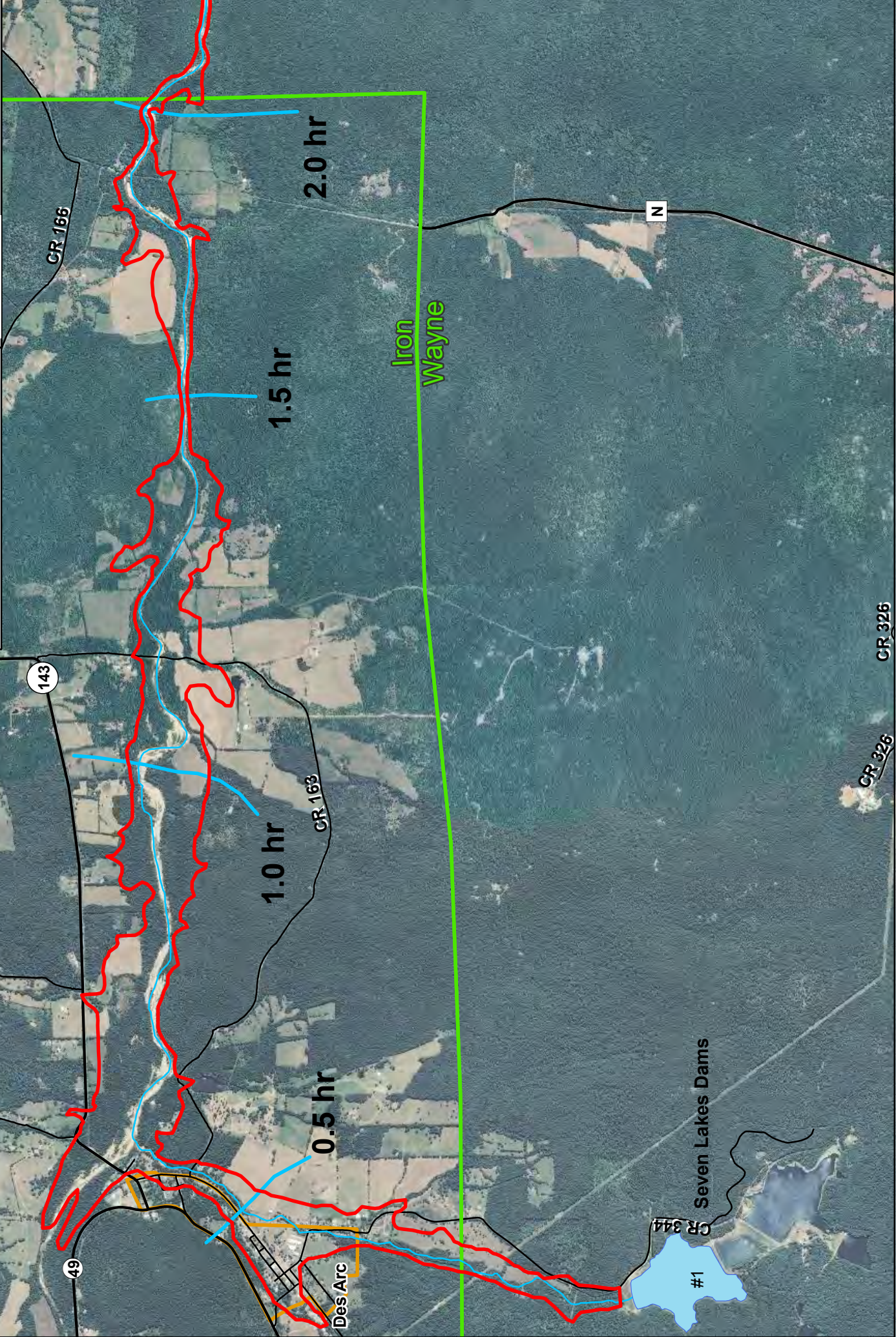
Wayne County, Missouri
WAYNE_MO30347

Note: Actual areas inundated will depend on the actual dam failure criteria and may differ from the areas shown. Due to limitations, methods, assumptions, and procedures used to develop the inundation area, the map should only be used for evacuation planning and emergency purposes.


Project: **Seven Lakes #1 Dam**
 Project ID: WAYNE_MO30347
 Missouri Department of Natural Resources
 Water Center
 P.O. Box 176
 Jefferson City, MO 65102

Inundation Zone (Red outline)
Reservoir (Blue fill)
Cross Sections (Blue lines)
Des Arc boundaries (Yellow outline)

Scale: 0, 0.25, 0.5, 1 Miles
 North Arrow (N)



Explanation Sheet

Project: Seven Lakes #1 Dam Breach Analysis
Drawing Title: Explanation Sheet 1 of 1
 Missouri Department of Natural Resources Water Resources Center 1001 W. Main St., Jefferson City, MO 65102 Project ID: WAYNE_MO30347

Explanation of Maps

The following maps indicate the areas which are predicted to be inundated during the occurrence of a sunny day breach of the dam. The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway.

Use of Maps

The following maps provide a baseline for evaluation of existing emergency action plans and environmental hazards downstream of the regulated structure.

Definition of Terms

Pool Elevation- Water level in the reservoir.

Dam Crest- The lowest elevation measured along the dam crest.

Spillway Crest- The lowest elevation measured along the crest of the spillway.

Arrival Time- Elapsed time between the breach initiation and the time that water levels first begin to rise at any given point.

Assumed Conditions of Flooding

The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway. The assumed overtopping erodes a section of the dam resulting in a dangerous and quick release of water. For the hydraulic analysis flow initiation is required and therefore a baseflow of water has been included in the analysis.

Dam Facts

ID: MO_30347

County: Wayne

Location: S20, T30 N, R04 E

Height of Dam: 55'

Tributary: Goose Creek

Lake Area: 60 acres

Max Storage Capacity: 1780 ac-ft

Breach Parameters (Froehlich, 1995)

Side slopes: 1.4:1

Bottom width: 79.3'

Bottom elevation: 620'

Breach formation time: 0.51 hr

Pool Elevation at Failure: 669.12'

Pool Volume at Failure: 1780 ac-ft

Downstream Crossings

CR 157 (School St)

CR 163 (2X)

Project: **Seven Lakes #1 Dam**
Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
Water Center
P.O. Box 176
Jefferson City, MO 65102

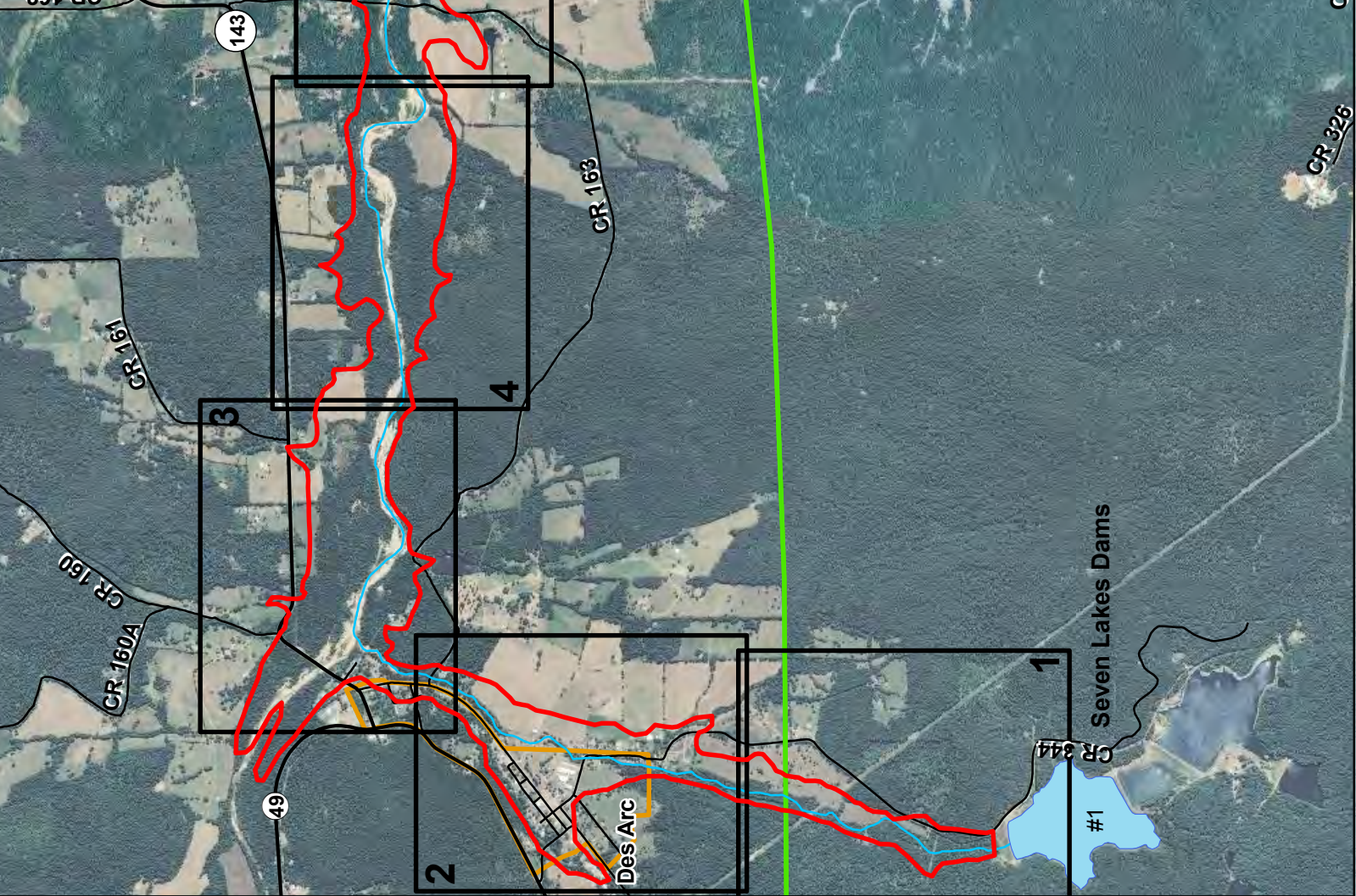
Drawing Title:
Detail Key Sheet

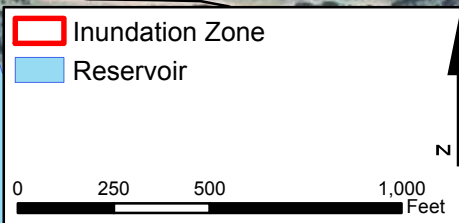
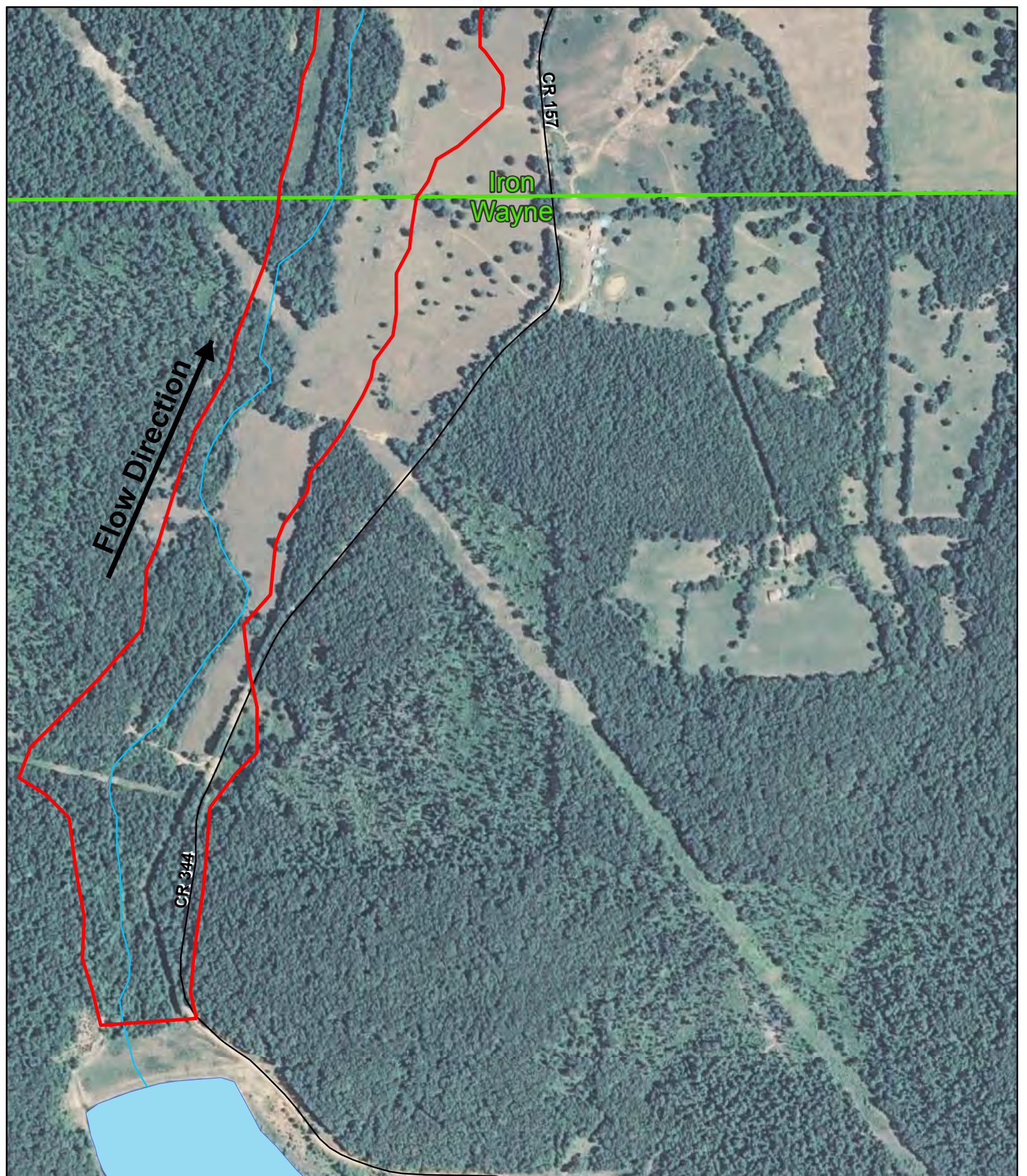
1 of 1


Inundation Zone (Red outline)
Reservoir (Blue outline)
Des Arc boundaries (Yellow outline)




0 0.25 0.5 1 Miles

N





Project:	Seven Lakes #1 Dam	
Project ID:	WAYNE_MO30347	
 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title:	Detail Sheet
		1 of 7

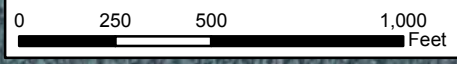
-  Inundation Zone
-  Reservoir
-  Des Arc boundaries

Project: **Seven Lakes #1 Dam**

Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title: **Detail Sheet 2 of 7**



Inundation Zone
Des Arc boundaries

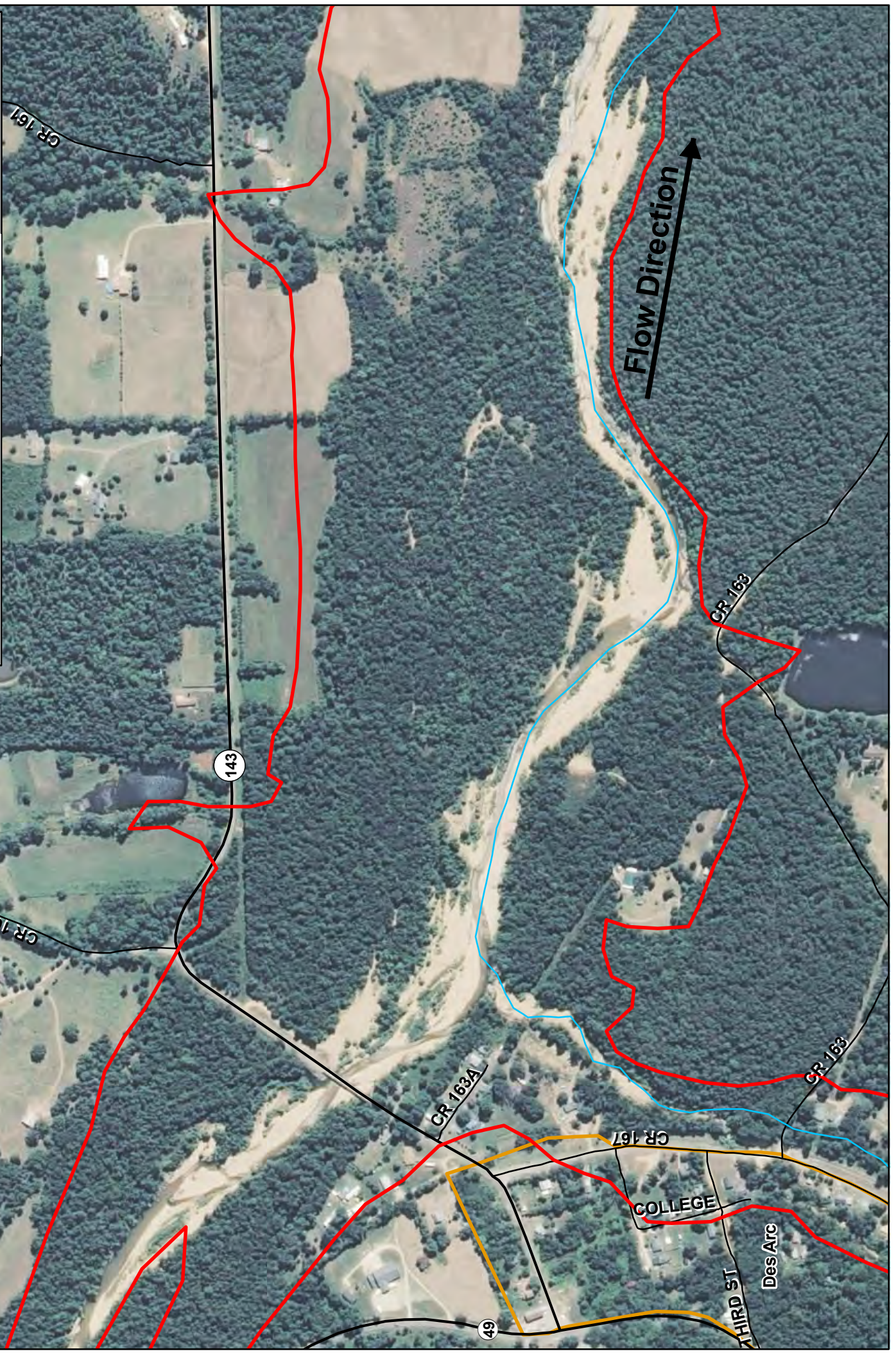
0 250 500 1,000 Feet

N

Project: **Seven Lakes #1 Dam**
 Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
 Water Center
 P.O. Box 176
 Jefferson City, MO 65102


Drawing Title:
Detail Sheet 3 of 7



Project: **Seven Lakes #1 Dam**
Project ID: WAYNE_MO30347

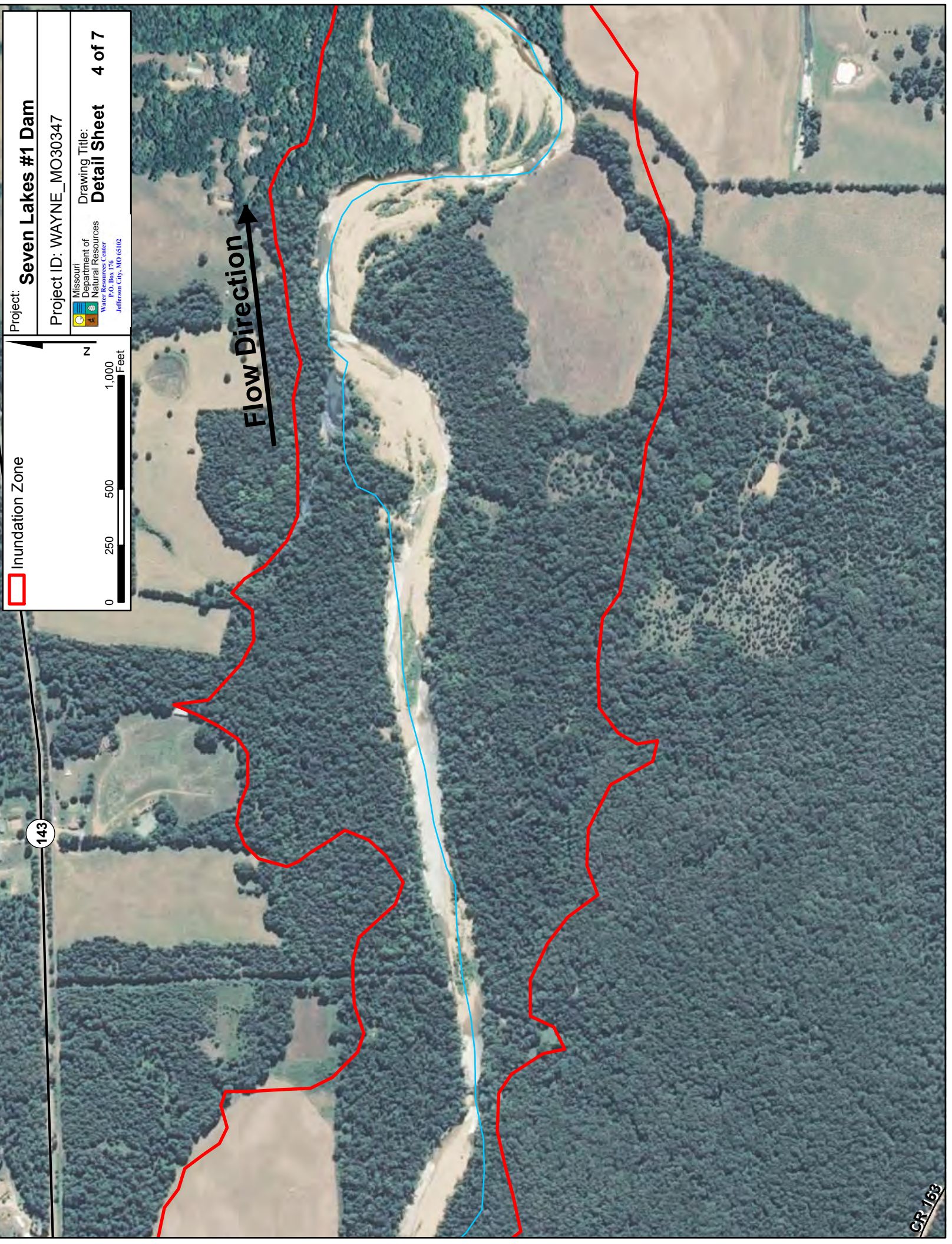
Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 4 of 7

 Inundation Zone

0 250 500 1,000 Feet

N



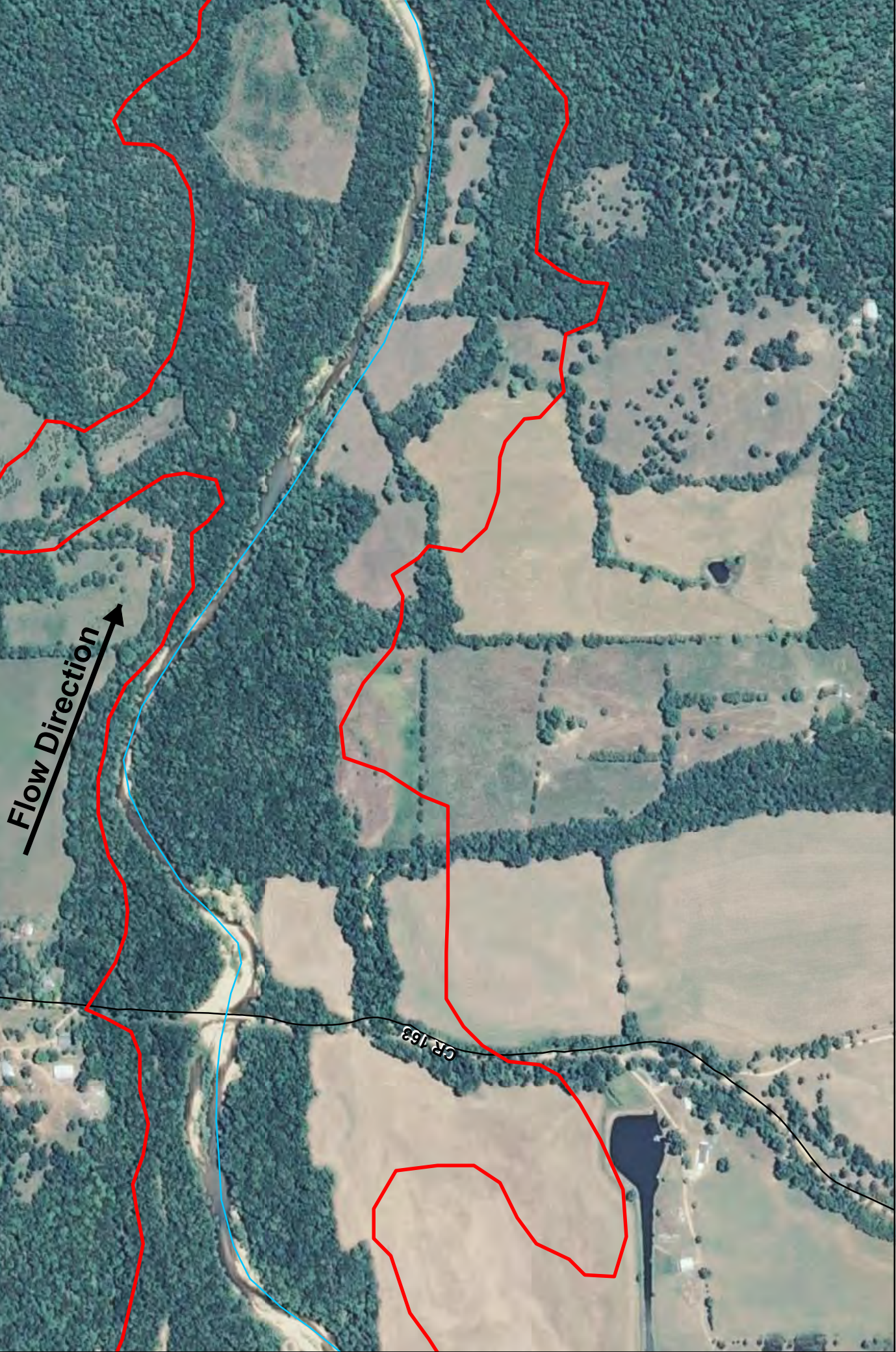
Project: **Seven Lakes #1 Dam**
Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 5 of 7



 Inundation Zone



Project: **Seven Lakes #1 Dam**

Project ID: WAYNE_MO30347

Drawing Title: **Detail Sheet 6 of 7**


Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Inundation Zone

0 250 500 1,000 Feet

N



 Inundation Zone

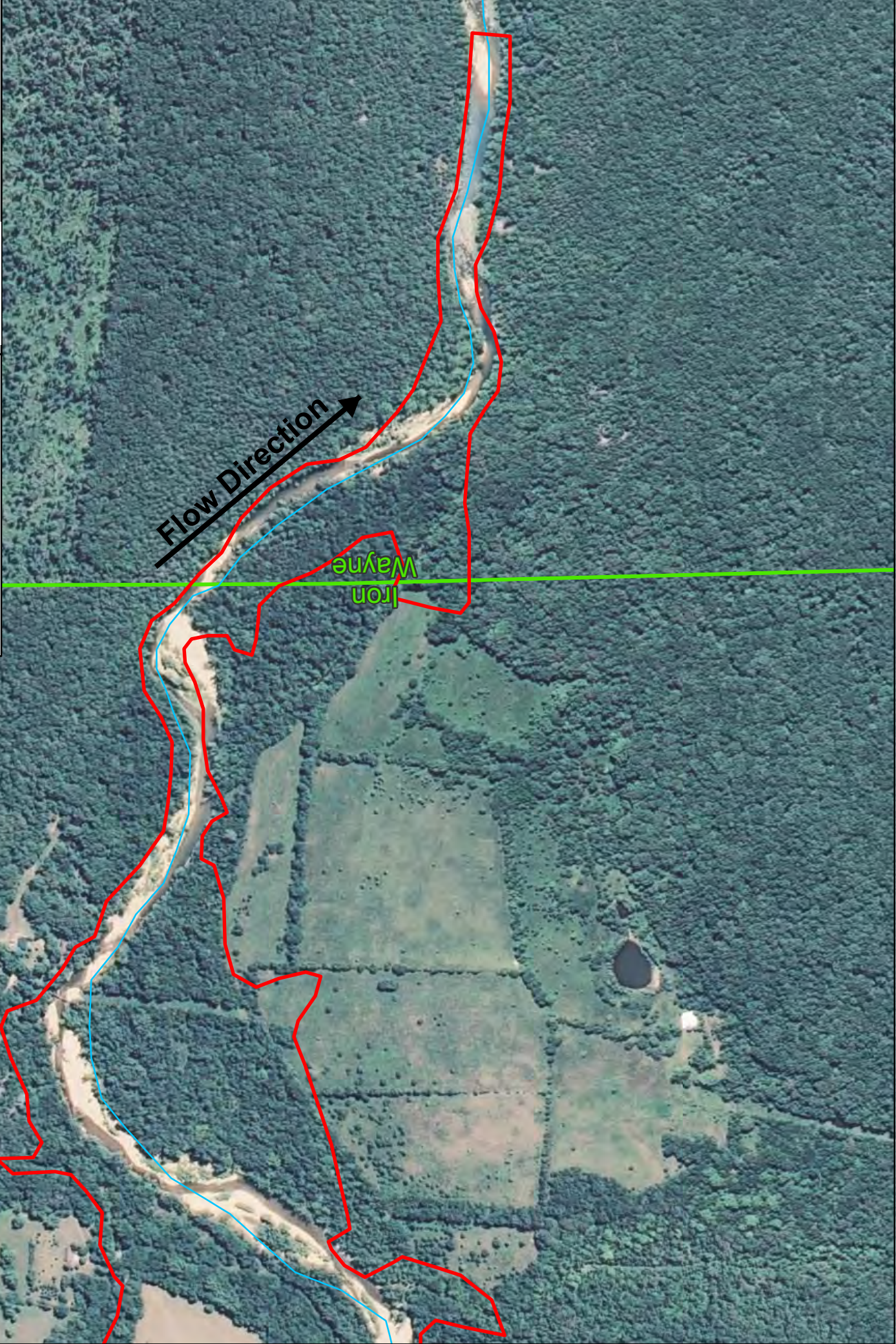
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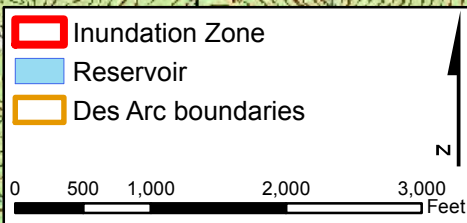
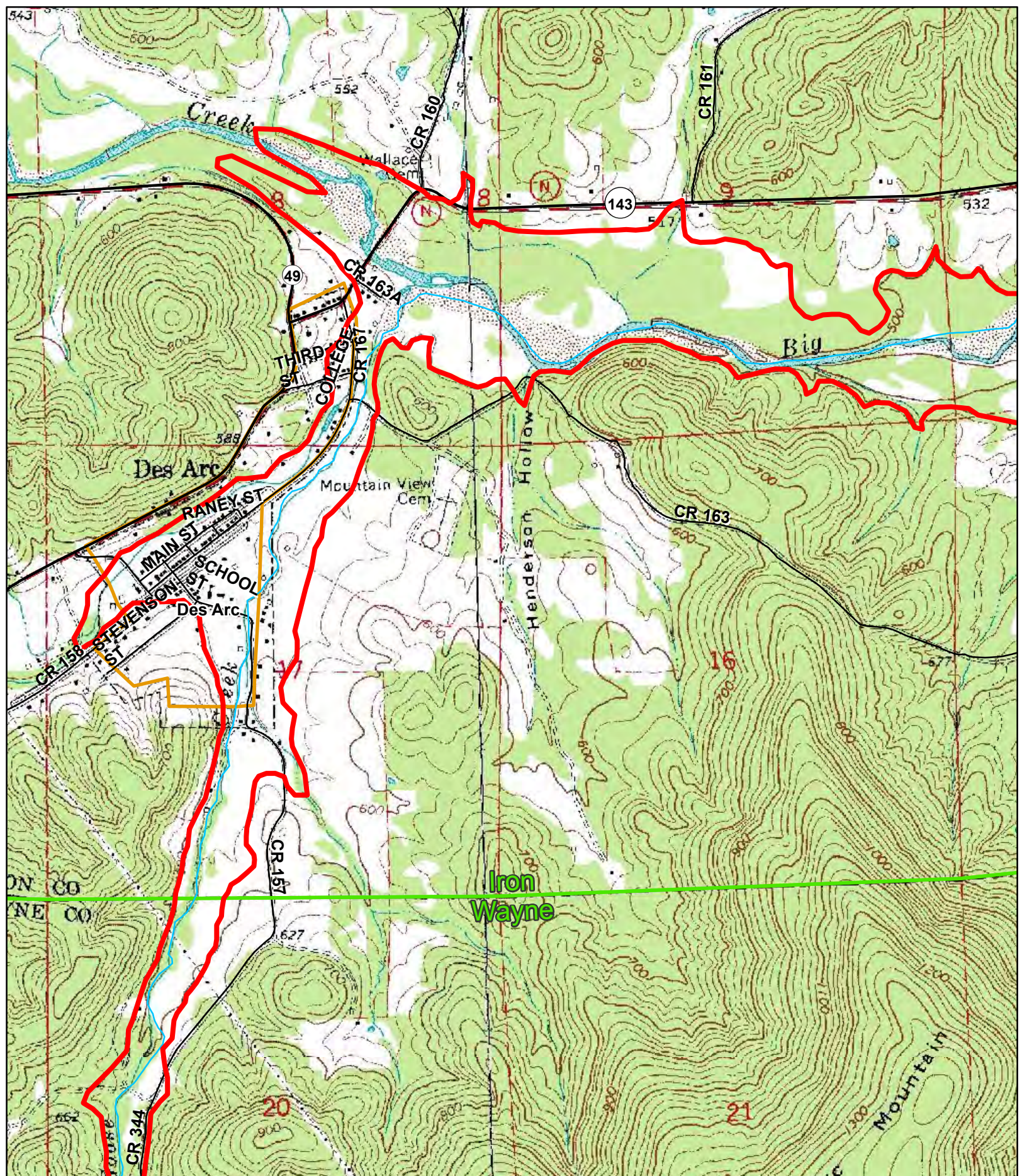
0 250 500 1,000 Feet


Project: **Seven Lakes #1 Dam**
Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 7 of 7





Project:	Seven Lakes #1 Dam
Project ID:	WAYNE_MO30347
 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Topo Map 1 of 2

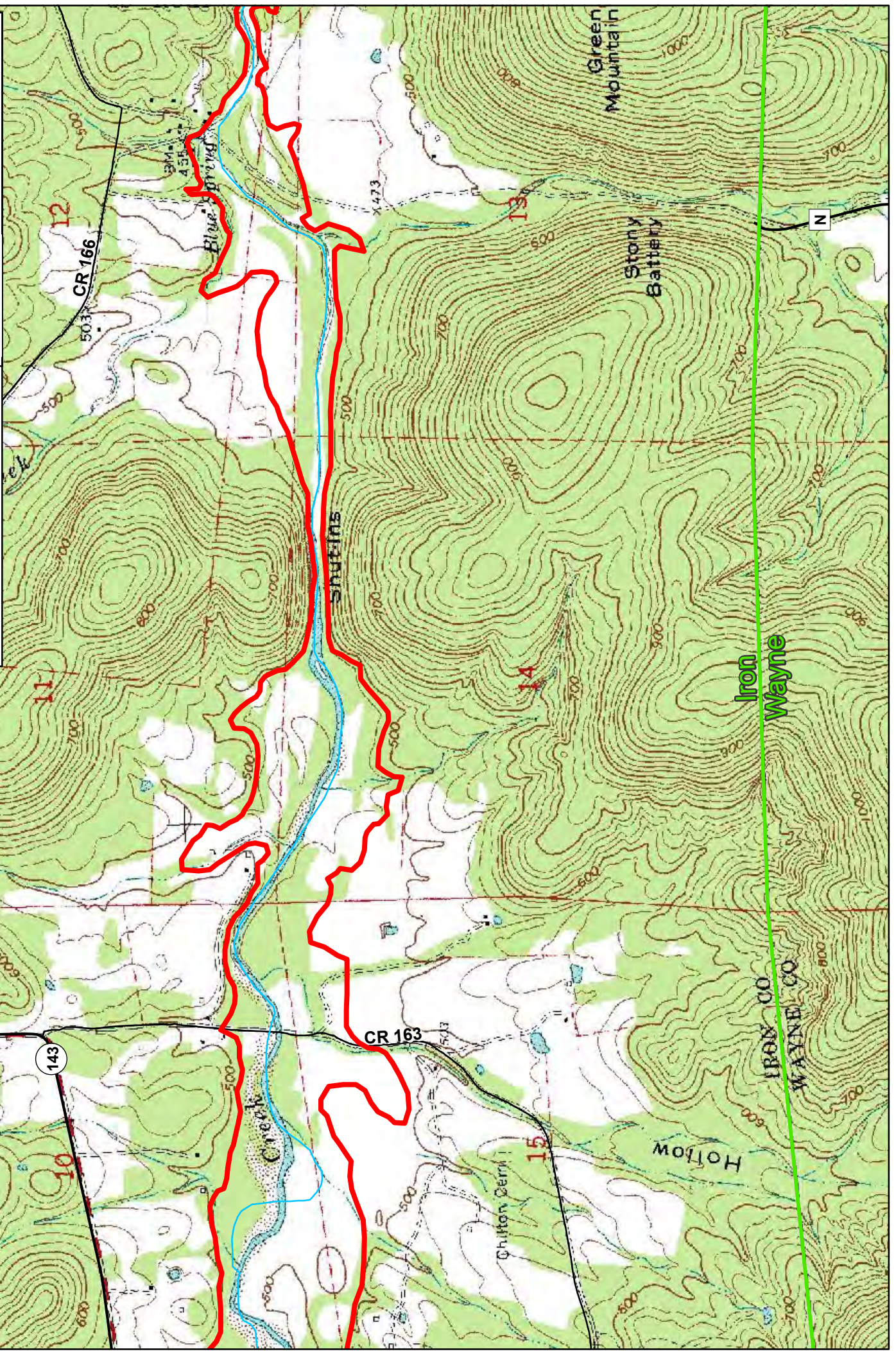
Project: **Seven Lakes #1 Dam**
Project ID: WAYNE_MO30347

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 175
Jefferson City, MO 65102

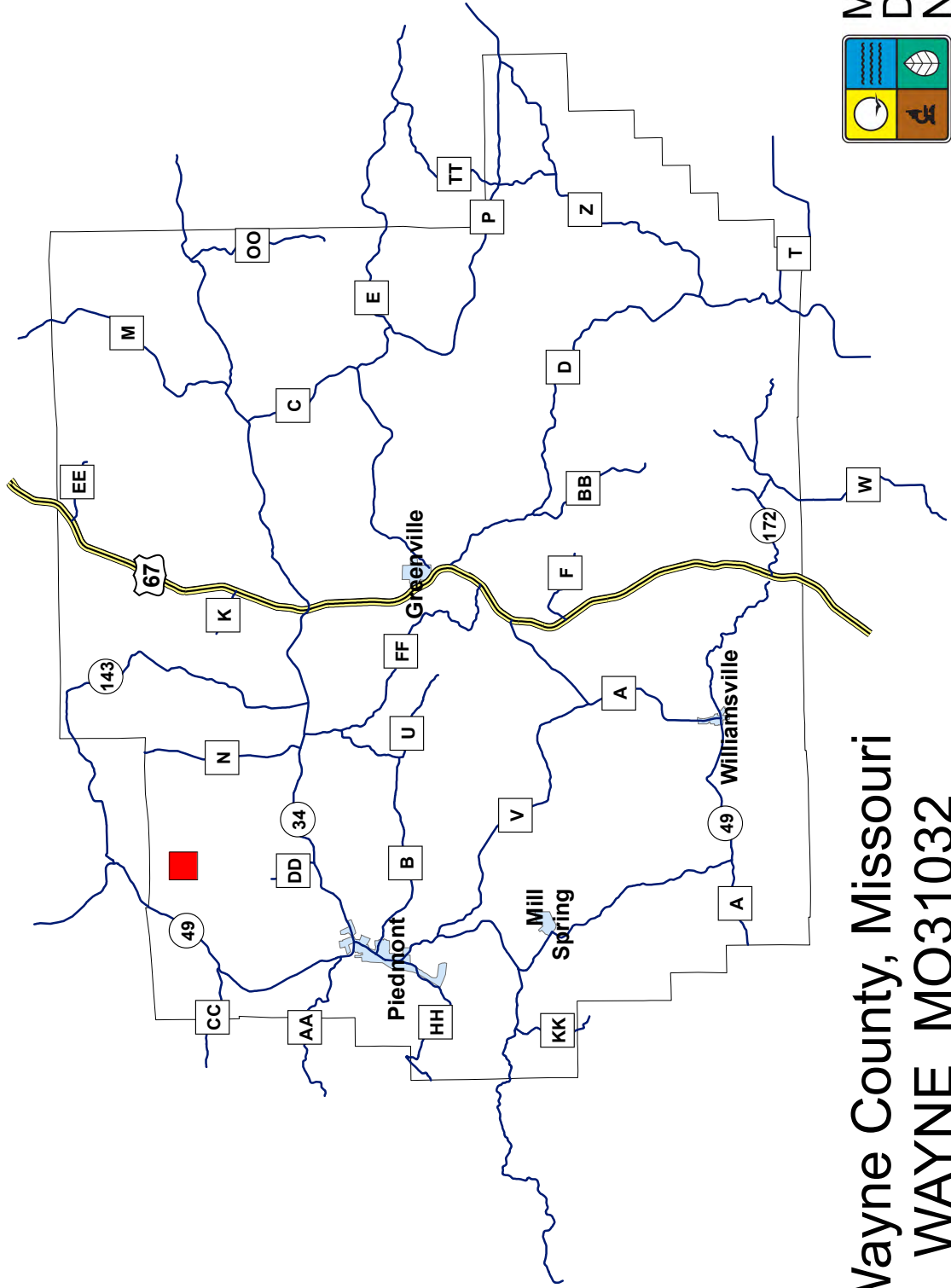
Drawing Title:
Topo Map 2 of 2



Inundation Zone



Seven Lakes #3 Dam Breach Inundation Map




Missouri
 Department of
 Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Wayne County, Missouri
WAYNE_MO31032

Note: Actual areas inundated will depend on the actual dam failure criteria and may differ from the areas shown. Due to limitations, methods, assumptions, and procedures used to develop the inundation area, the map should only be used for evacuation planning and emergency purposes.

Explanation Sheet

Project: Seven Lakes #3 Dam Breach Analysis
Drawing Title: Explanation Sheet 1 of 1
 Missouri Department of Natural Resources Water Resources Center 1001 W. Main St., Jefferson City, MO 65102 Project ID: WAYNE_MO31032

Explanation of Maps

The following maps indicate the areas which are predicted to be inundated during the occurrence of a sunny day breach of the dam. The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway.

Use of Maps

The following maps provide a baseline for evaluation of existing emergency action plans and environmental hazards downstream of the regulated structure.

Definition of Terms

Pool Elevation- Water level in the reservoir.

Dam Crest- The lowest elevation measured along the dam crest.

Spillway Crest- The lowest elevation measured along the crest of the spillway.

Arrival Time- Elapsed time between the breach initiation and the time that water levels first begin to rise at any given point.

Assumed Conditions of Flooding

The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway. The assumed overtopping erodes a section of the dam resulting in a dangerous and quick release of water. For the hydraulic analysis flow initiation is required and therefore a baseflow of water has been included in the analysis.

Dam Facts

ID: MO_31032

County: Wayne

Location: S29, T30 N, R04 E

Height of Dam: 45'

Tributary: Goose Creek

Lake Area: 55 acres

Max Storage Capacity: 1640 ac-ft

Breach Parameters (Froehlich, 1995)

Side slopes: 1.4:1

Bottom width: 77'

Bottom elevation: 668.5'

Breach formation time: 0.51 hr

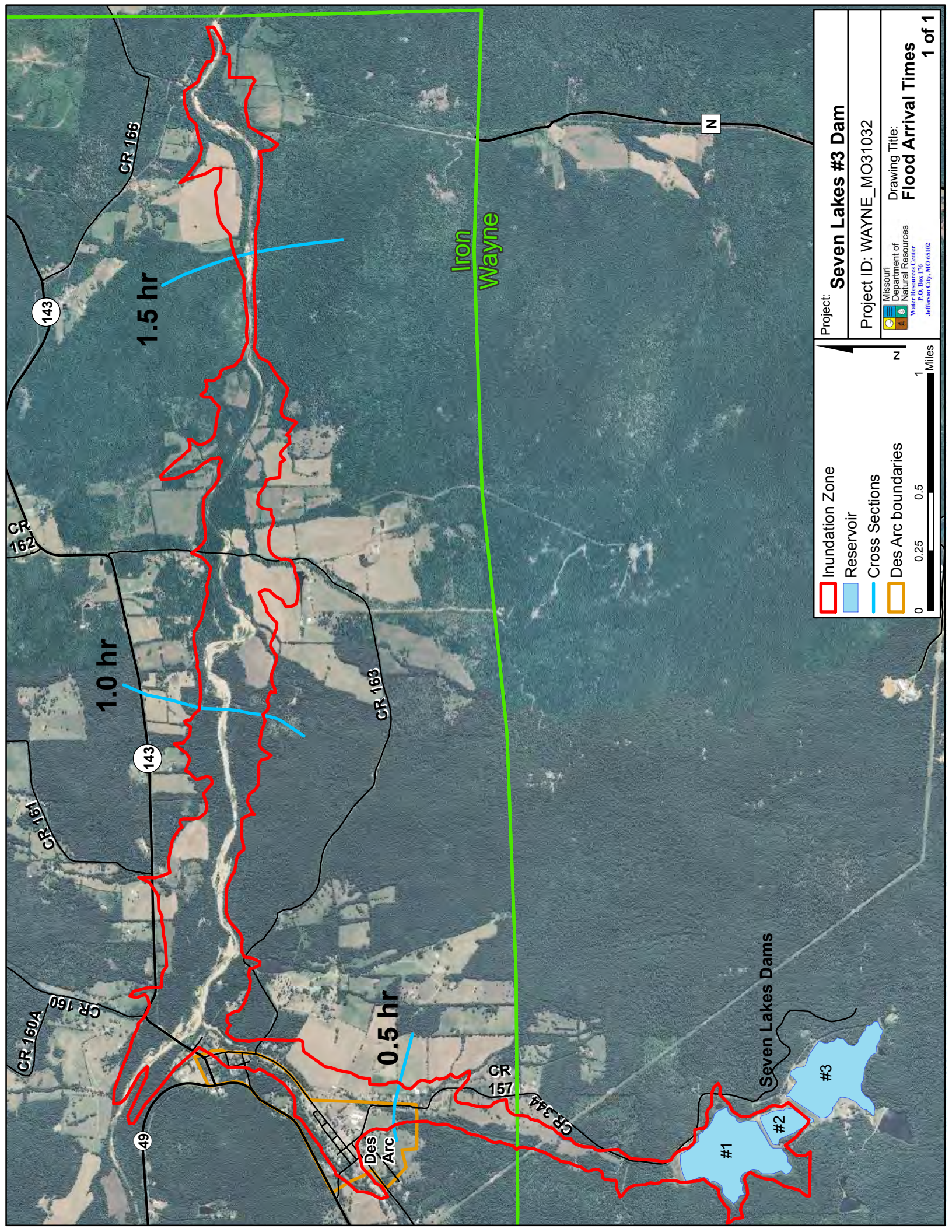
Pool Elevation at Failure: 715.68'

Pool Volume at Failure: 1640 ac-ft

Downstream Crossings

CR 157 (School St)

CR 163 (2X)

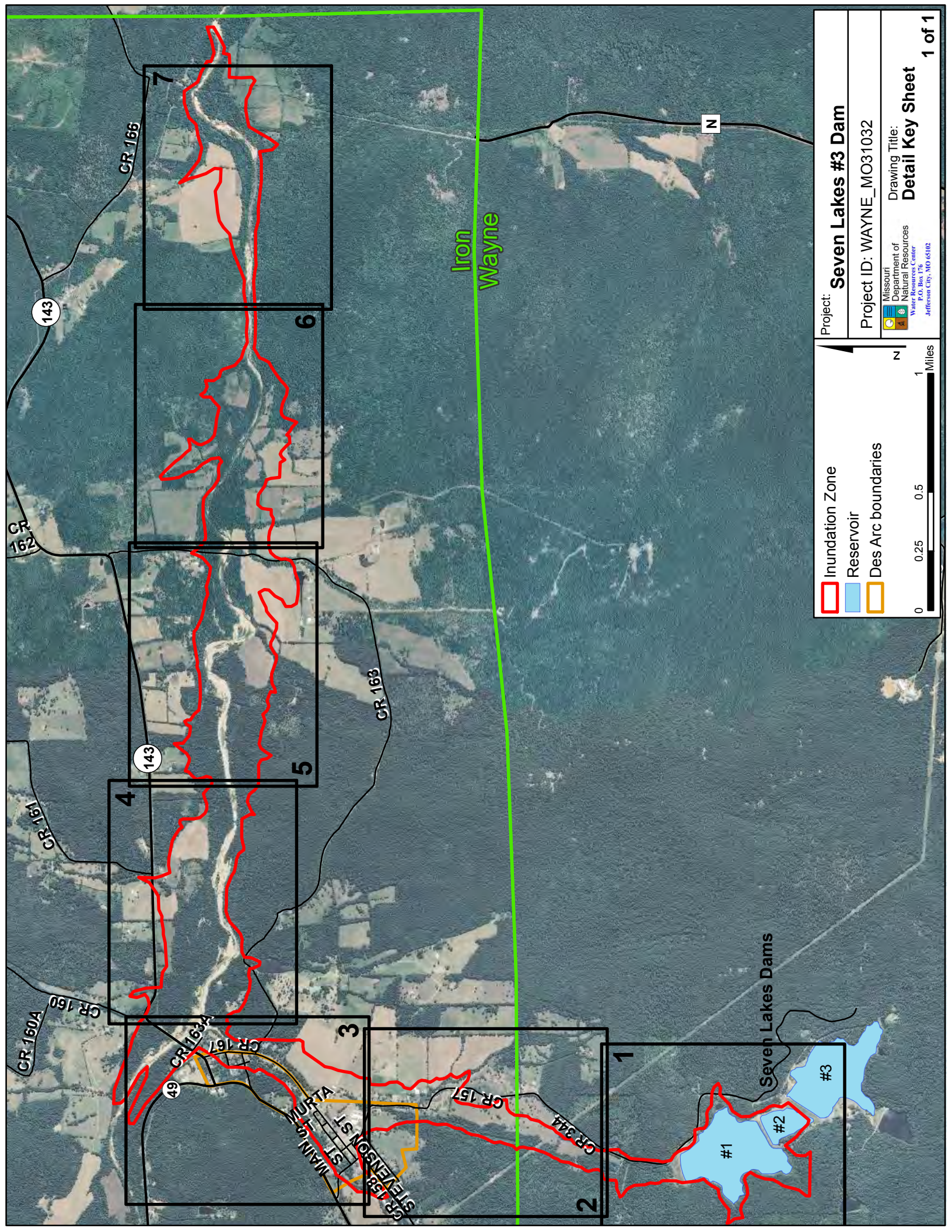


Project: **Seven Lakes #3 Dam**
 Project ID: WAYNE_MO31032
 Missouri Department of Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Drawing Title:
Flood Arrival Times
 1 of 1

Inundation Zone
 Reservoir
 Cross Sections
 Des Arc boundaries

0 0.25 0.5 1 Miles





Project: **Seven Lakes #3 Dam**
 Project ID: WAYNE_MO31032

Missouri Department of Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Drawing Title:
Detail Key Sheet

Inundation Zone (Red outline)
Reservoir (Blue fill)
Des Arc boundaries (Yellow outline)

0 0.25 0.5 1 Miles

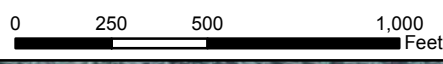
 Inundation Zone
 Reservoir

Project: **Seven Lakes #3 Dam**

Project ID: WAYNE_MO31032

 Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 1 of 7



N

 **Flow Direction**

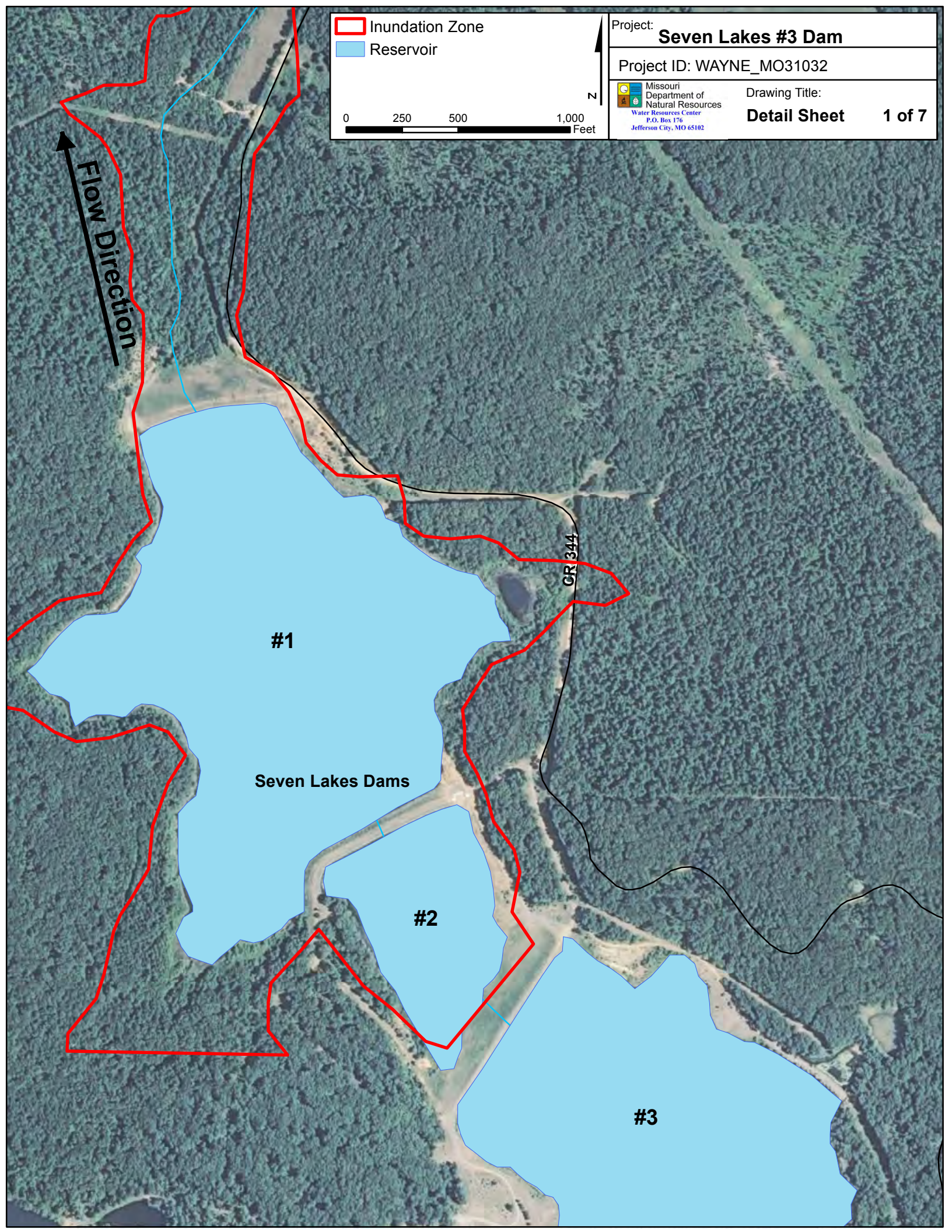
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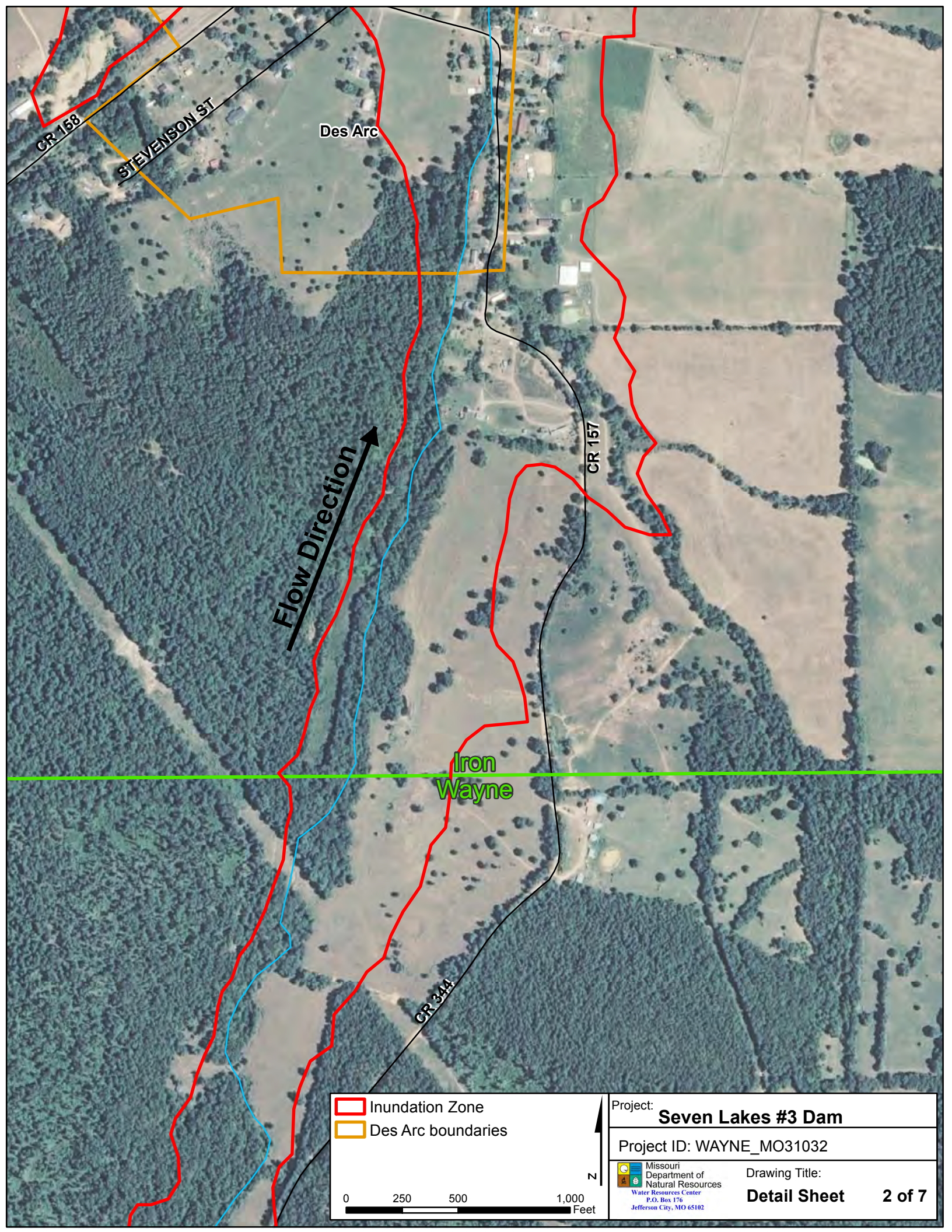
Seven Lakes Dams

#2

#3

GR 344





GR 168

STEVENSON ST

Des Arc

Flow Direction

CR 157

Iron Wayne

CR 344

- Inundation Zone
- Des Arc boundaries

0 250 500 1,000 Feet

N



Project: **Seven Lakes #3 Dam**

Project ID: WAYNE_MO31032

Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:

Detail Sheet 2 of 7

 Inundation Zone
 Des Arc boundaries

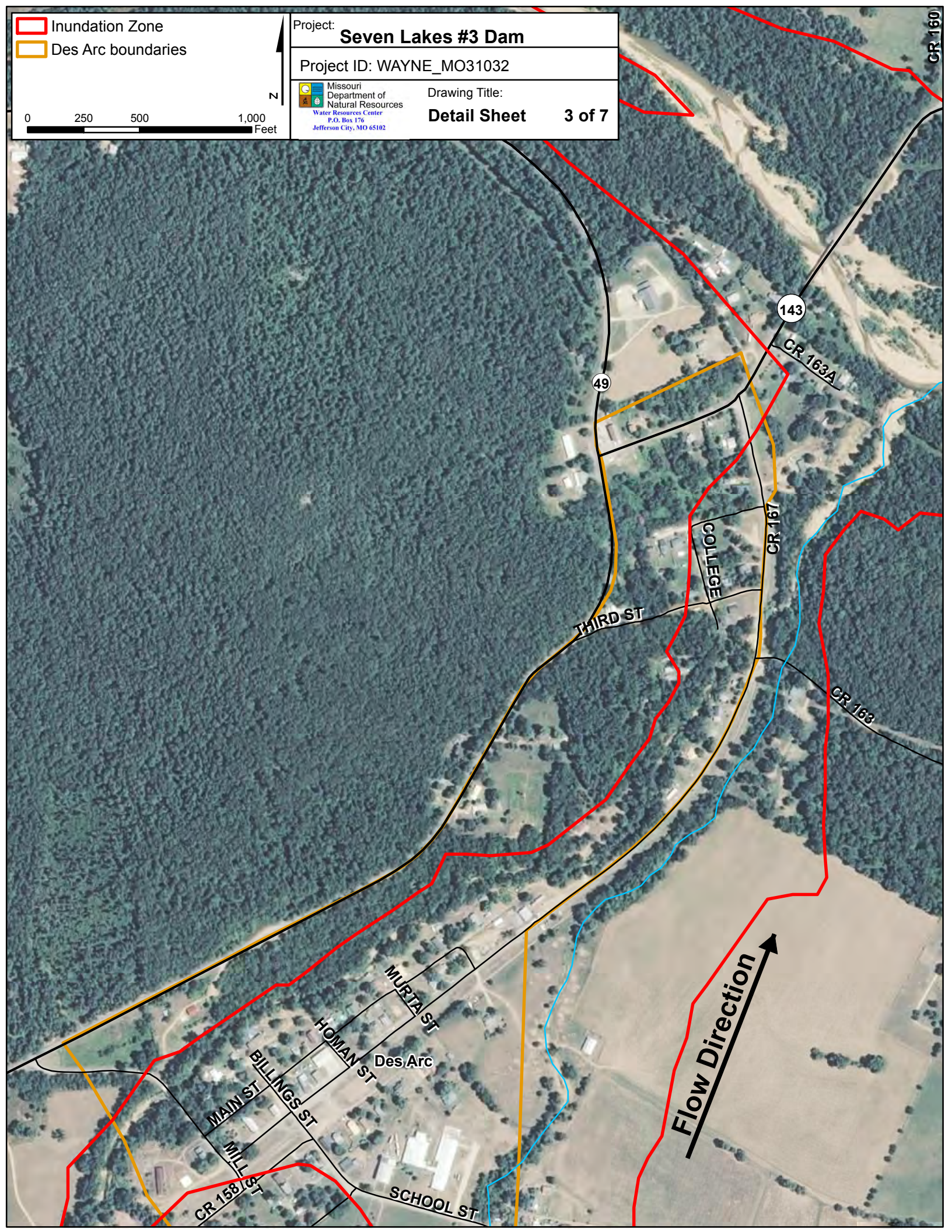


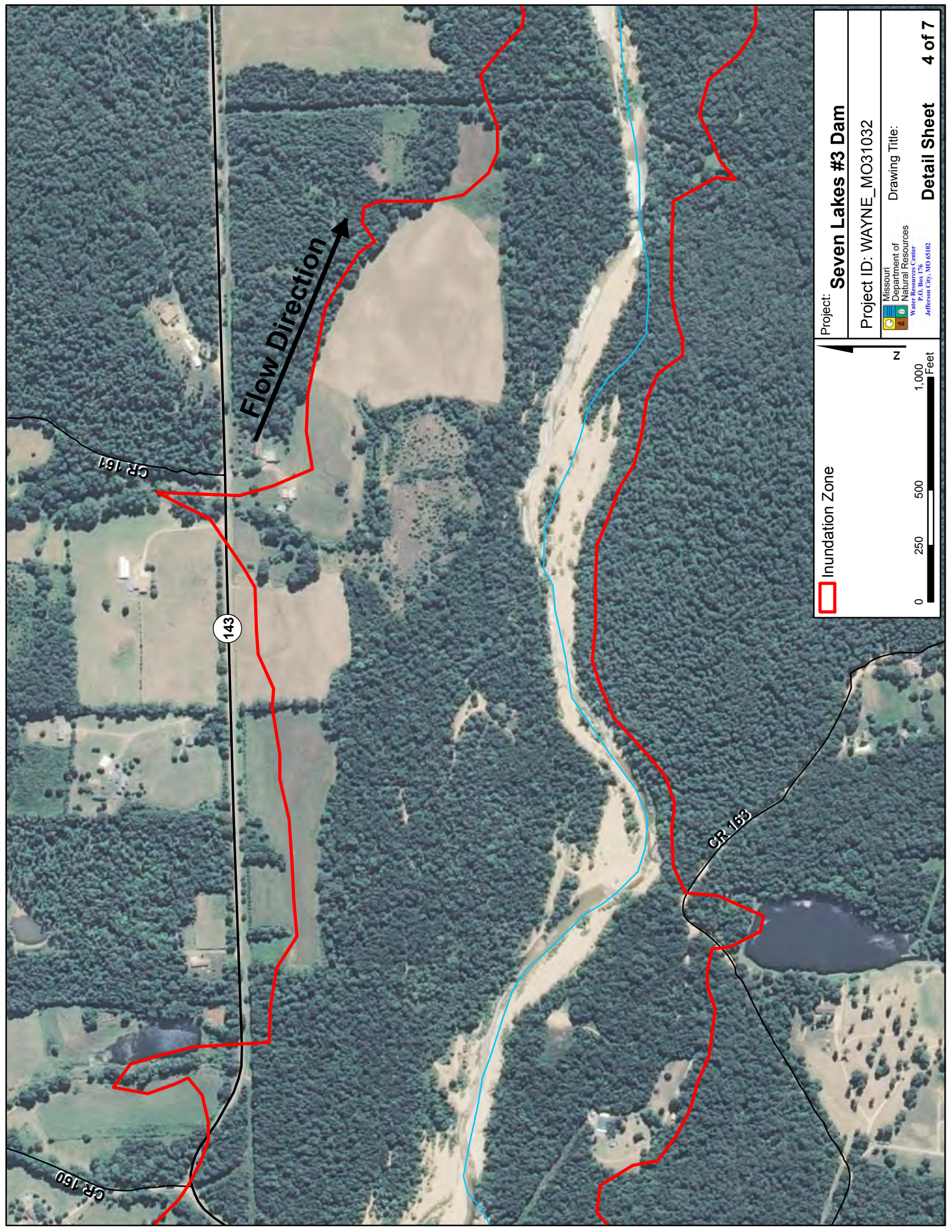
Project: **Seven Lakes #3 Dam**

Project ID: WAYNE_MO31032

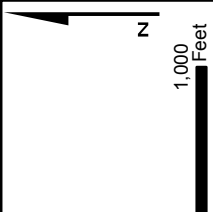
Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title: **Detail Sheet 3 of 7**

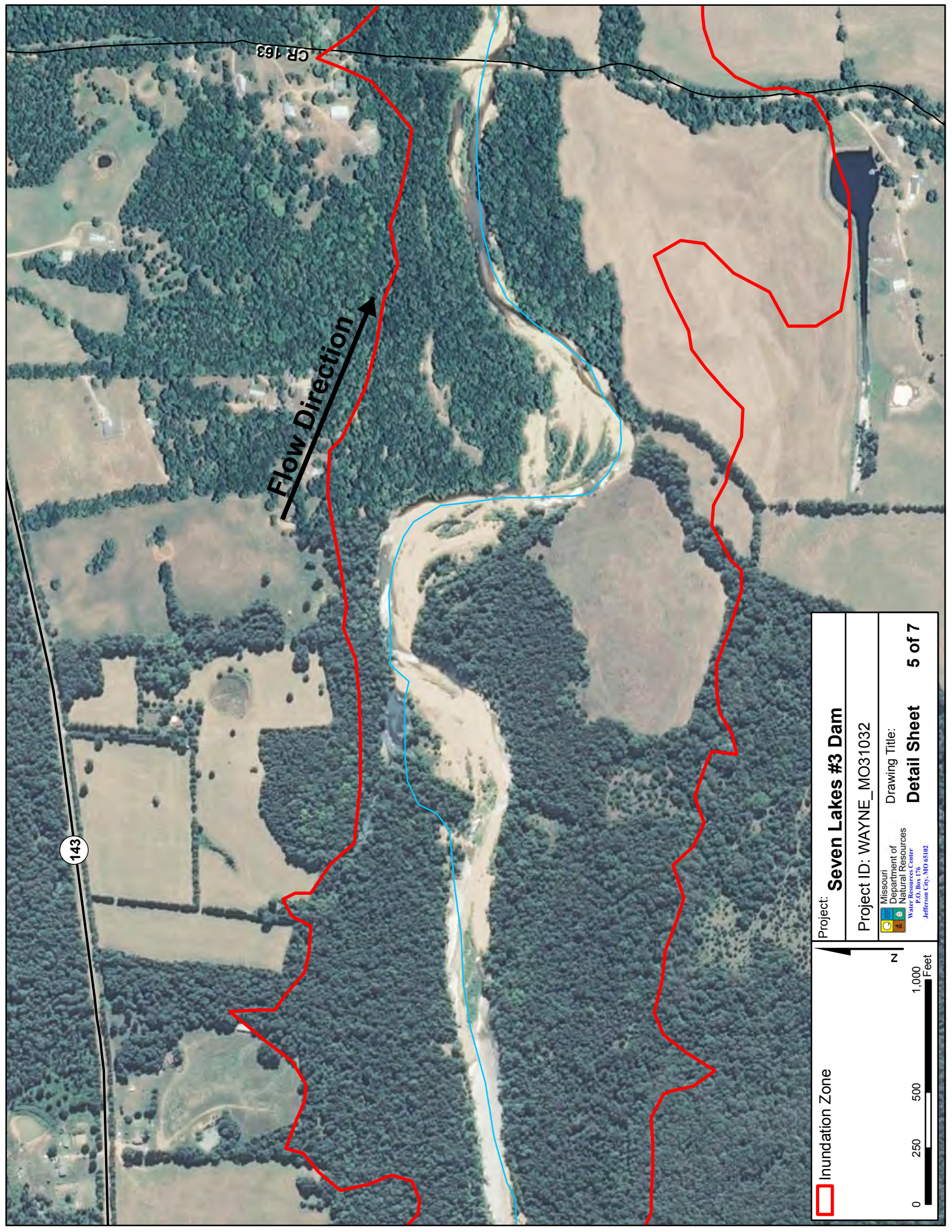




 Inundation Zone







Project: **Seven Lakes #3 Dam**
Project ID: WAYNE_MO31032
Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102
Drawing Title: **Detail Sheet**
4 of 7

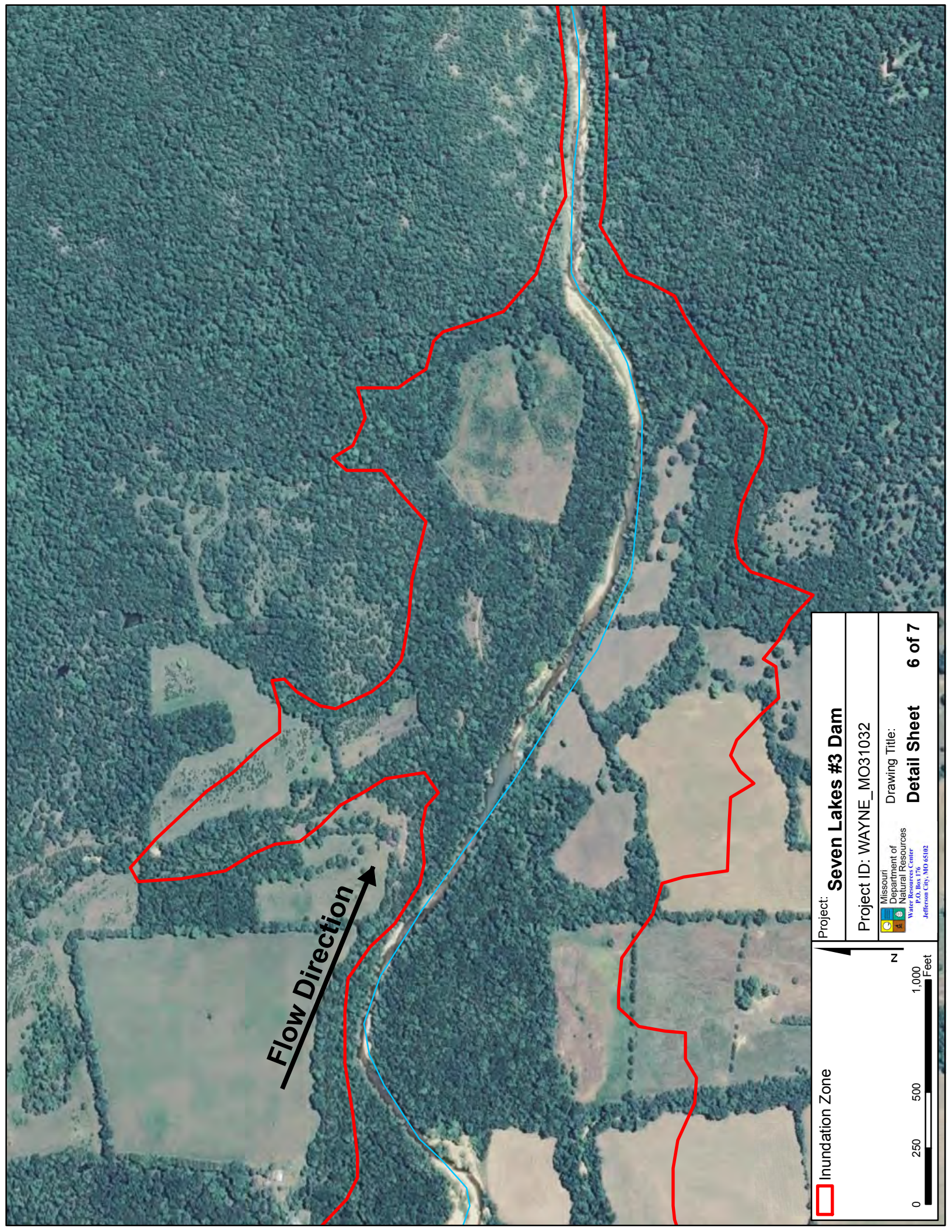


Flow Direction

CR 163

143

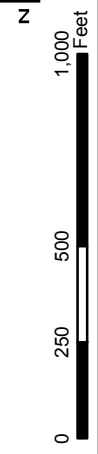
 Inundation Zone	Project: Seven Lakes #3 Dam
	Project ID: WAYNE_MO31032
 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Detail Sheet 5 of 7
 N  0 250 500 1,000 Feet	



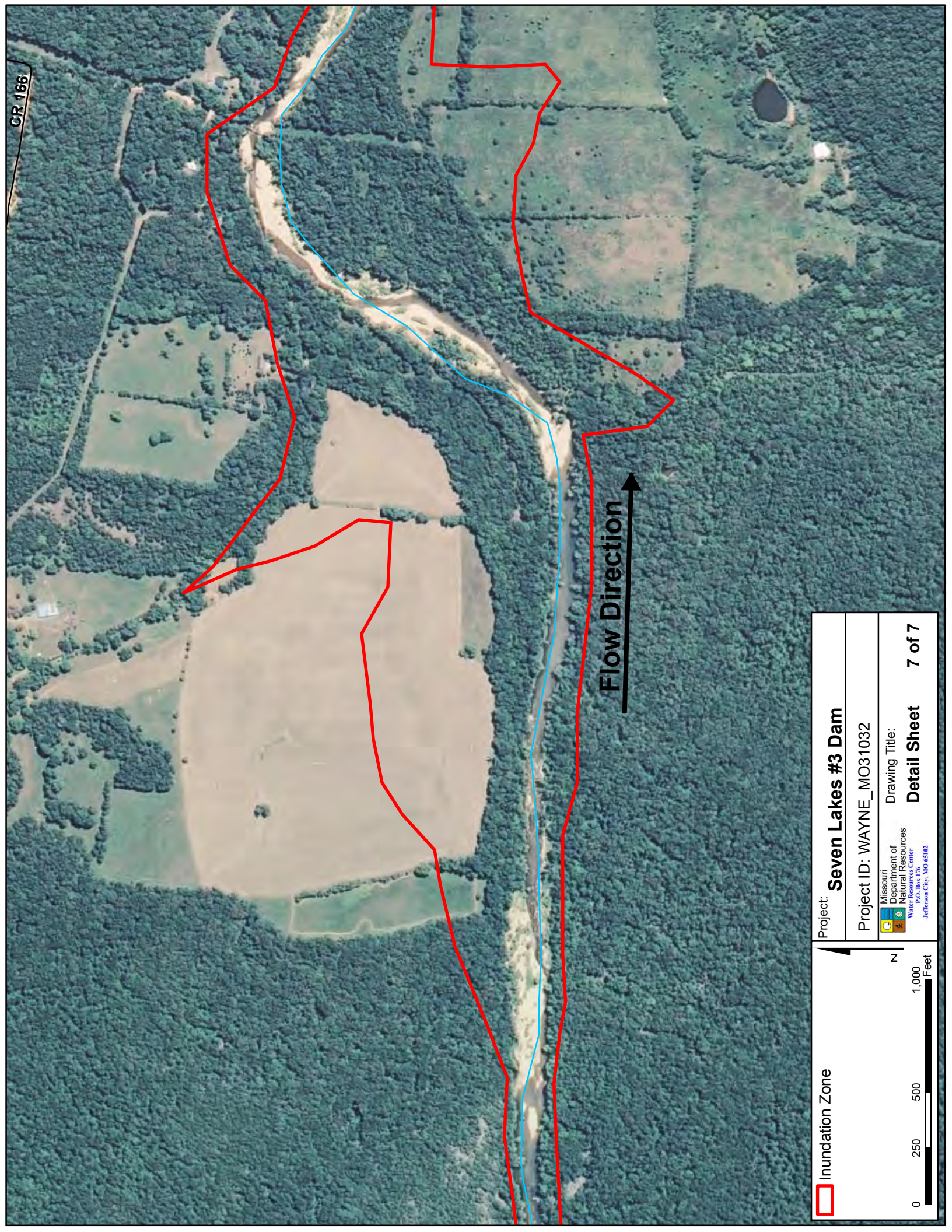
Flow Direction

Inundation Zone



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Project ID:	WAYNE_MO31032
Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Detail Sheet 6 of 7



CR 166

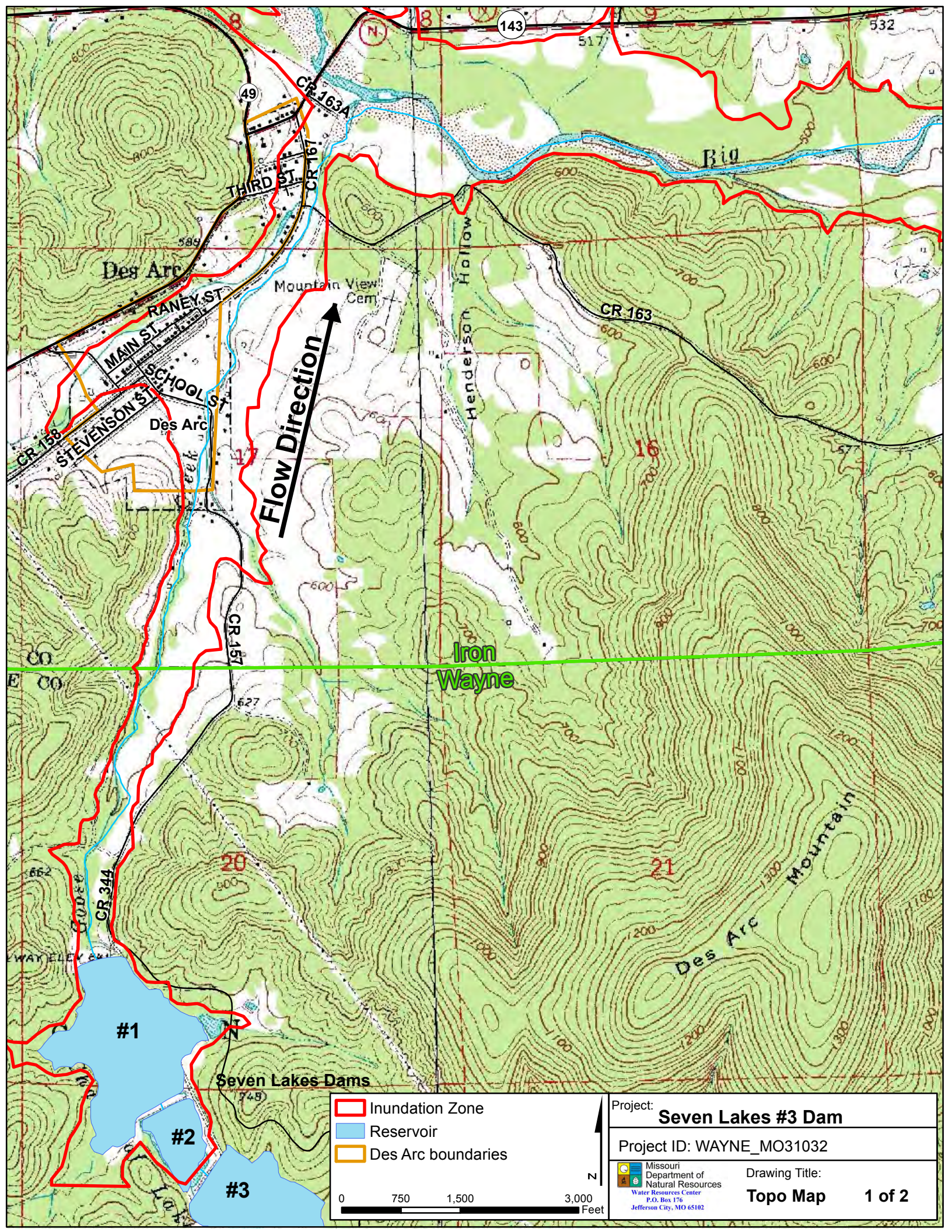


Flow Direction

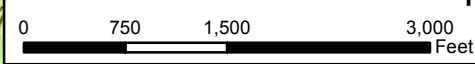
 Inundation Zone	Project: Seven Lakes #3 Dam
	Project ID: WAYNE_MO31032
	Drawing Title: Detail Sheet 7 of 7
	Water Resources Center P.O. Box 176 Jefferson City, MO 65102

0 250 500 1,000 Feet

N



- Inundation Zone
- Reservoir
- Des Arc boundaries



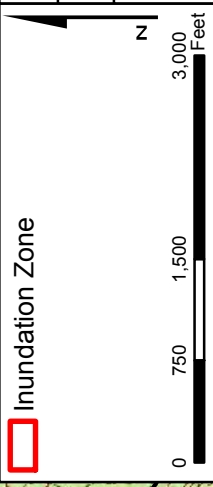
Project:	Seven Lakes #3 Dam
Project ID:	WAYNE_MO31032
Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Topo Map 1 of 2

Project: **Seven Lakes #3 Dam**
Project ID: WAYNE_MO31032

Missouri Department of Natural Resources
Water Resources Center
Jefferson City, MO 65102

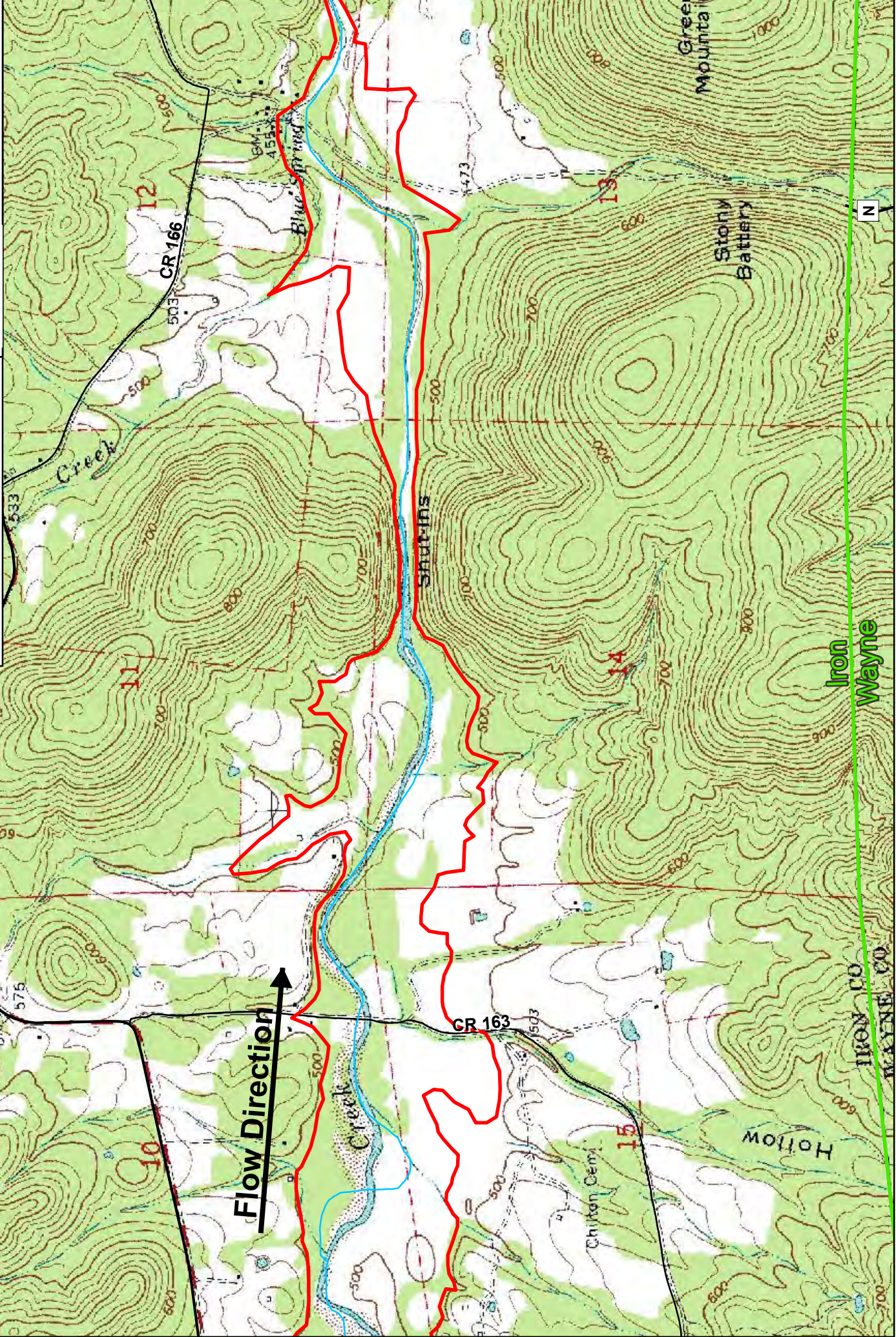
Drawing Title:
Topo Map

2 of 2



Inundation Zone

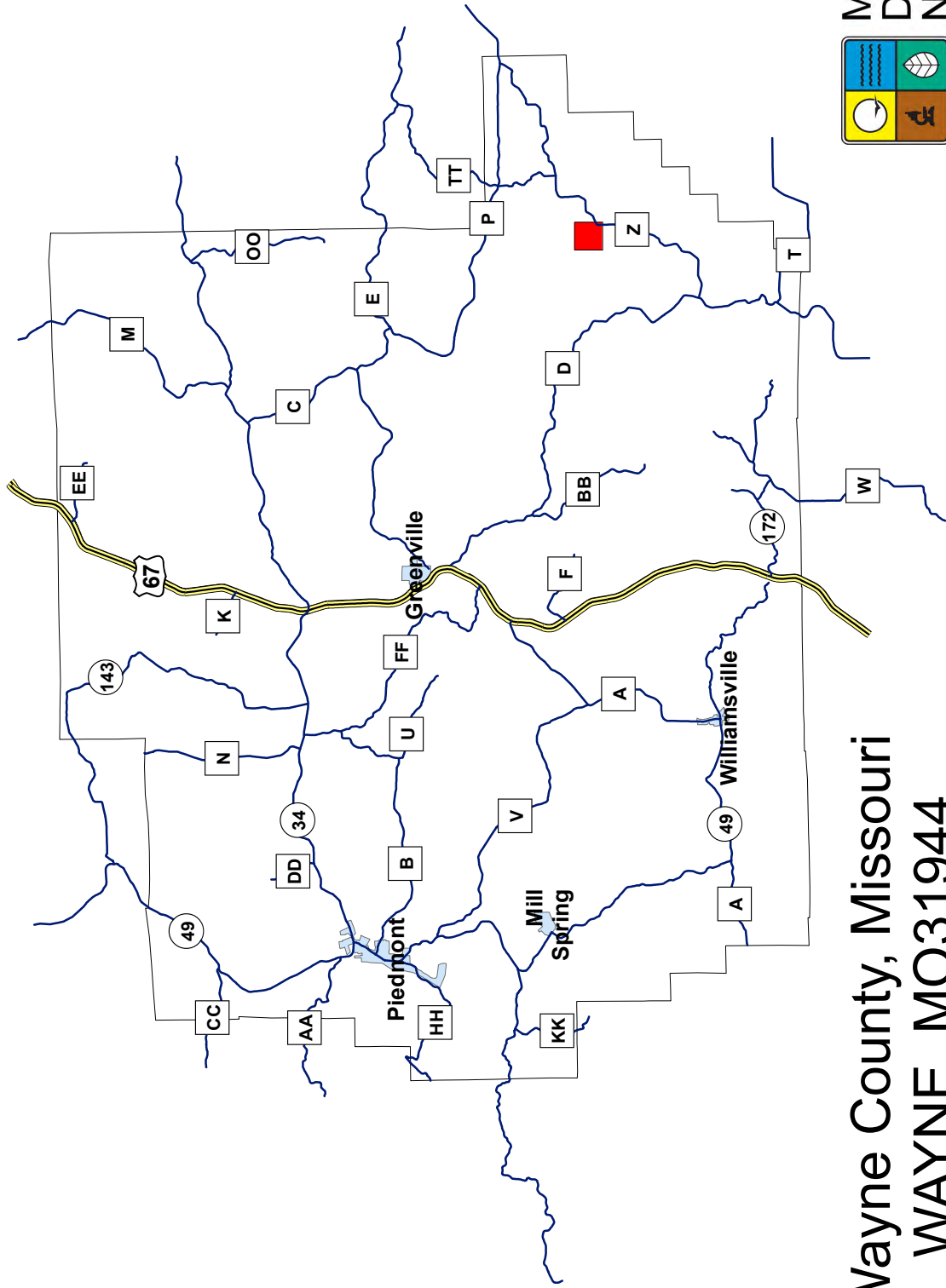
A red outline on the map indicates the inundation zone, which follows the course of Blue Springs Creek and extends to the surrounding hillsides.



Flow Direction ↑

Iron
Wayne

Lake Lynn Dam Breach Inundation Map




Wayne County, Missouri
WAYNE_MO31944



Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Note: Actual areas inundated will depend on the actual dam failure criteria and may differ from the areas shown. Due to limitations, methods, assumptions, and procedures used to develop the inundation area, the map should only be used for evacuation planning and emergency purposes.

Explanation Sheet

Project: Lake Lynn Dam Breach Analysis
Drawing Title: Explanation Sheet 1 of 1
 Missouri Department of Natural Resources Water Resources Center 1001 W. Main, Jefferson City, MO 65102 Project ID: WAYNE_MO31944

Explanation of Maps

The following maps indicate the areas which are predicted to be inundated during the occurrence of a sunny day breach of the dam. The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway.

Use of Maps

The following maps provide a baseline for evaluation of existing emergency action plans and environmental hazards downstream of the regulated structure.

Definition of Terms

Pool Elevation- Water level in the reservoir.

Dam Crest- The lowest elevation measured along the dam crest.

Spillway Crest- The lowest elevation measured along the crest of the spillway.

Arrival Time- Elapsed time between the breach initiation and the time that water levels first begin to rise at any given point.

Assumed Conditions of Flooding

The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway. The assumed overtopping erodes a section of the dam resulting in a dangerous and quick release of water. For the hydraulic analysis flow initiation is required and therefore a baseflow of water has been included in the analysis.

Dam Facts

ID: MO_31944

County: Wayne

Location: S06, T27 N, R08 E

Height of Dam: 59'

Tributary: Unnamed trib. to Lick Creek

Lake Area: 17 acres

Max Storage Capacity: 830 ac-ft

Breach Parameters (Froehlich, 1995)

Side slopes: 1.4:1

Bottom width: 33.75'

Bottom elevation: 434'

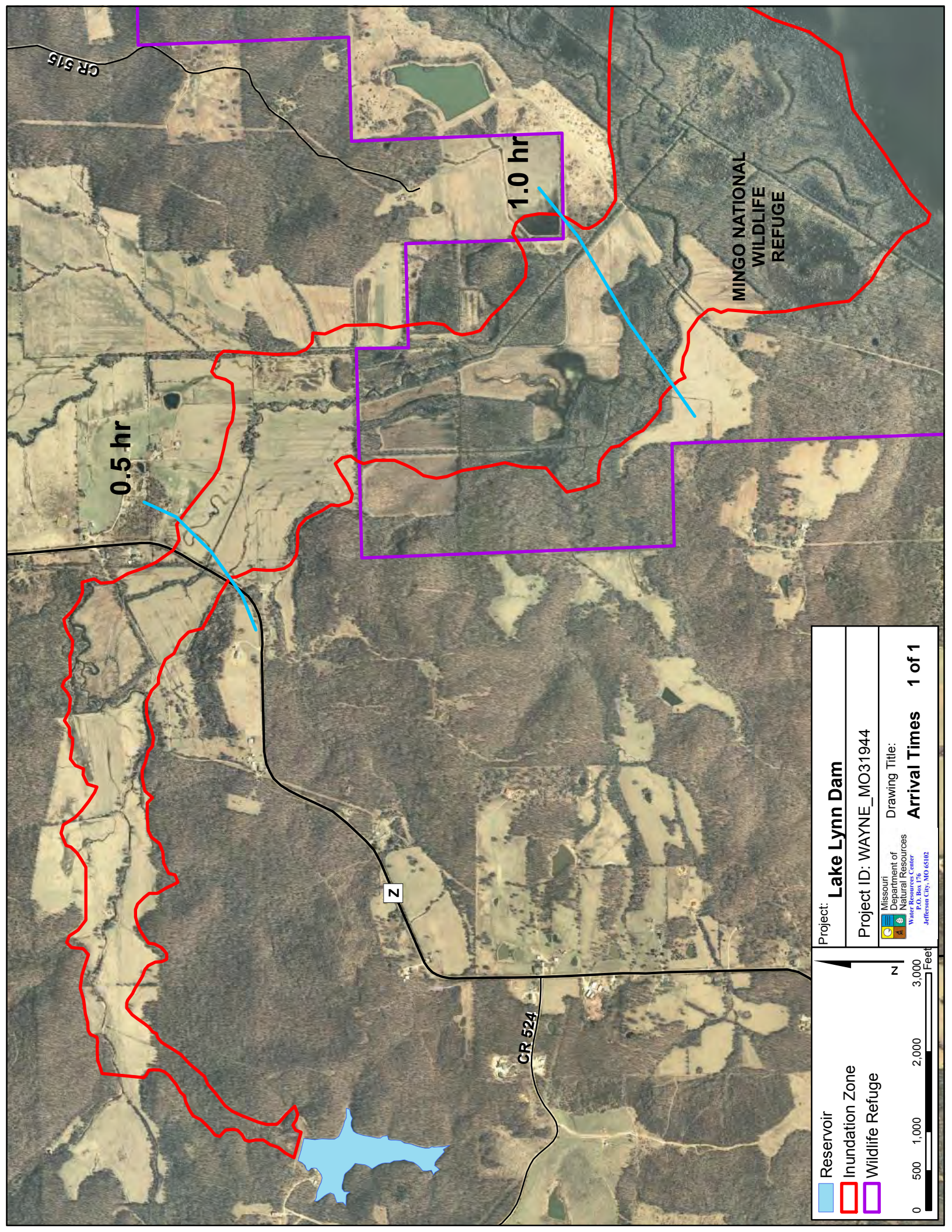
Breach formation time: 0.27 hr

Pool Elevation at Failure: 488.4'

Pool Volume at Failure: 725 ac-ft

Downstream Crossings

Rt. Z



		Project: Lake Lynn Dam
		Project ID: WAYNE_MO31944
		Drawing Title: Arrival Times 1 of 1
		Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102

Flow Direction

Z

Reservoir

Inundation Zone

N

0 250 500 1,000 Feet

Project:

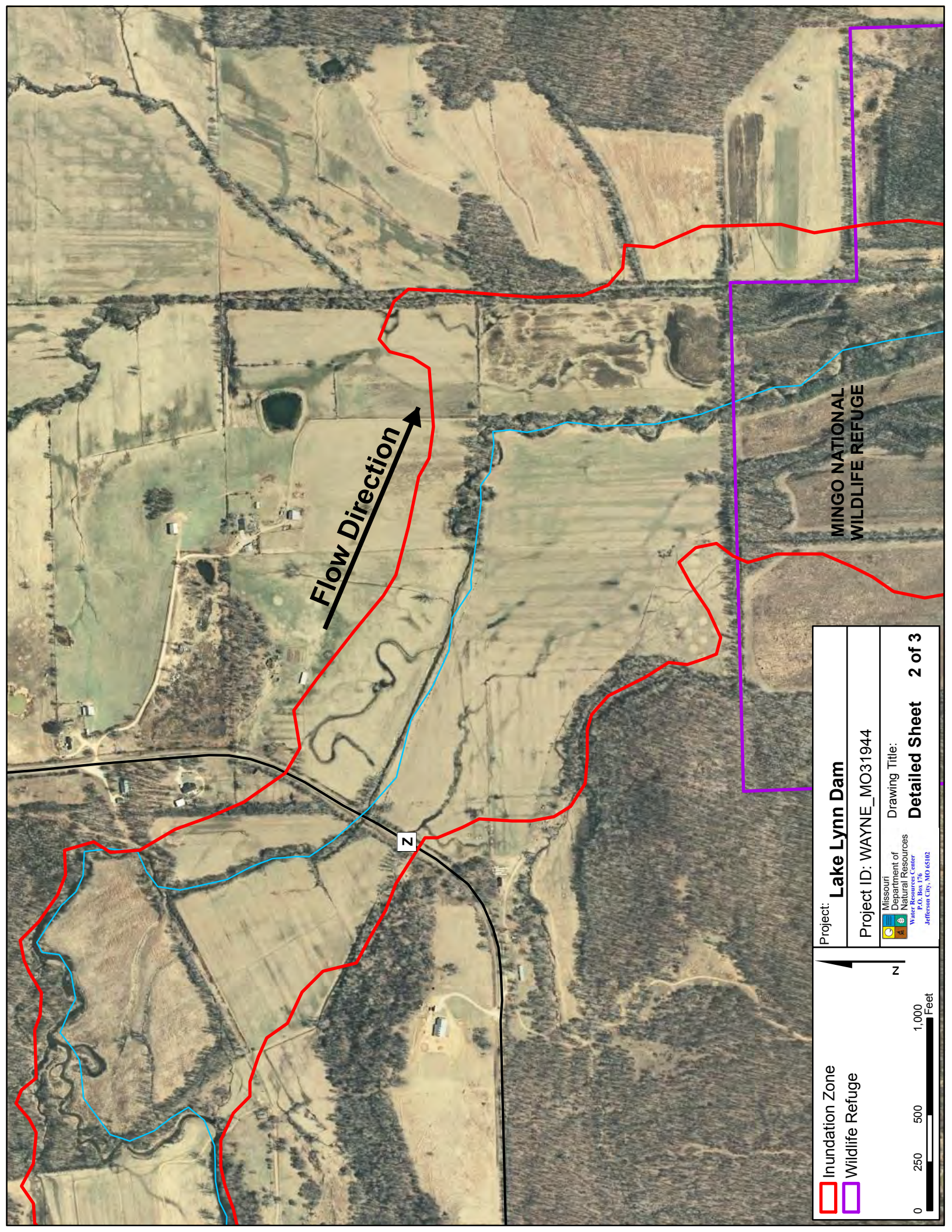
Lake Lynn Dam

Project ID: WAYNE_MO31944

Drawing Title:

Detailed Sheet 1 of 3

Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102



Project: **Lake Lynn Dam**
 Project ID: WAYNE_MO31944
 Missouri Department of Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102
 Drawing Title:
Detailed Sheet 2 of 3

Inundation Zone (Red outline)
Wildlife Refuge (Purple outline)

North Arrow (N)
 Scale: 0, 250, 500, 1,000 Feet

MINGO NATIONAL WILDLIFE REFUGE


Flow Direction (with arrow pointing upstream)


Z

Project: **Lake Lynn Dam**
Project ID: WAYNE_MO31944

Missouri Department of Natural Resources
Water Conservation Center
P.O. Box 176
Jefferson City, MO 65102

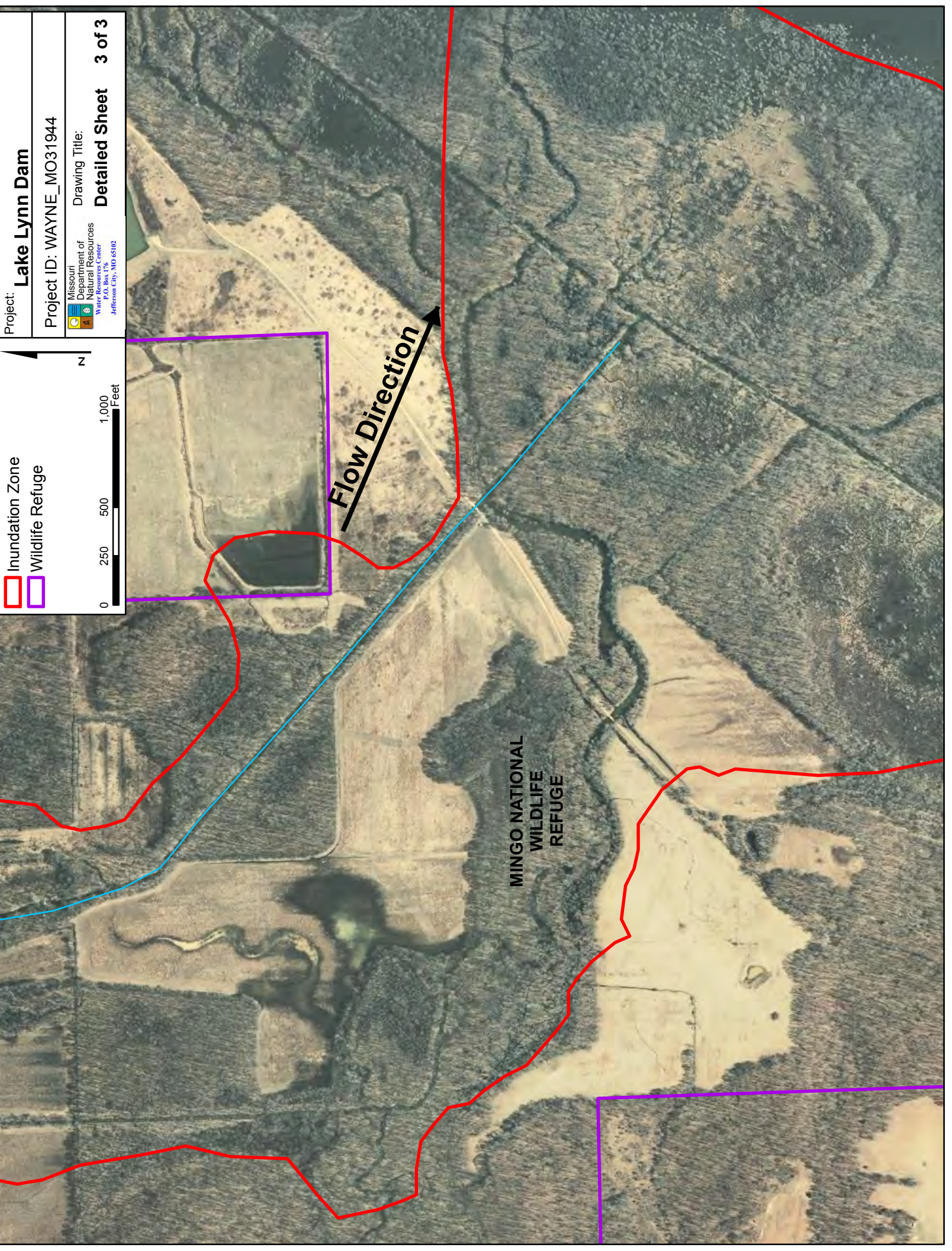
Drawing Title:
Detailed Sheet 3 of 3

 Inundation Zone

 Wildlife Refuge

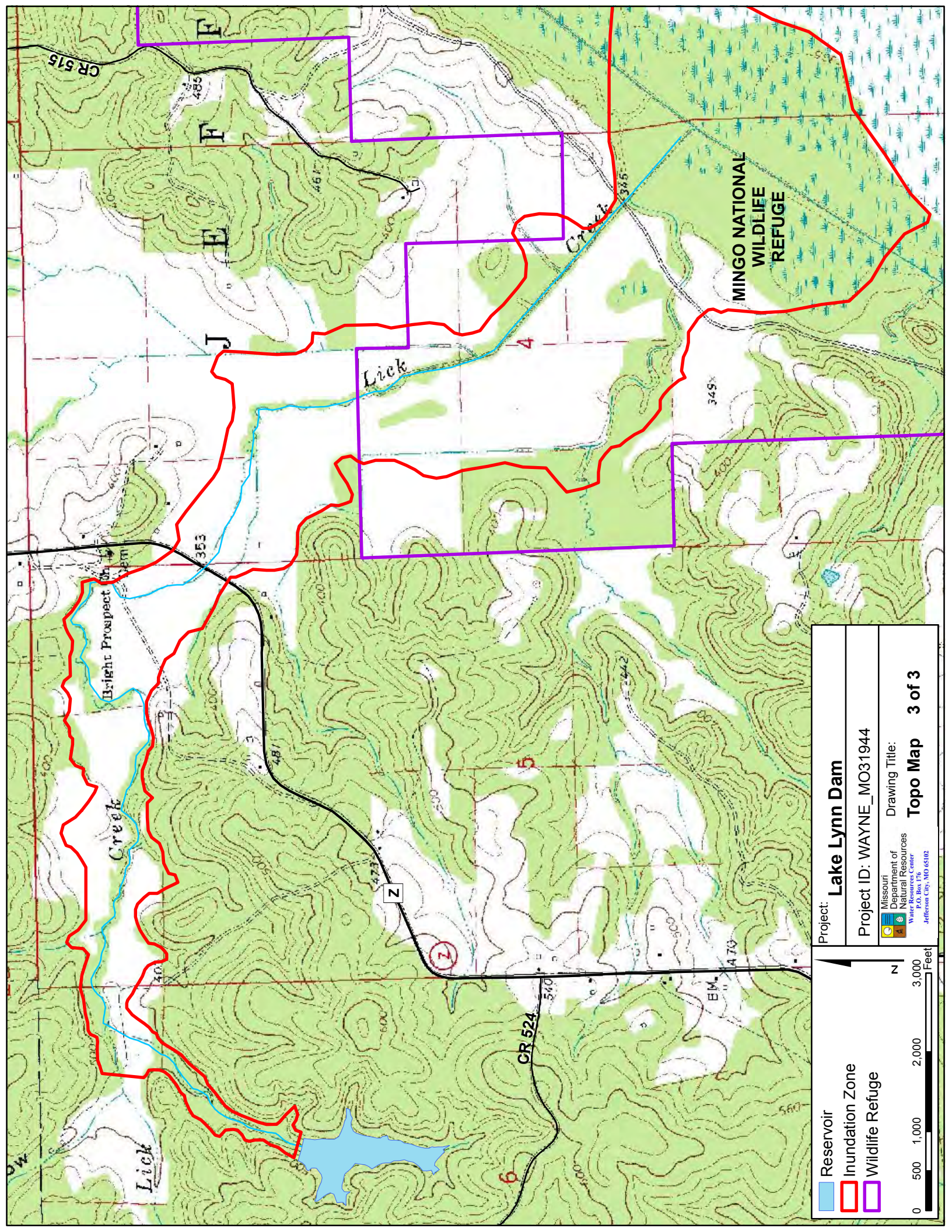
0 250 500 1,000 Feet

N



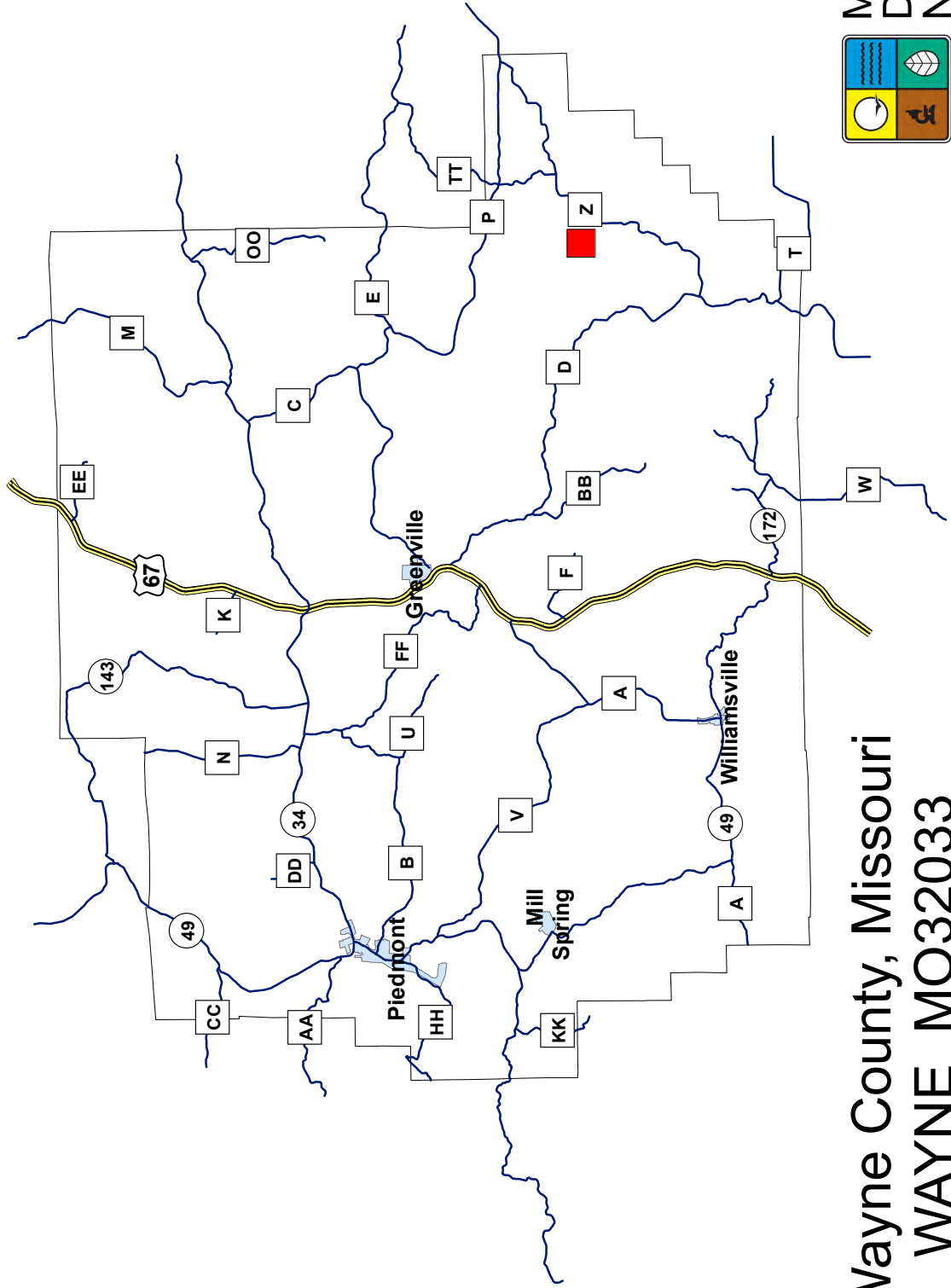
MINGO NATIONAL
WILDLIFE
REFUGE

Flow Direction



Project:	Lake Lynn Dam
Project ID:	WAYNE_MO31944
	Drawing Title:
Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Topo Map 3 of 3

Lake Ray Dam Breach Inundation Map




Missouri
 Department of
 Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Wayne County, Missouri
 WAYNE_MO32033

Note: Actual areas inundated will depend on the actual dam failure criteria and may differ from the areas shown. Due to limitations, methods, assumptions, and procedures used to develop the inundation area, the map should only be used for evacuation planning and emergency purposes.

Explanation Sheet

Project:	Lake Ray Dam Breach Analysis
Drawing Title:	Explanation Sheet 1 of 1
 Missouri Department of Natural Resources Water Resources Center 1000 W. Main St., Jefferson City, MO 65102	Project ID: WAYNE_MO32033

Explanation of Maps

The following maps indicate the areas which are predicted to be inundated during the occurrence of a sunny day breach of the dam. The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway.

Use of Maps

The following maps provide a baseline for evaluation of existing emergency action plans and environmental hazards downstream of the regulated structure.

Definition of Terms

Pool Elevation- Water level in the reservoir.

Dam Crest- The lowest elevation measured along the dam crest.

Spillway Crest- The lowest elevation measured along the crest of the spillway.

Arrival Time- Elapsed time between the breach initiation and the time that water levels first begin to rise at any given point.

Assumed Conditions of Flooding

The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway. The assumed overtopping erodes a section of the dam resulting in a dangerous and quick release of water. For the hydraulic analysis flow initiation is required and therefore a baseflow of water has been included in the analysis.

Dam Facts

ID: MO_32033

County: Wayne

Location: S06, T27 N, R08 E

Height of Dam: 42'

Tributary: Unnamed trib. to Lick Creek

Lake Area: 25 acres

Max Storage Capacity: 860 ac-ft

Breach Parameters (Froehlich, 1995)

Side slopes: 1.4:1

Bottom width: 50.75'

Bottom elevation: 423'

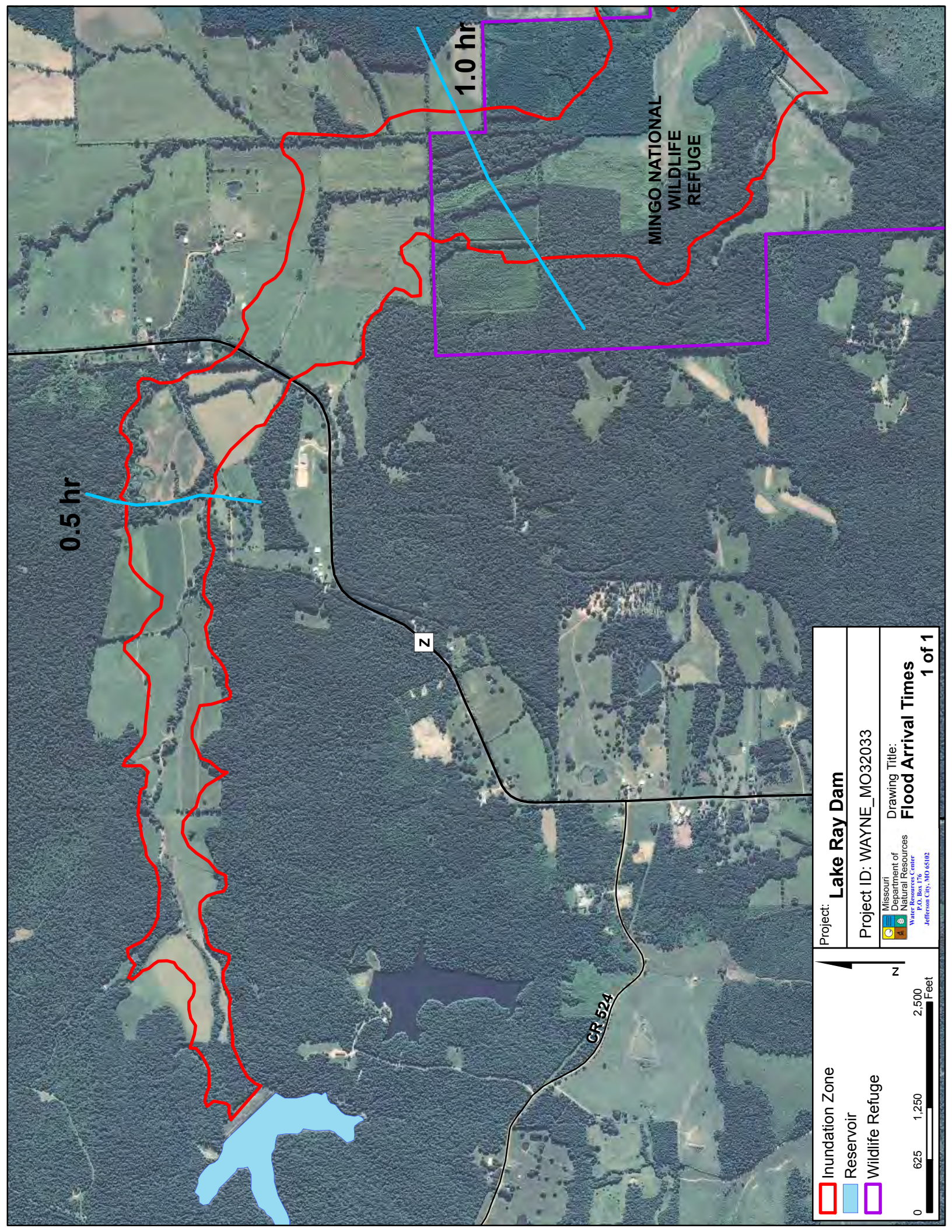
Breach formation time: 0.39 hr

Pool Elevation at Failure: 457'

Pool Volume at Failure: 685 ac-ft

Downstream Crossings

RtZ



0.5 hr

1.0 hr

MINGO NATIONAL
WILDLIFE
REFUGE

Z



GR 524


	Project:	Lake Ray Dam
	Project ID:	WAYNE_MO32033
	Drawing Title:	Flood Arrival Times
		1 of 1


Project: **Lake Ray Dam**
Project ID: WAYNE_MO32033

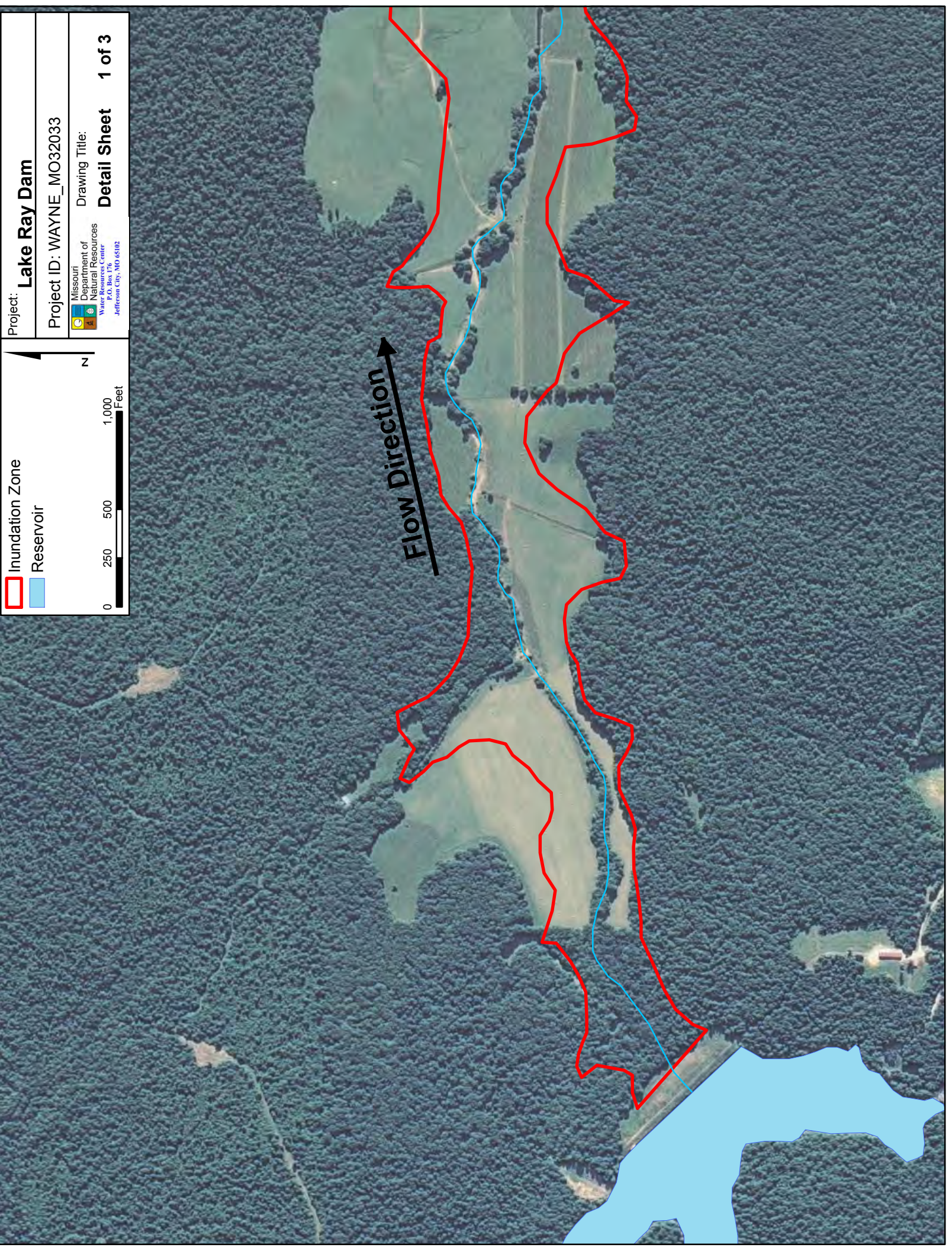
Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 100
Jefferson City, MO 65102

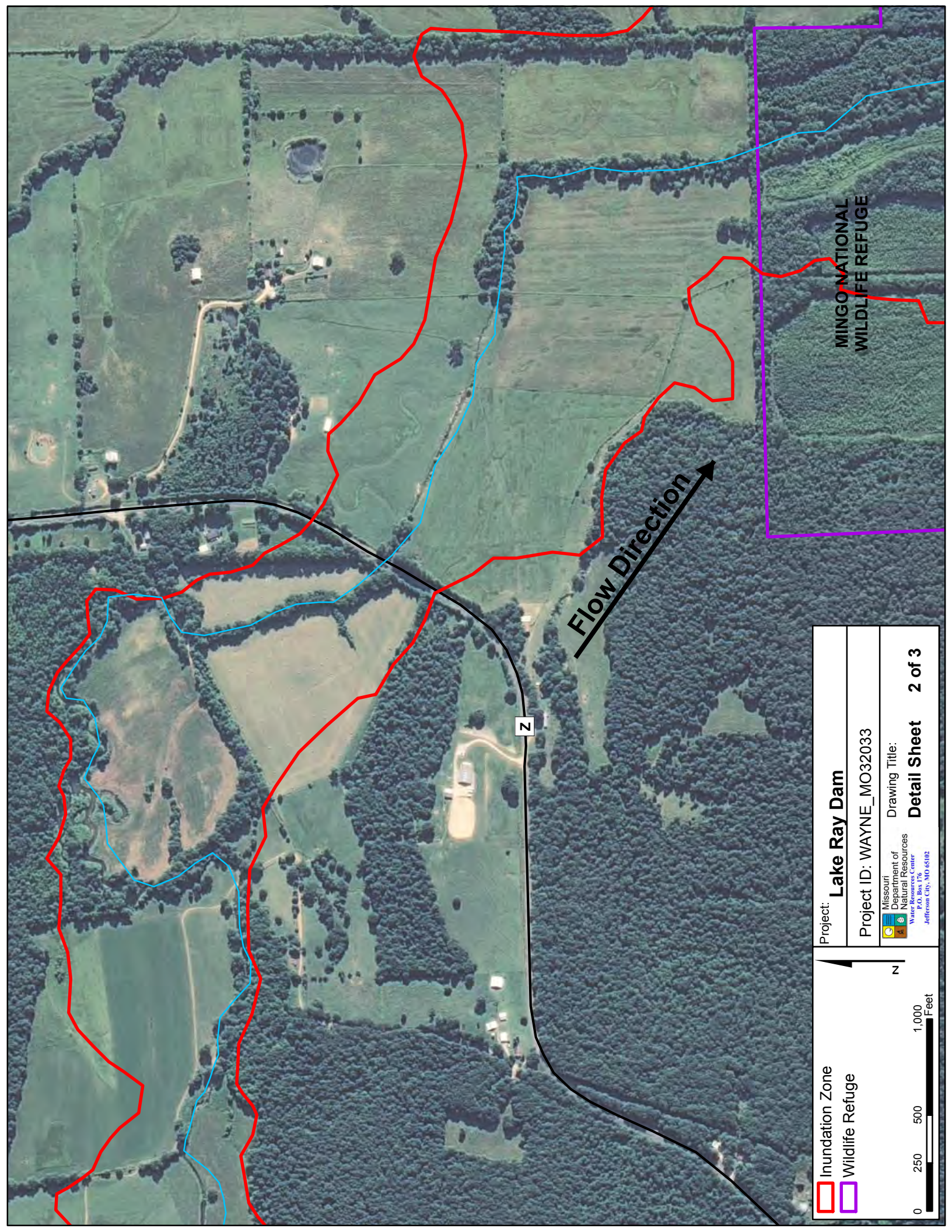
Drawing Title:
Detail Sheet 1 of 3

 Inundation Zone
 Reservoir

 N

 0 250 500 1,000 Feet










MINGO NATIONAL
WILDLIFE REFUGE

Flow Direction


Z

 Inundation Zone  Wildlife Refuge	Project: Lake Ray Dam
	Project ID: WAYNE_MO32033
	 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102
	Drawing Title: Detail Sheet 2 of 3
	 N
	 0 250 500 1,000 Feet

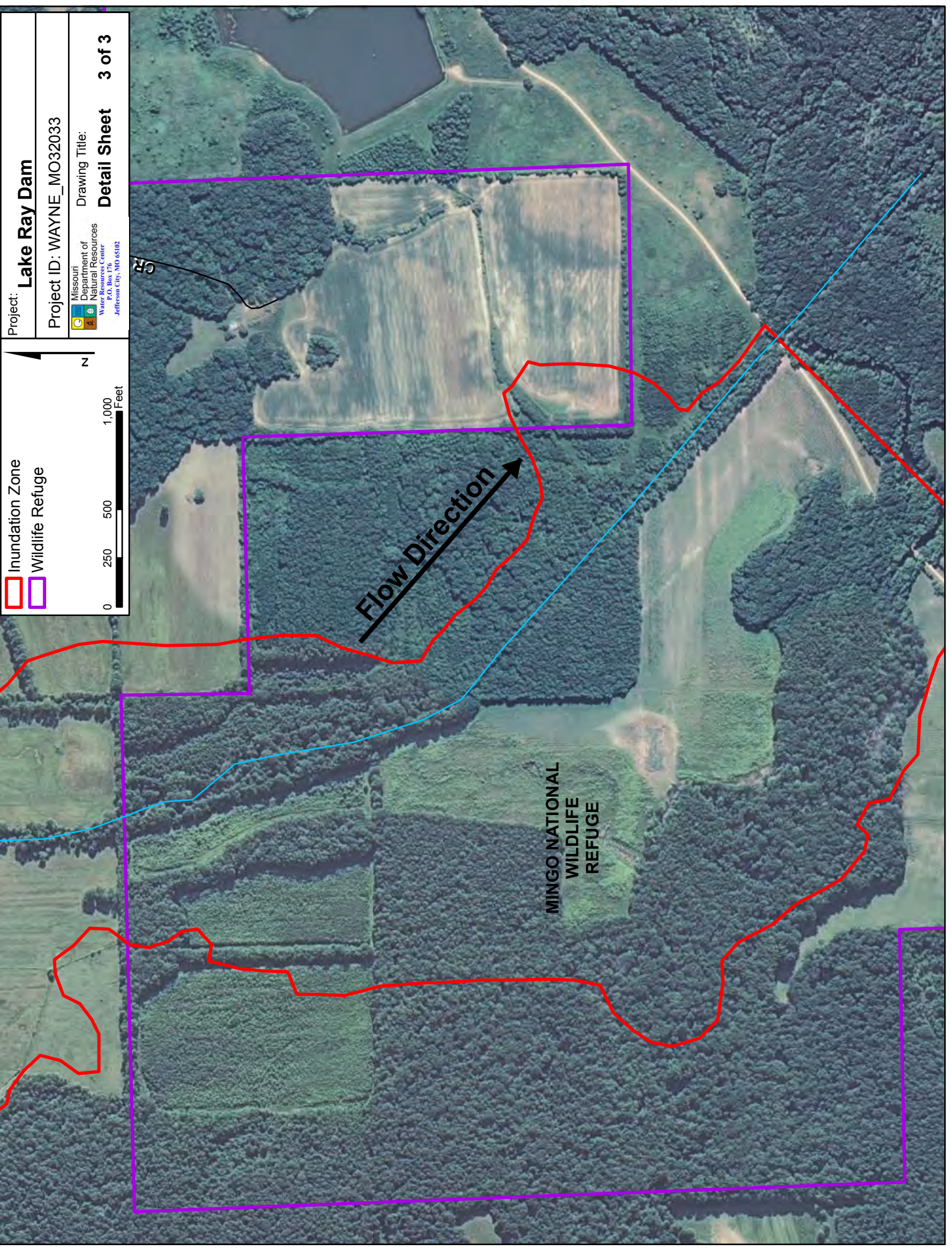

Project: **Lake Ray Dam**
Project ID: WAYNE_MO32033

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 100
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 3 of 3



0 250 500 1,000 Feet



Flow Direction

**MINGO NATIONAL
WILDLIFE
REFUGE**

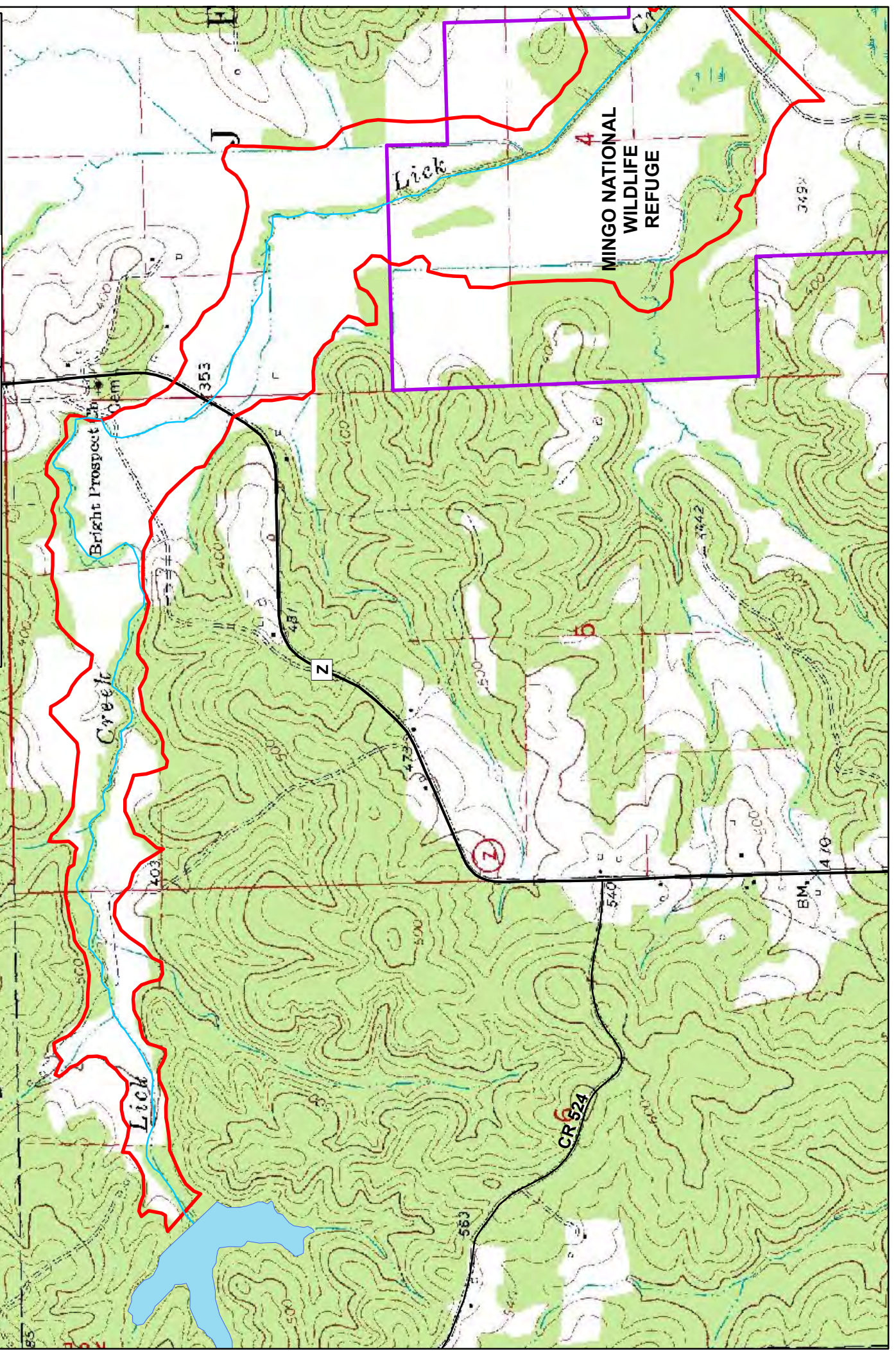
Project: **Lake Ray Dam**
Project ID: WAYNE_MO32033

Missouri Department of Natural Resources
Wildlife Center
P.O. Box 174
Jefferson City, MO 65102

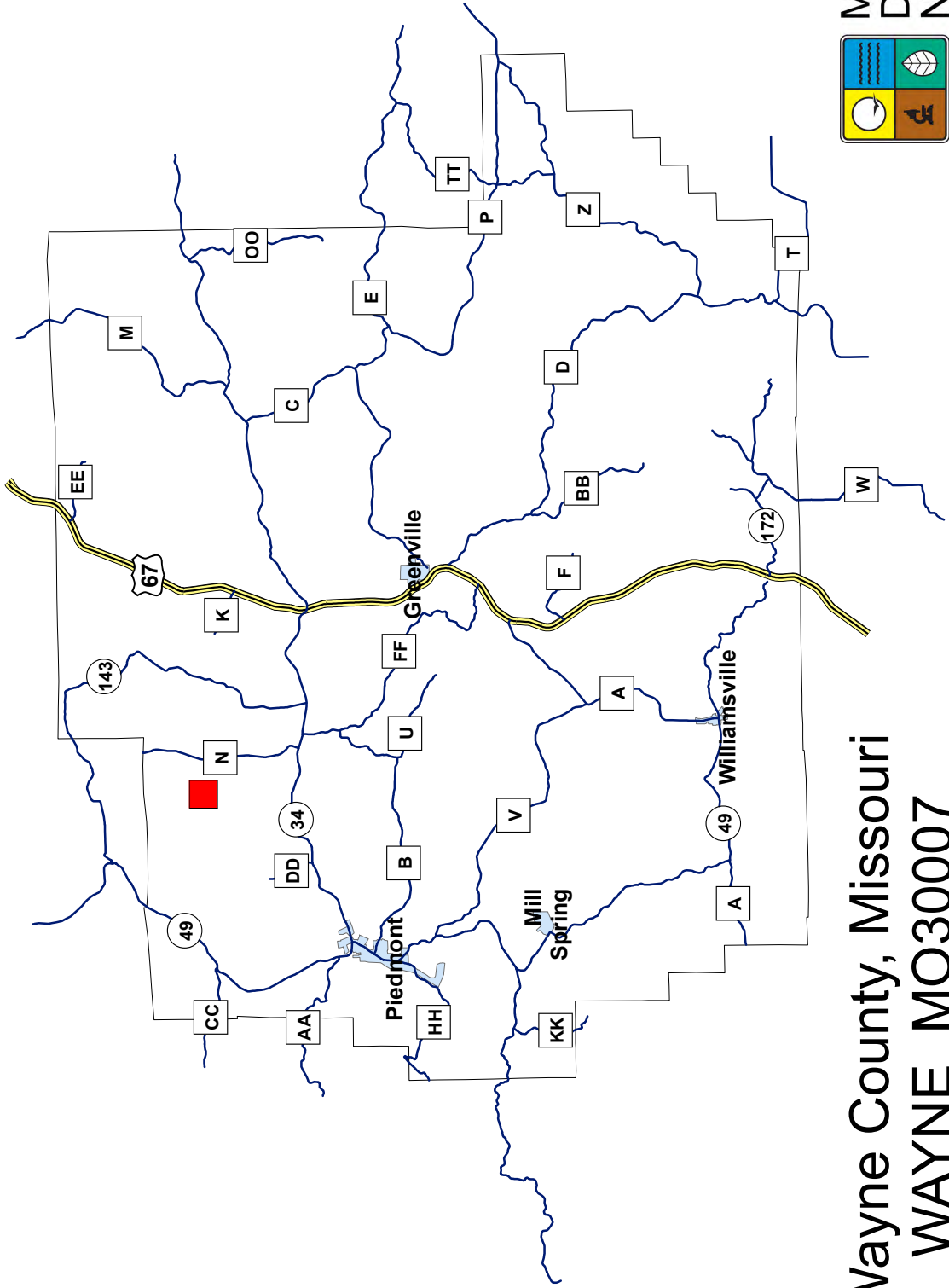
Drawing Title:
Topo Map 1 of 1



- Inundation Zone (Red outline)
- Reservoir (Blue area)
- Wildlife Refuge (Purple outline)



Eagle Sky Lake Dam Breach Inundation Map



Missouri
 Department of
 Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Wayne County, Missouri
WAYNE_MO30007

Note: Actual areas inundated will depend on the actual dam failure criteria and may differ from the areas shown. Due to limitations, methods, assumptions, and procedures used to develop the inundation area, the map should only be used for evacuation planning and emergency purposes.

Explanation Sheet

Project: **Eagle Sky Lake Dam Breach Analysis**

Drawing Title: **Explanation Sheet 1 of 1**



Project ID: WAYNE_MO30007

Explanation of Maps

The following maps indicate the areas which are predicted to be inundated during the occurrence of a sunny day breach of the dam. The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway.

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Arrival Time- Elapsed time between the breach initiation and the time that water levels first begin to rise at any given point.

Assumed Conditions of Flooding

The pool elevation at failure is assumed to be at the emergency spillway crest elevation or at the crest of the dam in the absence of an emergency spillway. The assumed overtopping erodes a section of the dam resulting in a dangerous and quick release of water. For the hydraulic analysis flow initiation is required and therefore a baseflow of water has been included in the analysis.

Dam Facts

ID: MO_30007

County: Wayne

Location: S35, T30 N, R04 E

Height of Dam: 39'

Tributary: Camp Creek

Lake Area: 58 acres

Max Storage Capacity: 3300 ac-ft

Breach Parameters (Froehlich, 1995)

Side slopes: 1.4:1

Bottom width: 88.34'

Bottom elevation: 633'

Breach formation time: 0.57 hr

Pool Elevation at Failure: 672.37'

Pool Volume at Failure: 2080 ac-ft

Downstream Crossings

Rt N

CR 324

CR 312

HWY 143

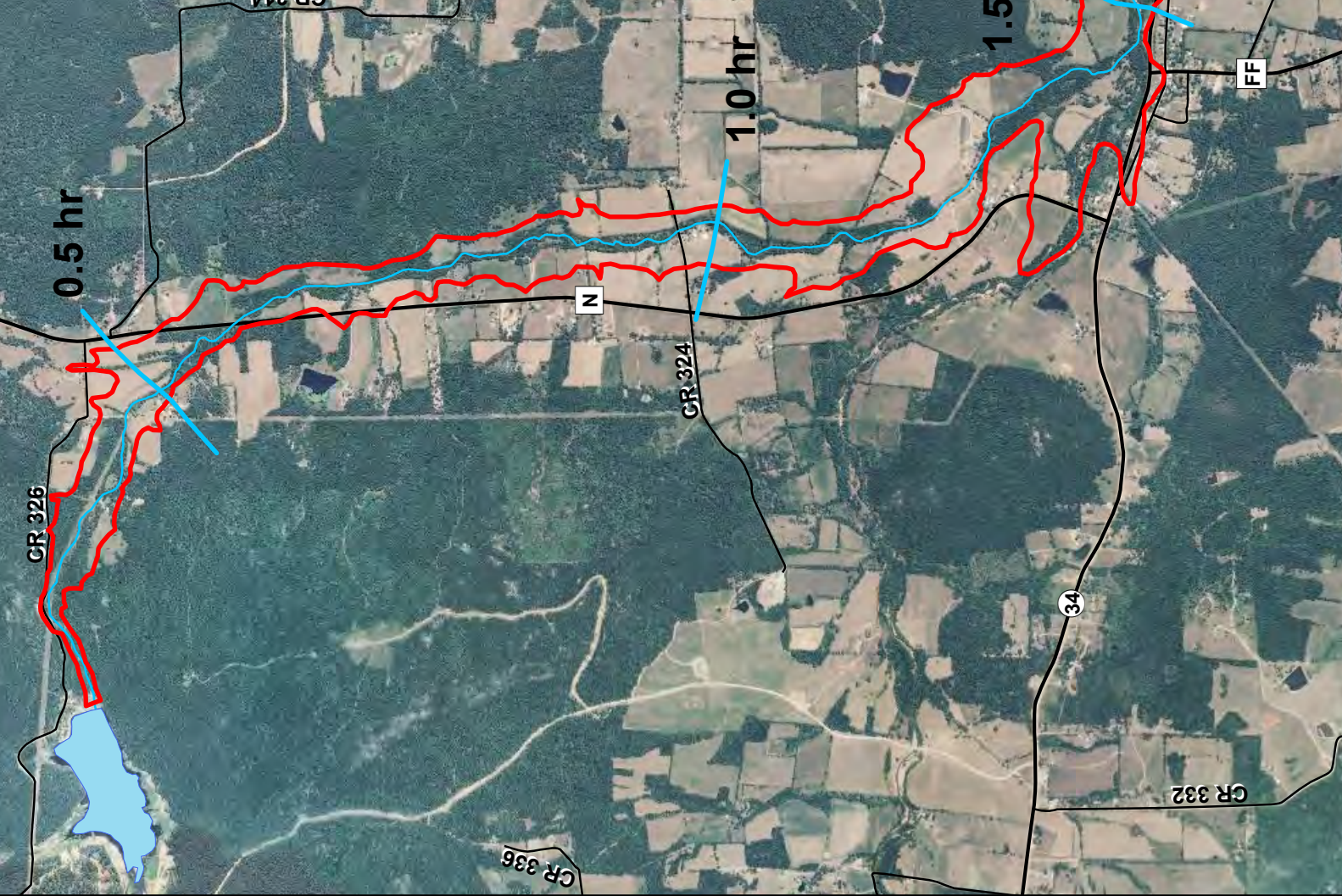
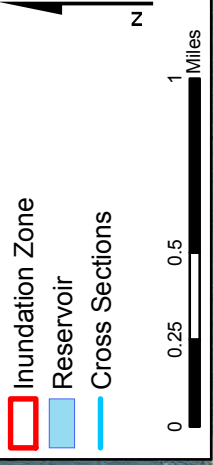
HWY 34

Project: **Eagle Sky Lake Dam**
Project ID: WAYNE_MO30007

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Flood Arrival Times

1 of 1

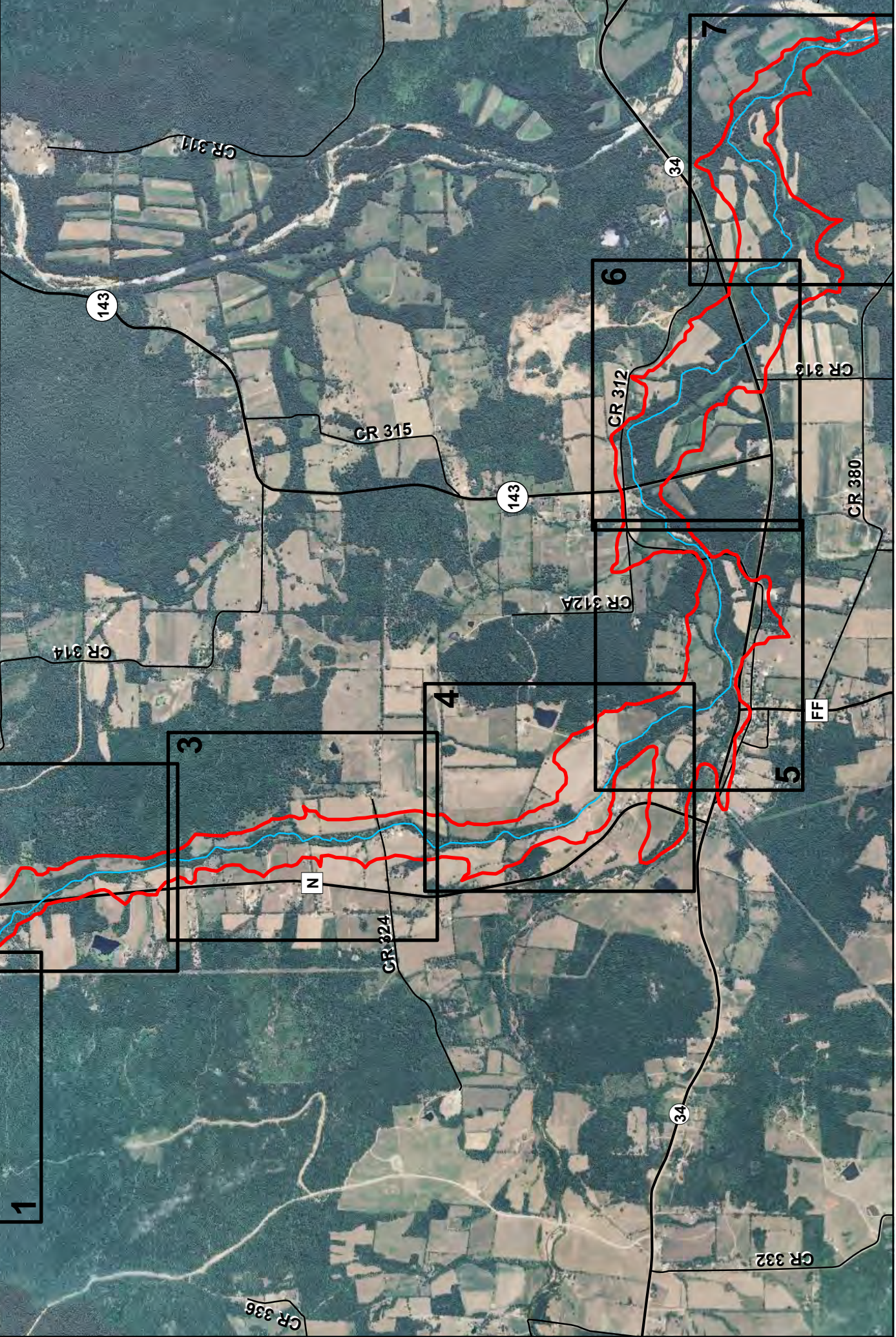
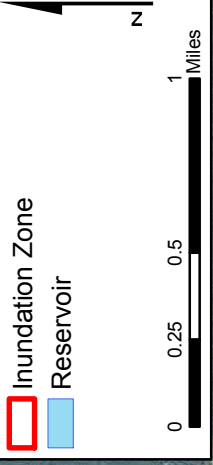


Project: **Eagle Sky Lake Dam**
Project ID: WAYNE_MO30007

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Key Sheet

1 of 1

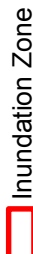



Project: **Eagle Sky Lake Dam**
Project ID: WAYNE_MO30007



Drawing Title:
Detail Sheet

1 of 7

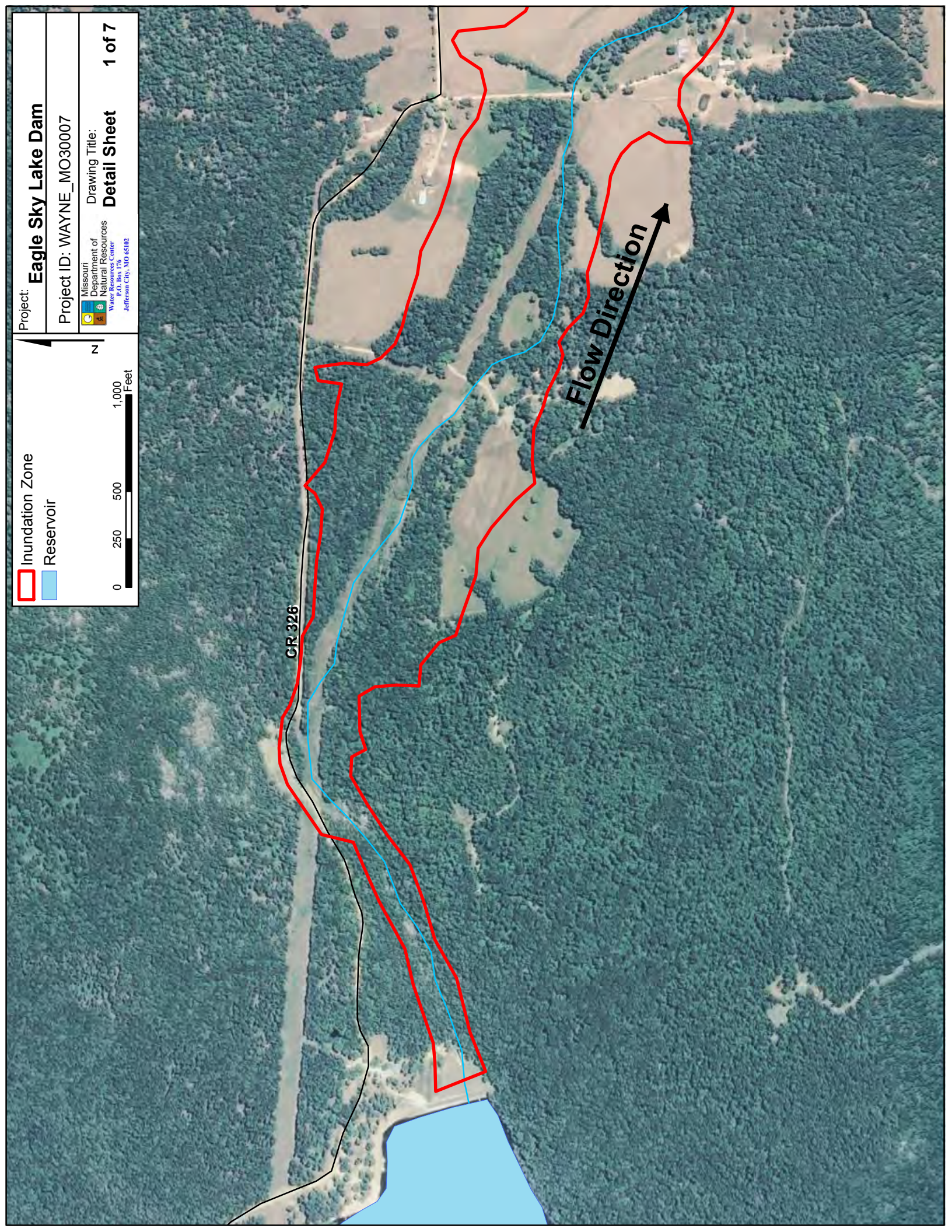
 Inundation Zone
 Reservoir

0 250 500 1,000 Feet

N

CR 326

Flow Direction 



 Inundation Zone

Project: **Eagle Sky Lake Dam**

Project ID: WAYNE_MO30007

 Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:

Detail Sheet

2 of 7

0 250 500 1,000
Feet

N

CR 326

CR 314


Flow Direction

N

 Inundation Zone

Project: **Eagle Sky Lake Dam**

Project ID: WAYNE_MO30007

 Missouri
Department of
Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:
Detail Sheet 3 of 7

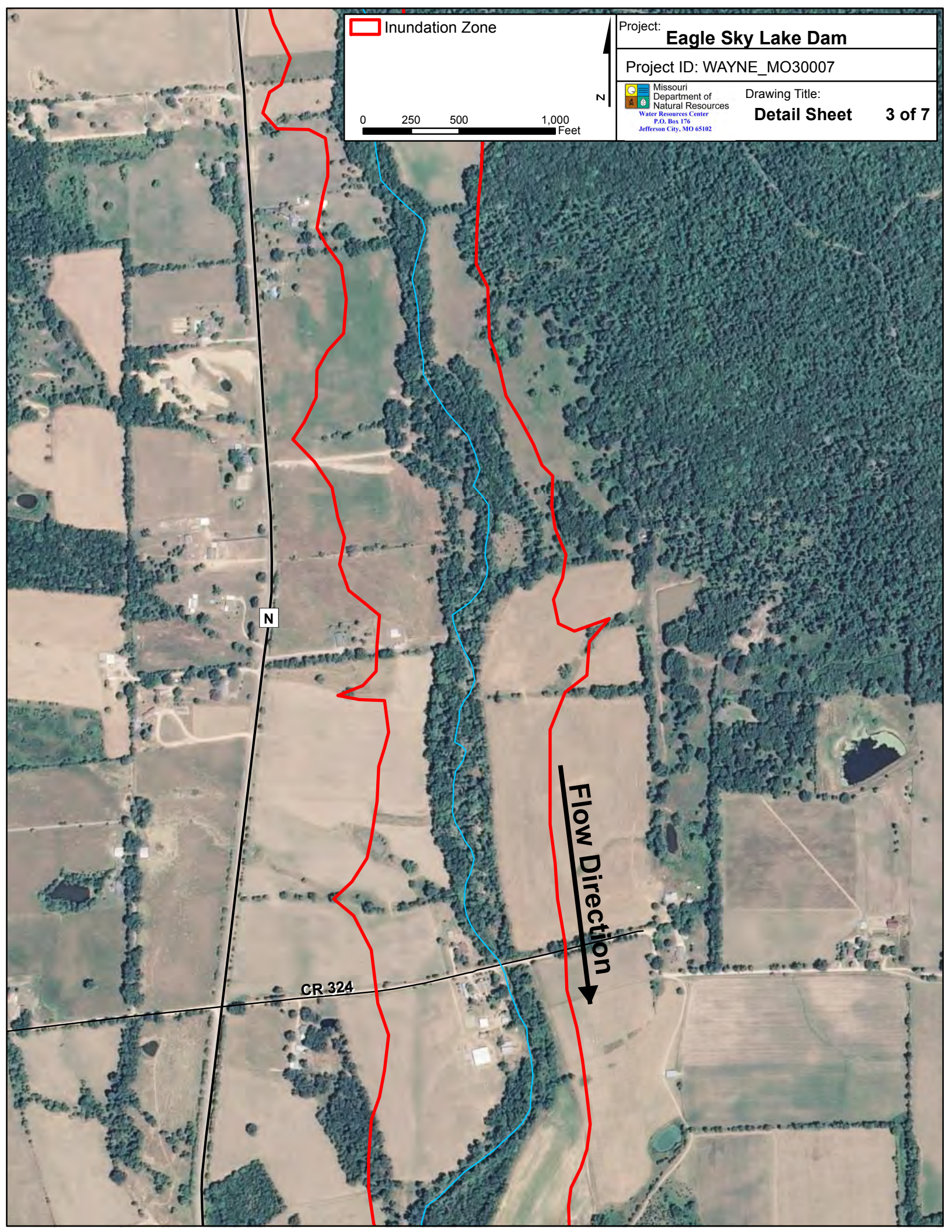
0 250 500 1,000
Feet

N

N

CR 324

Flow Direction

Inundation Zone

0 250 500 1,000 Feet

Project: **Eagle Sky Lake Dam**

Project ID: WAYNE_MO30007

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title:

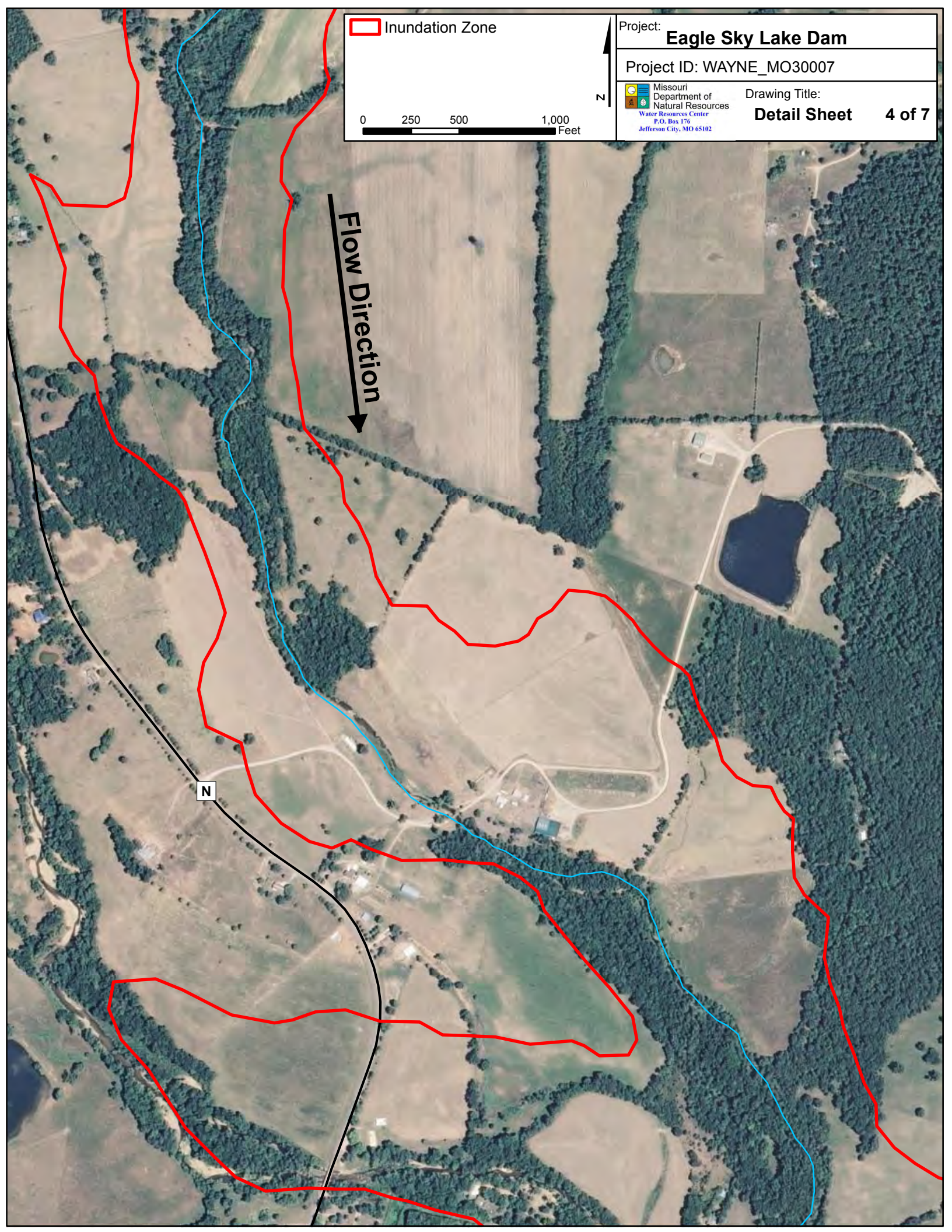
Detail Sheet

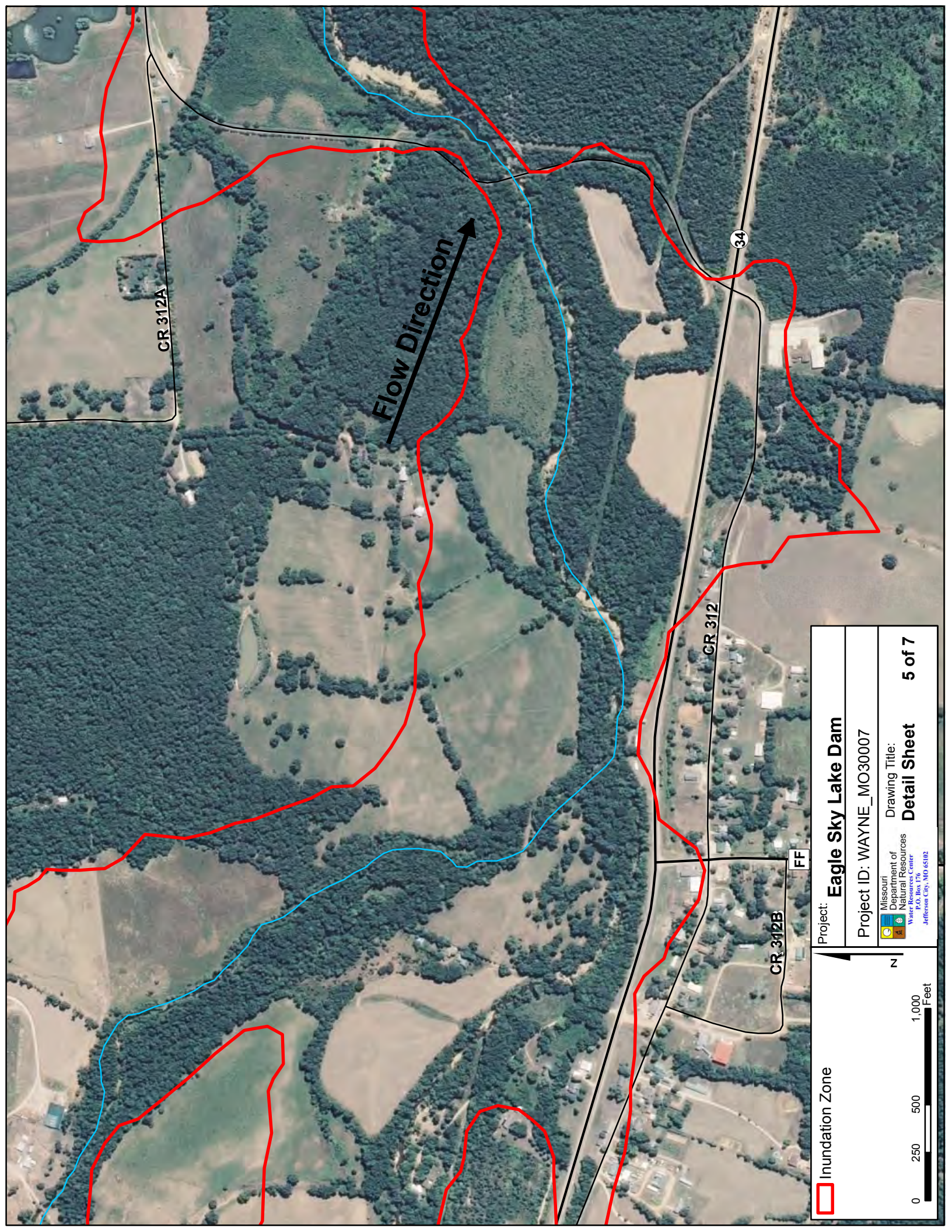
4 of 7

Flow Direction

N

N





Flow Direction


CR 312A

34

CR 312


CR 312B

FF


 Inundation Zone

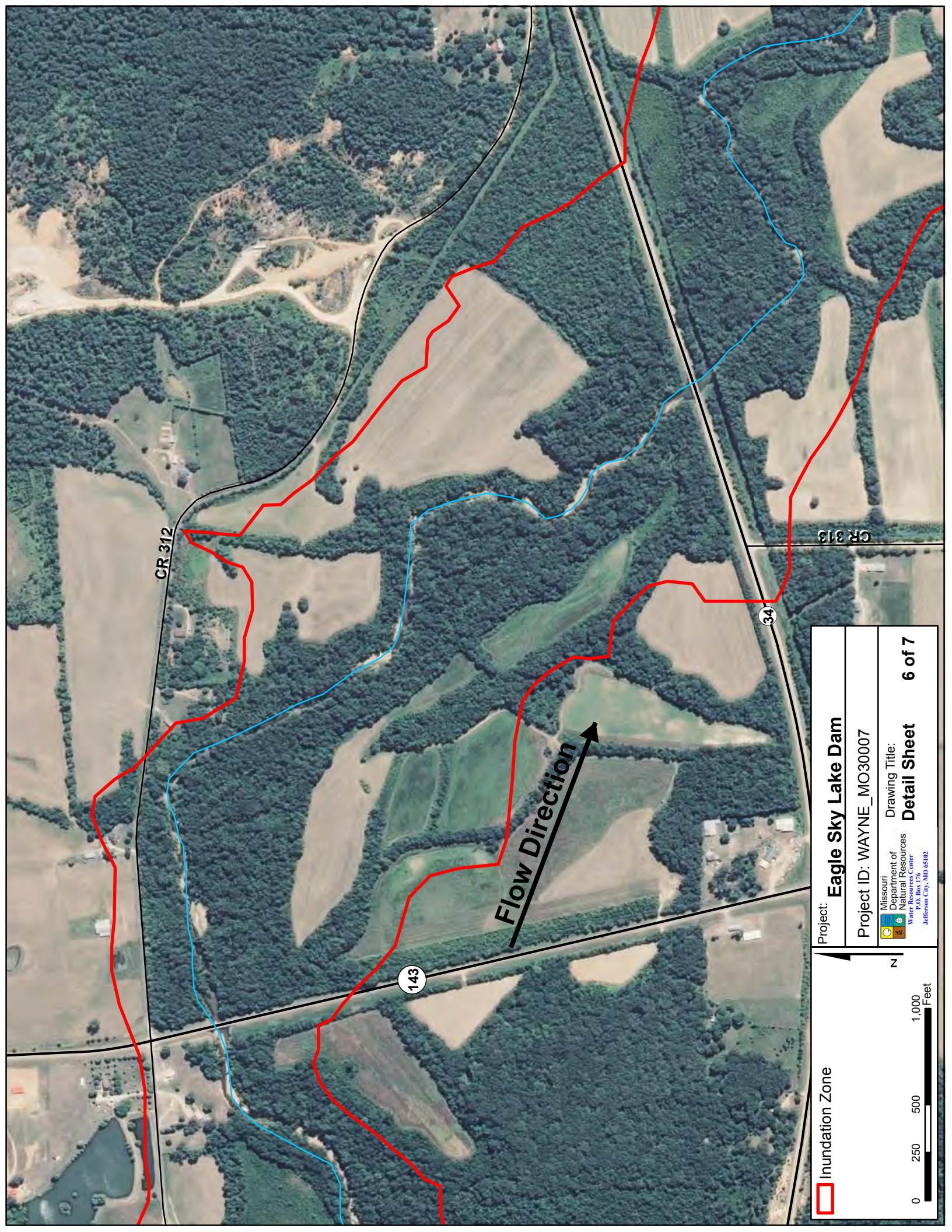
Project: **Eagle Sky Lake Dam**

Project ID: WAYNE_MO30007

 Missouri Department of Natural Resources
 Water Resources Center
 P.O. Box 176
 Jefferson City, MO 65102

Drawing Title: **Detail Sheet 5 of 7**

 N
 0 250 500 1,000 Feet





CR 312

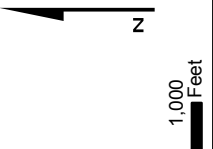
CR 313

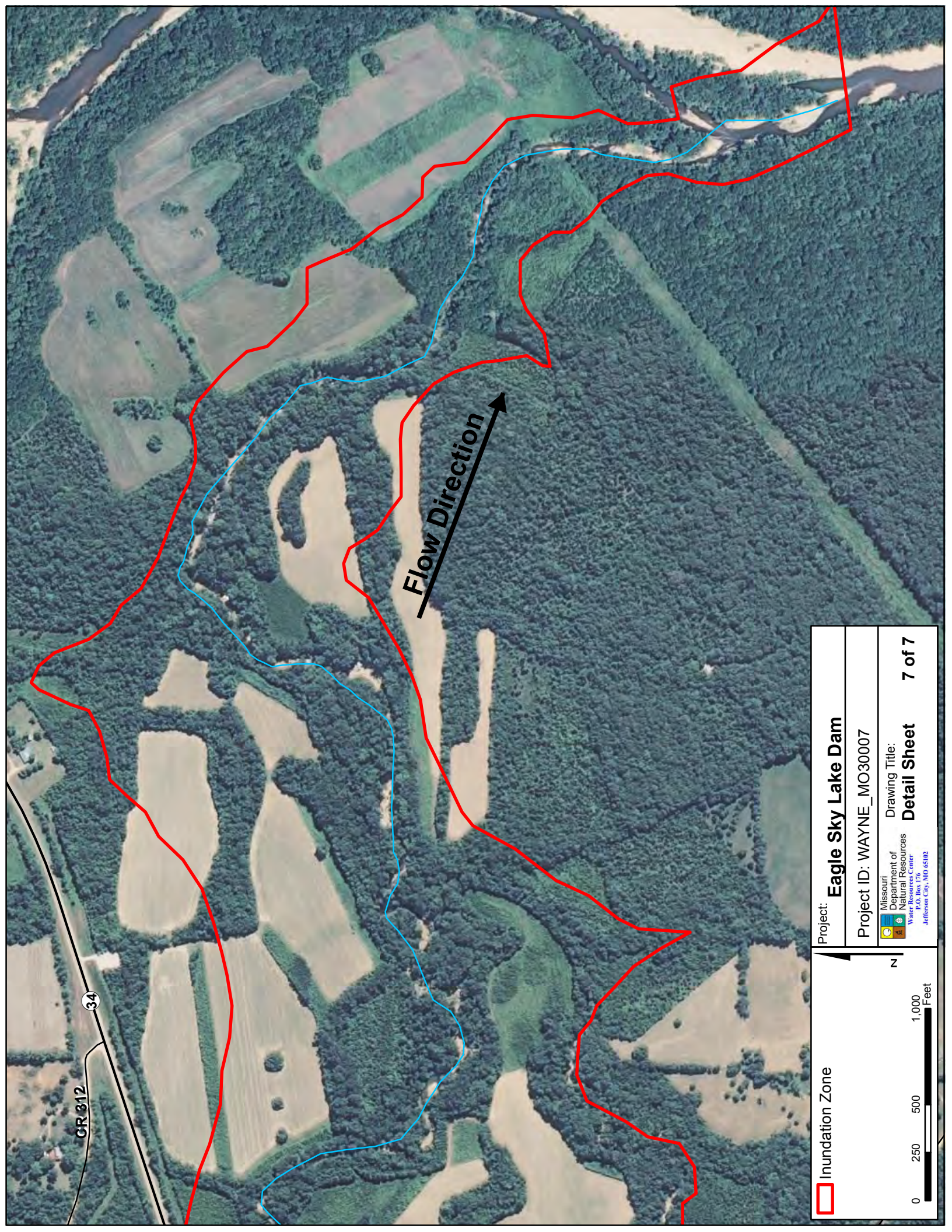
34

143

Flow Direction

 Inundation Zone	Project: Eagle Sky Lake Dam
	Project ID: WAYNE_MO30007
	Drawing Title: Detail Sheet 6 of 7
	Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102







Flow Direction

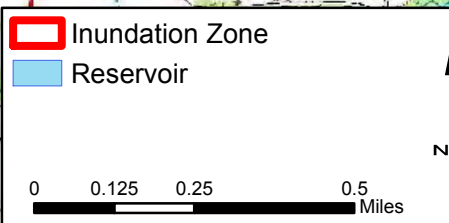
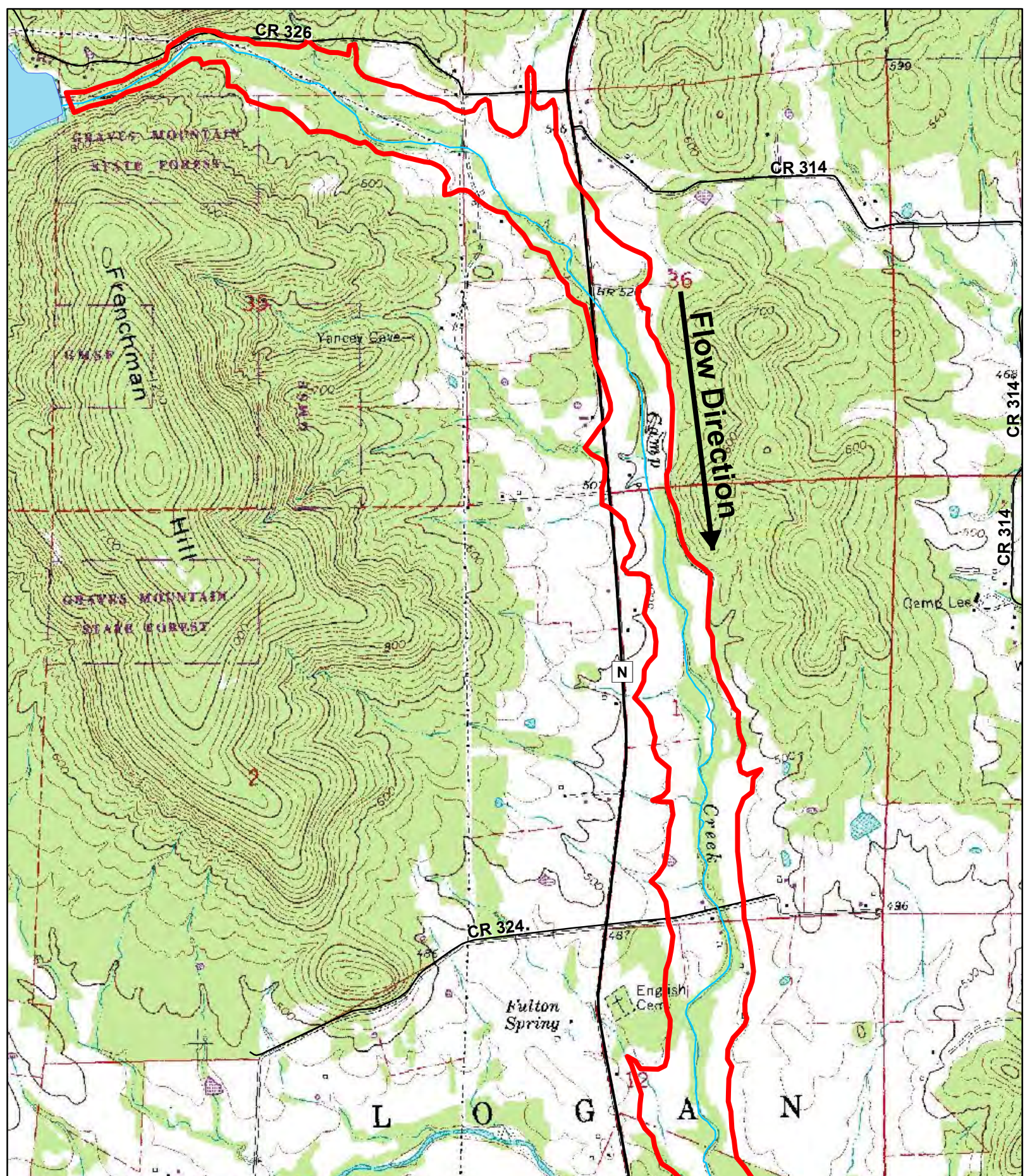
GR 312

34

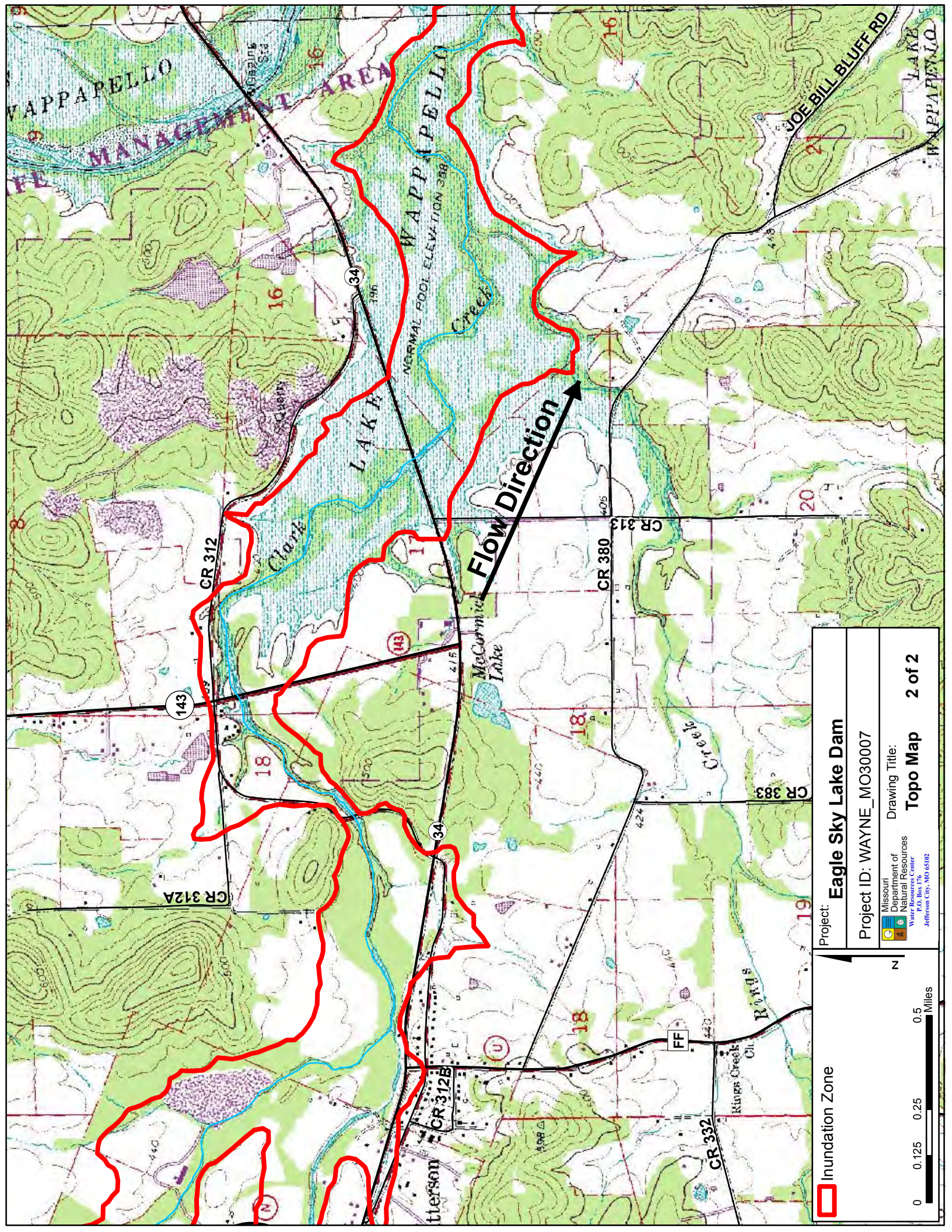
 Inundation Zone	Project: Eagle Sky Lake Dam
	Project ID: WAYNE_MO30007
 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Detail Sheet
	7 of 7

N





	Project:	Eagle Sky Lake Dam
	Project ID:	WAYNE_MO30007
	 Missouri Department of Natural Resources Water Resources Center P.O. Box 176 Jefferson City, MO 65102	Drawing Title: Topo Map 1 of 2



Inundation Zone

Project: **Eagle Sky Lake Dam**

Project ID: WAYNE_MO30007

Missouri Department of Natural Resources
Water Resources Center
P.O. Box 176
Jefferson City, MO 65102

Drawing Title: **Topo Map 2 of 2**

0 0.125 0.25 0.5 Miles

N

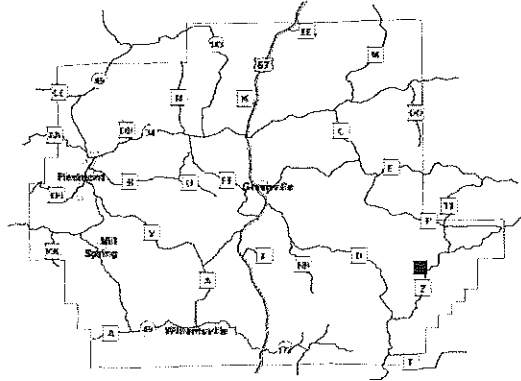
Emergency Action Plan, or EAP Lake Lynn Dam

National Inventory of Dams, NID, MO31944
Wayne County, Missouri

SEMA Area E

Reviewed and Updated: 02/06/2012

10/14/2014 *gof*



Mr. Raymond L. Massey

~~The Lake Lynn Foundation, Inc.~~

Dam owner/operator

Date

Raymond L. Massey
Landmass, LLC

10/3/2014

Mr. Kent Bowman

Emergency Management Director

Wayne County

Date

Emergency Action Plan, or EAP

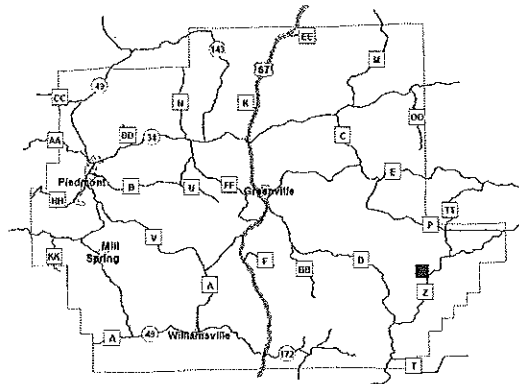
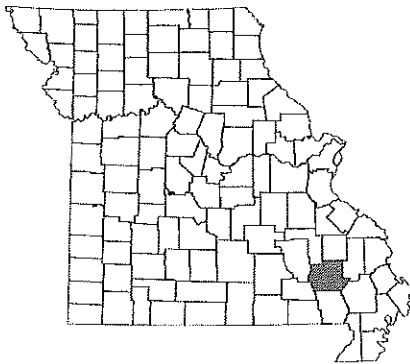
Lake Lynn Dam

National Inventory of Dams, NID, MO31944

Wayne County, Missouri

SEMA Area E

Reviewed and Updated: 10/14/2014



Mr. Raymond L. Massey

Landmass, LLC

Dam owner/operator

Date

Mr. Kent Bowman

Emergency Management Director

Wayne County

Date

Basic EAP Data

Purpose

The purpose of this EAP is to reduce the risk to human life and minimize property damage during an unusual or emergency event at Lake Lynn Dam.

Notification Procedure

This EAP provides general guidance for recognizing and characterizing an emergency situation occurring at the dam. The dam owner should act quickly to evaluate the emergency situation and then follow the notification procedures according to the corresponding level of emergency.

Potential Impacted Area

See *Inundation Map* (Appendix A) and *Residents/Businesses/Entities at Risk* table for the locations and contact information of the following residents and businesses that may be flooded if the dam should fail. This list may also include critical infrastructure such as pipelines, power plants, substations, or sewer plants.

No homes and only one road are affected. The inundation area goes into Mingo National Wildlife refuge.

Directions to dam (Review Arrival Time Map that shows major roads to the dam)

From The intersection of highways D and Z go north on Z about 5.3 miles until you come to county road 524. Take a left and go approximately 0.9 miles and the gate entrance to the dams is on your right



Guidance for Determining the Emergency Level

This information should be used as a general guide for recognizing and characterizing the type of emergency situation occurring at the dam. The dam owner should notify the appropriate emergency contacts based upon the emergency level assigned to each situation.

Level 1 Emergency - Nonemergency, unusual event, slow to develop

- Reservoir water surface elevation at emergency spillway crest or spillway is flowing with no active erosion.
- New seepage areas in or near the dam.
- New cracks in the embankment greater than ¼-inch wide without seepage.
- Visual movement/slippage of the embankment slope.
- Instrumentation readings beyond predetermined values.
- Measurable earthquake felt or reported on or within 50 miles of the dam.
- Damage (vandalism/sabotage) to dam or appurtenances with no impacts to the functioning of the dam.
- Modification (vandalism/sabotage) to the dam or appurtenances that could adversely impact the functioning of the dam.

Level 2 Emergency - Potential dam failure situation, rapidly developing

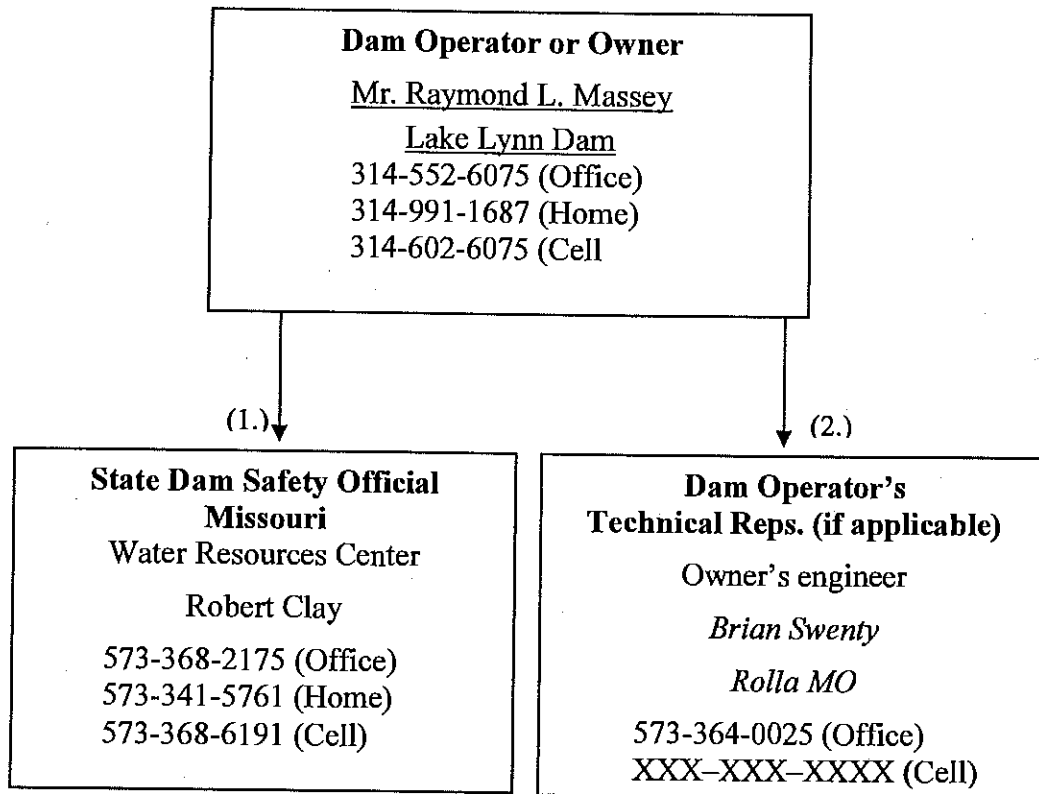
- Spillway flowing with active gully erosion.
- Spillway flow that could result in flooding of people downstream, if the reservoir level continues to rise.
- Reservoir level is 1 foot below the top of the dam.
- New seepage areas with cloudy discharge or increasing flow rate.
- Observation of new sinkhole in reservoir area, on embankment or downstream of dam.
- Cracks in the embankment with seepage.
- Earthquake resulting in visible damage to the dam or appurtenances.
- Verified bomb threat that, if carried out, could result in damage to the dam.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in seepage flow.

Level 3 Emergency - Urgent; dam failure imminent or is in progress

- Spillway flowing with an advancing headcut that is threatening the control section.
- Spillway flow that is flooding people downstream.
- Water from the reservoir is flowing over the top of the dam (not just auxiliary/emergency spillway).
- Seepage that is obviously eroding soil from within the embankment or rapidly increasing in flow rate.
- Rapidly enlarging sinkhole.
- Sudden or rapidly progressing slides of the embankment slopes.
- Earthquake resulting in uncontrolled release of water from the dam.
- Detonated bomb that has resulted in damage to the dam or appurtenances.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in uncontrolled water release.

Emergency Level 1 Notifications

Nonemergency, unusual event; slowly developing.



Note:

1., 2., etc., denotes call sequence

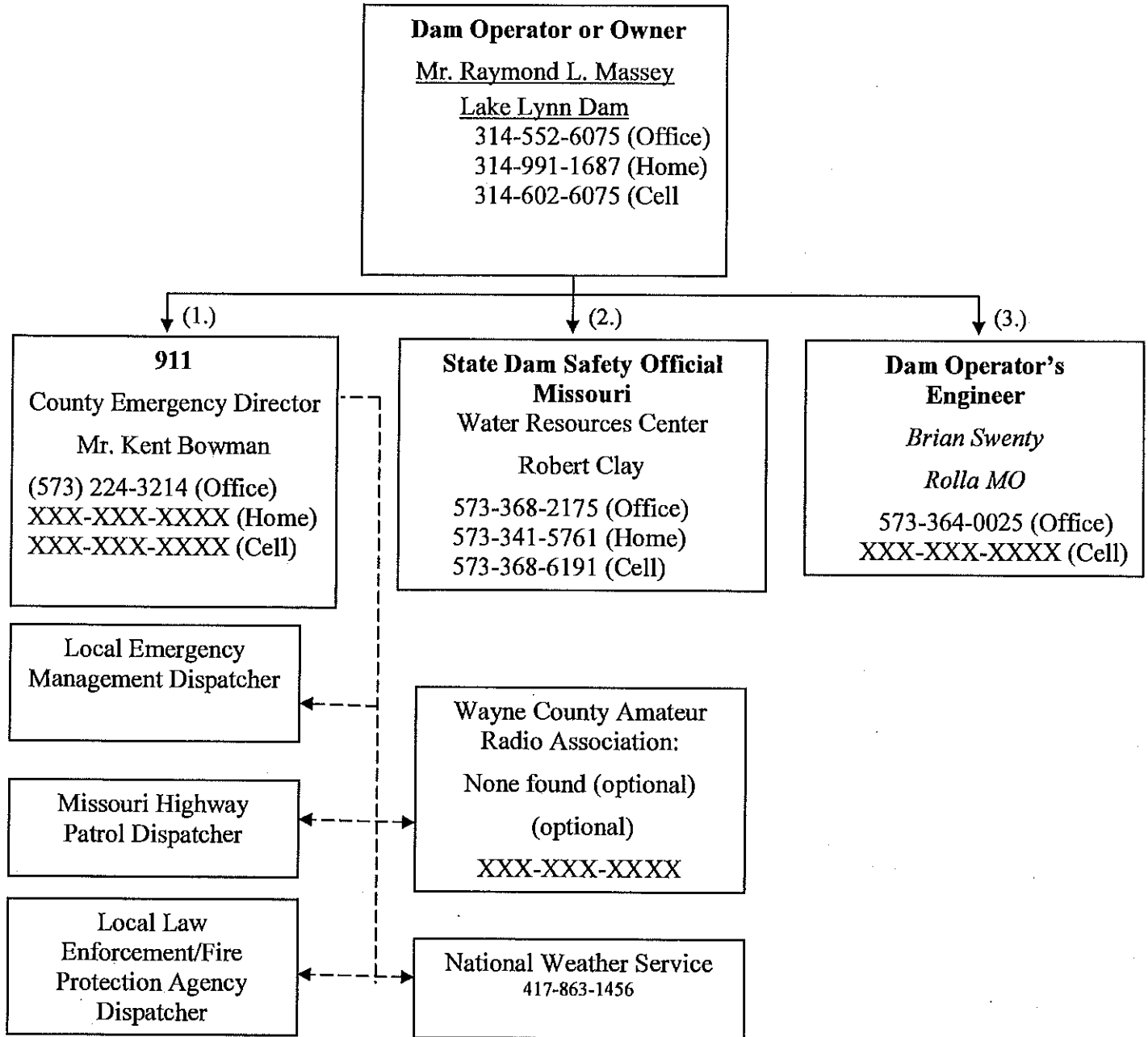
Legend:

Calls by operator/owner _____
Second level calls - - - - -

See *Emergency Services Contacts* sheet for contact information about back-ups to the persons shown above and other emergency personnel.

Emergency Level 2 Notifications

Emergency event, potential dam failure situation; rapidly developing.



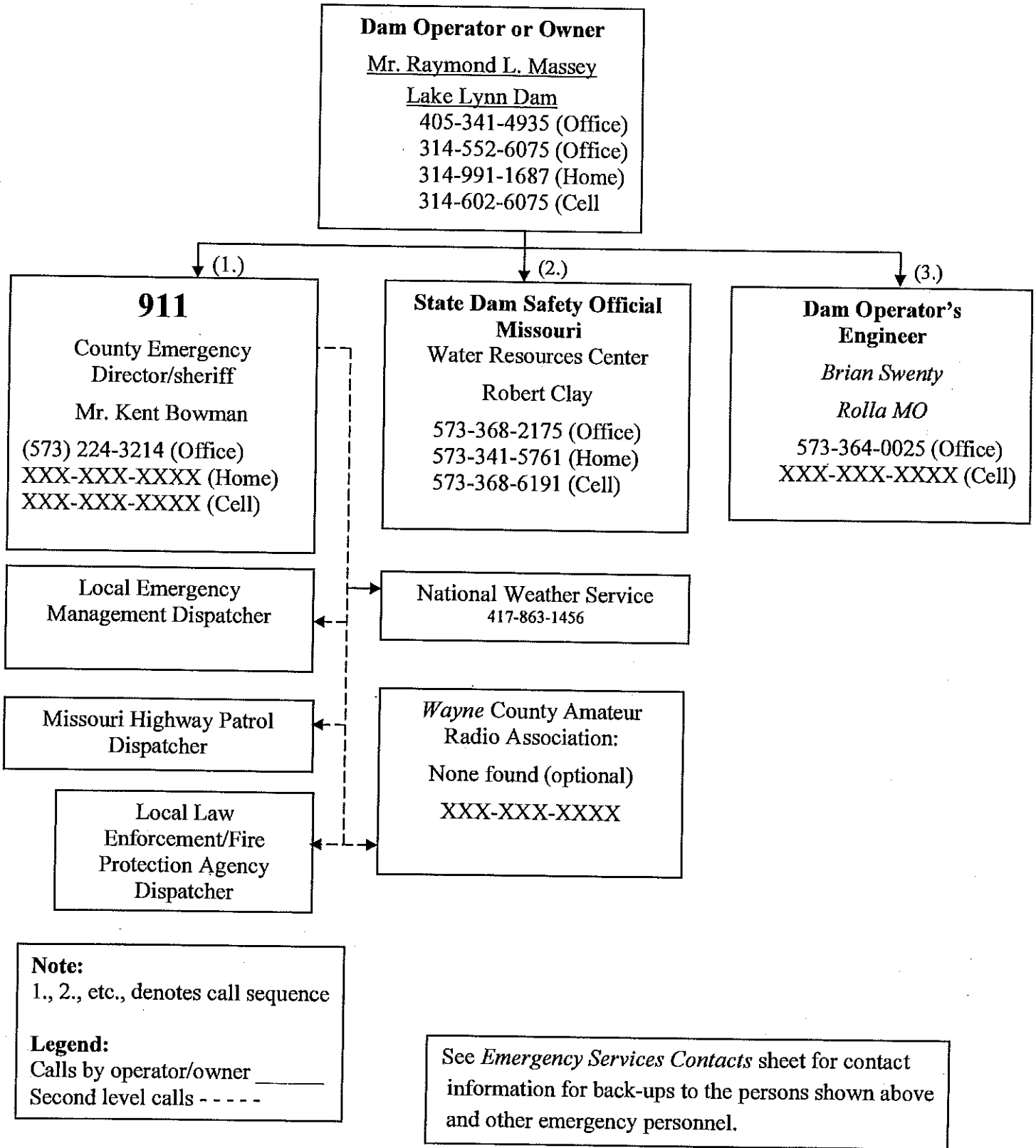
Note:
1., 2., etc., denotes call sequence

Legend:
Calls by operator/owner _____
Second level calls - - - - -

See *Emergency Services Contacts* sheet for contact information about back-ups to the persons shown above and other emergency personnel.

Emergency Level 3 Notifications

Urgent event, dam failure appears imminent or is in progress.



Emergency Services Contacts

Agency / Organization	Principal Contact	Address	Office Phone No. with Area Code	Alternate Telephone Numbers
Wayne County Sheriff	Philip Burton	109 Walnut St Greenville, Missouri	(573)224-3319	
Owner/Representative of Lake Ray Dam	Mr. Raymond L. Massey	#3 Wild Rose Drive St Louis MO 63129	(314-552-6075 (O)	314-991-1687 (Home) 314-602-6075 (C)
County Emergency Management Director	Mr. Kent Bowman	P.O. Box 283 Greenville, MO 63944	573) 224-3214	XXX-XXX-XXXX (H) XXX-XXX-XXXX (C)
Piedmont Fire Department		113 W Fir St Piedmont, Missouri	(573) 223-4410	
Greenville Police Department	Chief of Police Paul Jaco	PO Box 427 Greenville, Missouri	(573)224-5358	
Troop E Highway Patrol	Desk sgt	4947 Highway 67 North Poplar Bluff,	(573) 840-9500	
Wayne County Road Department		<u>109 Walnut St,</u> <u>Greenville, MO</u> <u>63944</u>	Not listed	XXX-XXX-XXXX (H) XXX-XXX-XXXX (C)
Water Resources Center Dam and Reservoir Safety Program	Robert Clay Chief Engineer	111 Fairgrounds Rd. Rolla, MO 65401	573-368-2175	573-341-5761 (H) 573-368-6191 (C)
Department of Natural Resources Emergency Response	Duty Officer EER	P.O. Box 176 Wayne City, MO 65102	24 HOUR NO: 573-634-2436	573-526-3380 (Brian Allen, Chief, EER)
SEMA Duty Officer			573-751-2748	
National Weather Service	Steve Runnels	Springfield, MO	417-863-1456	
National Weather Service	Ricky Shanklin	Paducah, KY	270-744-6440	
National Weather Service	Jim Kramper	St. Charles, Missouri	636-447-1876	1-800-852-7497 636-447-1769 (Fax)
Missouri Department of Transportation	Emergency Operation Center 24-hour cell no.		573-522-9503	
Missouri Department of Transportation	County Shed			

Residents/Businesses/Entities/Infrastructure at Risk

Brief summary of number of entities within inundation zone.

Entity No.	Resident/business or other impacted entity	Address	Phone No. with area code	Distance downstream from dam (miles)
1	Avely Walk Barns in field will be affected house is on hill	75 HC Mc Gee	573-227-8319	1.3 miles
2	Robert Fuwell Water is in back yard but not in home	HC 2 Box 116 Mc Gee, MO 63763-9713	573-495-2750	1.6 miles
3	Bonnie Fewell	HC 2 Box 81 Mc Gee, MO 63763-9713	Not listed	1.8 miles
4	Mingo National Wildlife Refuge Water will get into upper part of refuge	Highway 51, Puxico	573-222-3589	3.5 miles

(Use additional sheets if necessary)

Resources Available

Locally available resources include: (if not available please note)

Heavy Equipment Service and Rental	Sand and Gravel Supply	Ready-mix Concrete Supply
Robertson Truck Sales CO Road 524 Wapello Mo 63566 (573) 222-8787	Brown Sand and Gravel 3730 Highway Contract 3 Box, Wapello (573) 297-3223	Politte Read Mix Van Buren MO: 573-323-8566
Pumps	Other Resources	Sand Bags
MidWest Pumping & Portables LLC 947 Highway Cc, Piedmont, MO 63957 573) 223-2128		Fastenal Monett, MO 65708 417-236-0730

Appendix A Inundation Study

Inundation Map vs. Evacuation Area

Inundation maps have been developed from best available information using reasonable assumptions and standardized methods. They are approximations of the maximum water surface extents resulting from a complete dam breach and draining of the full reservoir. Inundation maps are empirical hydrologic and hydraulic simulations that can only be field verified in the event of an actual breach.

Evacuation areas and call lists should take into consideration the anticipated local impacts of flooding; knowledge of local infrastructure, both occupancy and ownership; and potentially interrupted services or cut-off access, which would be caused by dam failure. Depending upon actual circumstances, appropriate alert and evacuation areas could be more or less extensive than the simulated inundation zones.

Insert inundation map here. It is suggested this section be denoted by a tabbed divider to allow quick access to the inundation map during an emergency.

Appendix B
National Inventory of Dams (NID) Data

Lake Lynn Dam:

State: **Missouri**

NID ID: **MO31944**

Sec: **06** Township: **27N** Range: **R08E**

Longitude: **-90.2300 decimal degree**

Latitude: **37.0331 decimal degree**

Longitude: **-90 ° 13' 47"**

Latitude: **37° 1' 59"**

County: **Wayne**

Stream: **Tributary to Lick Creek**

Nearest town downstream: **Wappapello**

Distance to nearest town downstream: **11.6 mi**

Year constructed/modified: **1966**

Nearest town: **McGee**

Distance to nearest town: **3.4 mi**

Type of dam: (indicate only one)

earthfill rockfill concrete tailings

Max. discharge: **561 ft³/sec**

Max. storage: **830 ac-ft**

Normal storage: **662 acre-ft**

Surface area: **25 acres**

Drainage area: **160 acres**

Inspection frequency: **2 yrs**

State regulatory agency:

Missouri DNR WRC DRSP

Dam height: **59 ft**

Dam length: **500 ft**

Current hazard class: **1**

Principal spillway type: **22-inch diameter steel pipe**

Emergency spillway type: **Open channel on left abutment**

Comments:

Appendix C

Unusual or Emergency Event Log (To be completed during the emergency)

Lake Lynn Dam

County: Wayne

When and how was the event detected?

Weather conditions:

General description of the emergency situation:

Emergency level determination:

Made by:

Actions and Event Progression

Date	Time	Action/event progression	Recorded by

Appendix D

Glossary

Abutment	The part of the valley side against which the dam is constructed. The left and right abutments of dams are defined with the observer looking downstream from the dam.
Appurtenances	Structures incident to or annexed to dams essential to the proper operation, maintenance or functioning of the dam. This includes such structures as spillways, low level outlet works and water conduits, such as tunnels, pipelines or penstocks, either through a dam or its abutments.
Breach	An opening through the dam that allows draining of the reservoir. A controlled breach is an intentionally constructed opening. An uncontrolled breach is an unintended failure of the dam.
Control section	A usually level segment in the profile of an open channel spillway above which water in the reservoir discharges through the spillway.
Dam	An artificial barrier generally constructed across a watercourse for the purpose of impounding or diverting water.
Emergency spillway	The appurtenant structure that provides the controlled conveyance of excess water through, over, or around the dam.
Instrumentation	An arrangement of devices installed into or near dams that provide measurements to evaluate the structural behavior and other performance parameters of the dam and spillway structures. Examples include seepage measuring weirs, piezometers, inclinometers and survey monuments.
Low level outlet works	An appurtenant structure, usually consisting of a pipe through the embankment or principal spillway structure equipped with a valve, whose purpose is to allow lowering the lake level.
Principal spillway	The appurtenant structure that conveys normal inflow through or around the embankment.
Reservoir	The body of water impounded or potentially impounded by the dam.
Seepage	The natural movement of water through the embankment, foundation, or abutment of the dam.

Appendix E

Record of Holders of Control Copies of this EAP

Copy Number	Organization	Person receiving copy	E-mail Address
1	Mr. Raymond L. Massey #3 Wild Rose Drive St Louis MO 63129	Mr. Raymond L. Massey	314-991-1687 (Home) (314-552-6075 (O) 314-602-6075 (C)
2	Wayne county EMD P.O. Box 283 Greenville, MO 63944	Mr. Kent Bowman	(573) 224-3214
3	Missouri Department of Natural Resources Dam Safety Program and address	Bob Clay	mowaters@dnr.mo.gov

Record of Revisions and Updates Made to EAP

Revision Number	Date	Revisions made	By whom
1	Date	Describe revision to EAP	Name

Emergency Action Plan, or EAP

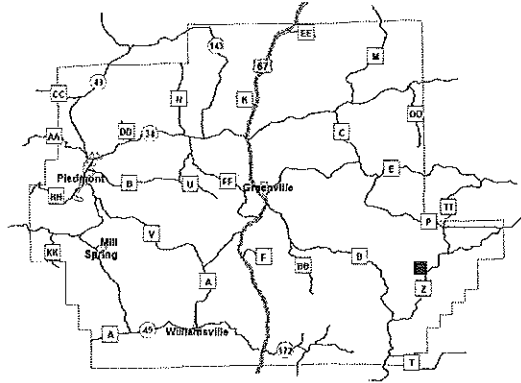
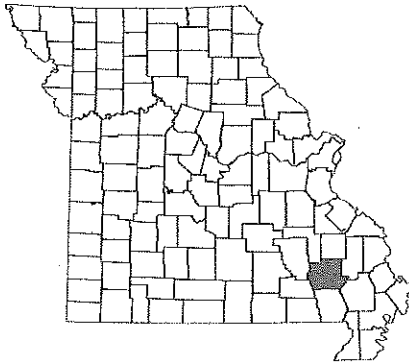
Lake Ray Dam

National Inventory of Dams, NID, MO32033

Wayne County, Missouri

SEMA Area E

Reviewed and Updated: 10/14/2014



Mr. Raymond L. Massey

Landmass LLC.

Dam owner/operator

Date

Mr. Kent Bowman

Emergency Management Director

Wayne County

Date

Basic EAP Data

Purpose

The purpose of this EAP is to reduce the risk to human life and minimize property damage during an unusual or emergency event at Lake Ray Dam.

Notification Procedure

This EAP provides general guidance for recognizing and characterizing an emergency situation occurring at the dam. The dam owner should act quickly to evaluate the emergency situation and then follow the notification procedures according to the corresponding level of emergency.

Potential Impacted Area

See *Inundation Map* (Appendix A) and *Residents/Businesses/Entities at Risk* table for the locations and contact information of the following residents and businesses that may be flooded if the dam should fail. This list may also include critical infrastructure such as pipelines, power plants, substations, or sewer plants.

No homes and only one road are affected. The inundation area goes into Mingo National Wildlife refuge.

Directions to dam (Review Arrival Time Map that shows major roads to the dam)

From The intersection of highways D and Z go north on Z about 5.3 miles until you come to county road 524. Take a left and go approximately 0.9 miles and the gate entrance to the dams is on your right.



Guidance for Determining the Emergency Level

This information should be used as a general guide for recognizing and characterizing the type of emergency situation occurring at the dam. The dam owner should notify the appropriate emergency contacts based upon the emergency level assigned to each situation.

Level 1 Emergency - Nonemergency, unusual event, slow to develop

- Reservoir water surface elevation at emergency spillway crest or spillway is flowing with no active erosion.
- New seepage areas in or near the dam.
- New cracks in the embankment greater than ¼-inch wide without seepage.
- Visual movement/slippage of the embankment slope.
- Instrumentation readings beyond predetermined values.
- Measurable earthquake felt or reported on or within 50 miles of the dam.
- Damage (vandalism/sabotage) to dam or appurtenances with no impacts to the functioning of the dam.
- Modification (vandalism/sabotage) to the dam or appurtenances that could adversely impact the functioning of the dam.

Level 2 Emergency - Potential dam failure situation, rapidly developing

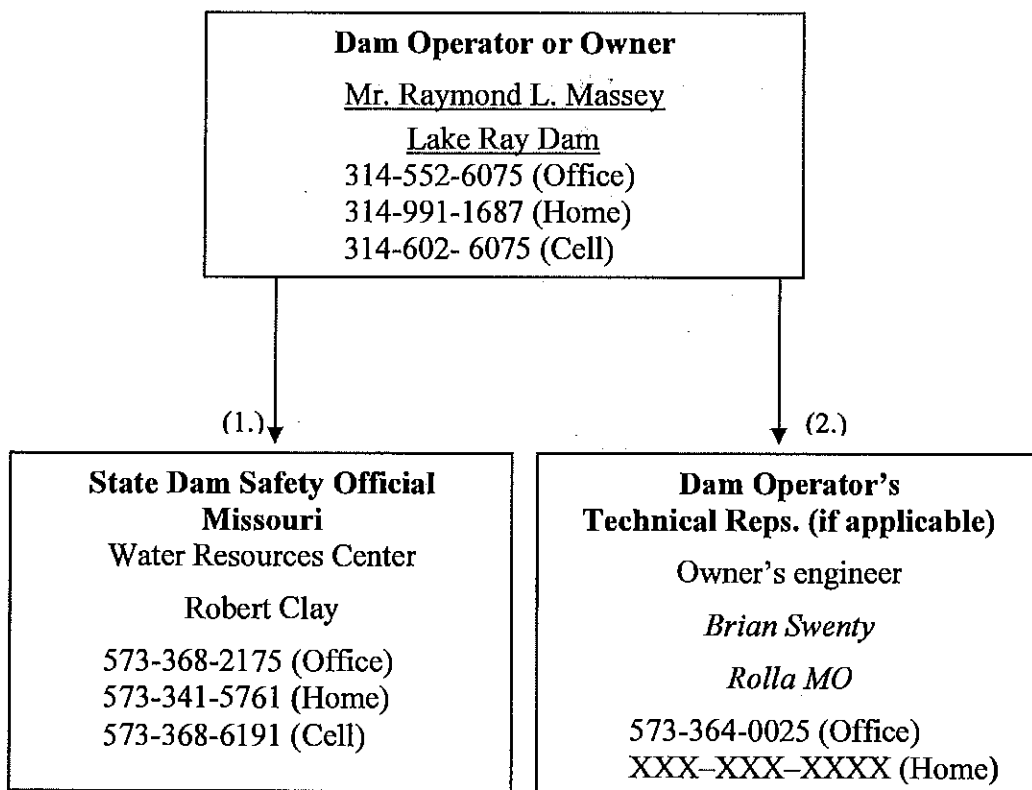
- Spillway flowing with active gully erosion.
- Spillway flow that could result in flooding of people downstream, if the reservoir level continues to rise.
- Reservoir level is 1 foot below the top of the dam.
- New seepage areas with cloudy discharge or increasing flow rate.
- Observation of new sinkhole in reservoir area, on embankment or downstream of dam.
- Cracks in the embankment with seepage.
- Earthquake resulting in visible damage to the dam or appurtenances.
- Verified bomb threat that, if carried out, could result in damage to the dam.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in seepage flow.

Level 3 Emergency - Urgent; dam failure imminent or is in progress

- Spillway flowing with an advancing headcut that is threatening the control section.
- Spillway flow that is flooding people downstream.
- Water from the reservoir is flowing over the top of the dam (not just auxiliary/emergency spillway).
- Seepage that is obviously eroding soil from within the embankment or rapidly increasing in flow rate.
- Rapidly enlarging sinkhole.
- Sudden or rapidly progressing slides of the embankment slopes.
- Earthquake resulting in uncontrolled release of water from the dam.
- Detonated bomb that has resulted in damage to the dam or appurtenances.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in uncontrolled water release.

Emergency Level 1 Notifications

Nonemergency, unusual event; slowly developing.



Note:

1., 2., etc., denotes call sequence

Legend:

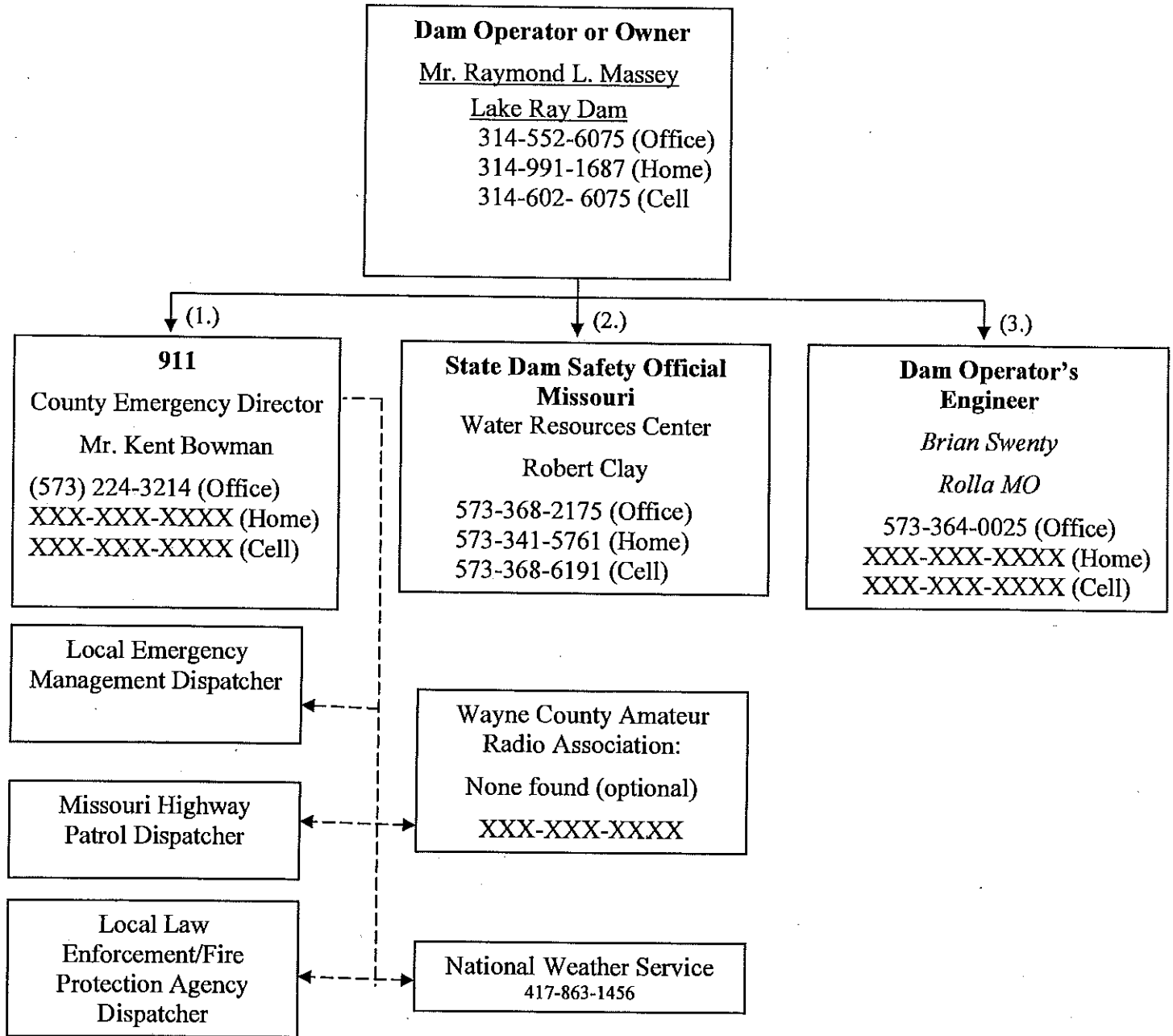
Calls by operator/owner _____

Second level calls - - - - -

See *Emergency Services Contacts* sheet for contact information about back-ups to the persons shown above and other emergency personnel.

Emergency Level 2 Notifications

Emergency event, potential dam failure situation; rapidly developing.



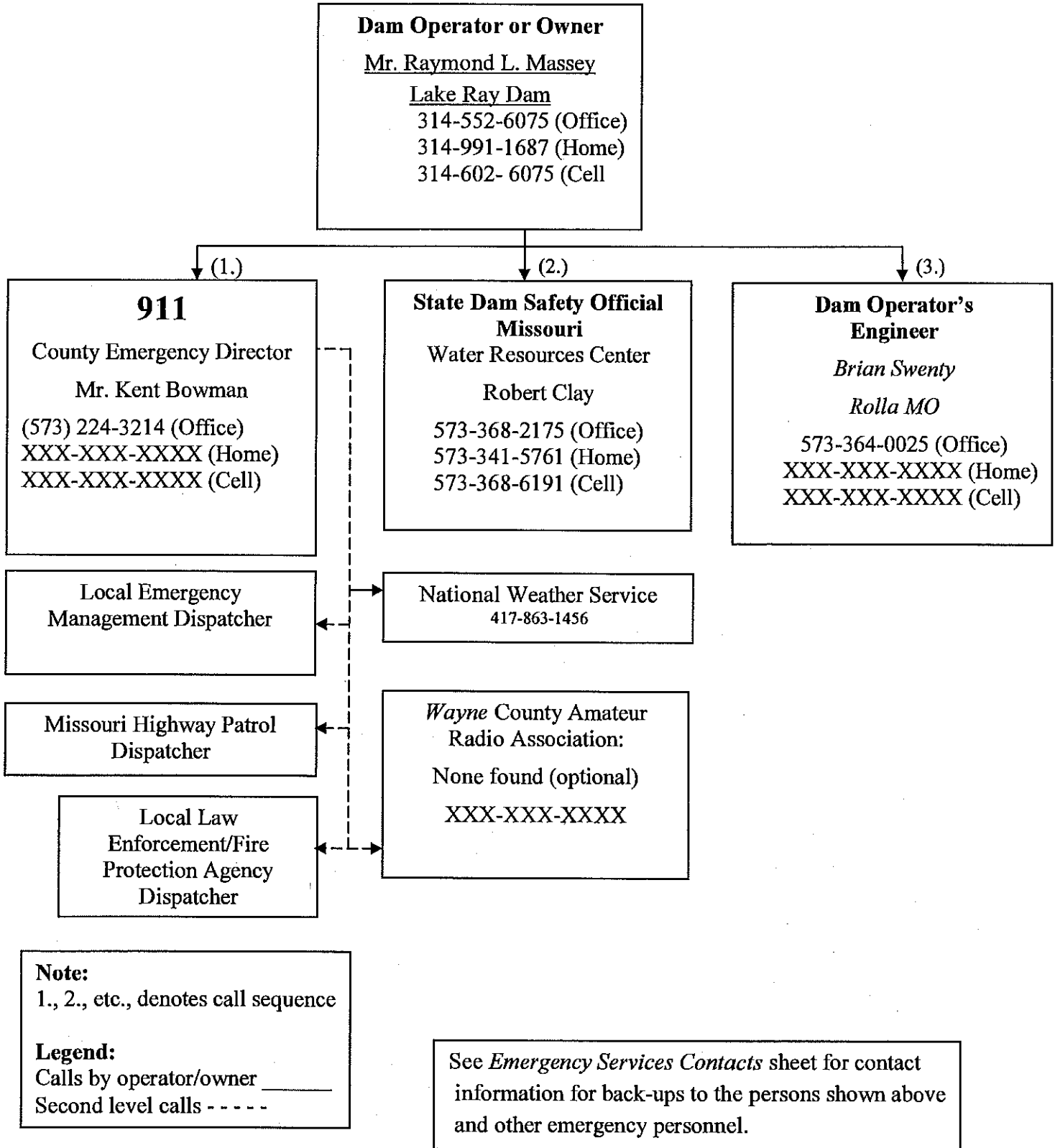
Note:
1., 2., etc., denotes call sequence

Legend:
Calls by operator/owner _____
Second level calls - - - - -

See *Emergency Services Contacts* sheet for contact information about back-ups to the persons shown above and other emergency personnel.

Emergency Level 3 Notifications

Urgent event, dam failure appears imminent or is in progress.



Emergency Services Contacts

Agency / Organization	Principal Contact	Address	Office Phone No. with Area Code	Alternate Telephone Numbers
Wayne County Sheriff	Philip Burton	109 Walnut St Greenville, Missouri	(573)224-3319	
Owner/Representative of Lake Ray Dam	Mr. Raymond L. Massey	#3 Wild Rose Drive St Louis MO 63129	(314-552-6075 (O)	314-991-1687 (Home) 314-602- 6075 (C)
County Emergency Management Director	Mr. Kent Bowman	P.O. Box 283 Greenville, MO 63944	573) 224-3214	XXX-XXX-XXXX (H) XXX-XXX-XXXX (C)
Piedmont Fire Department		113 W Fir St Piedmont, Missouri	(573) 223-4410	
Greenville Police Department	Chief of Police Paul Jaco	PO Box 427 Greenville, Missouri	(573)224-5358	
Troop E Highway Patrol	Desk sgt	4947 Highway 67 North Poplar Bluff,	(573) 840-9500	
Wayne County Road Department		<u>109 Walnut St,</u> <u>Greenville, MO</u> <u>63944</u>	Not listed	XXX-XXX-XXXX (H) XXX-XXX-XXXX (C)
Water Resources Center Dam and Reservoir Safety Program	Robert Clay Chief Engineer	111 Fairgrounds Rd. Rolla, MO 65401	573-368-2175	573-341-5761 (H) 573-368-6191 (C)
Department of Natural Resources Emergency Response	Duty Officer EER	P.O. Box 176 Wayne City, MO 65102	24 HOUR NO: 573-634-2436	573-526-3380 (Brian Allen, Chief, EER)
SEMA Duty Officer			573-751-2748	
National Weather Service	Steve Runnels	Springfield, MO	417-863-1456	
National Weather Service	Ricky Shanklin	Paducah, KY	270-744-6440	
National Weather Service	Jim Kramper	St. Charles, Missouri	636-447-1876	1-800-852-7497 636-447-1769 (Fax)
Missouri Department of Transportation	Emergency Operation Center 24-hour cell no.		573-522-9503	
Missouri Department of Transportation	County Shed			
KFVS12	Contact Name Manager	310 Broadway Cape Girardeau, MO	(573) 335-1212	(800) 455-KFVS
Radio Station KPPL 92.5 FM	Contact Name Manager	ROUTE #2, BOX 496 Poplar Bluff, Missouri	XXX-XXX-XXXX	

Residents/Businesses/Entities/Infrastructure at Risk

No homes are affected but notification to three homes should be made.

Entity No.	Resident/business or other impacted entity	Address	Phone No. with area code	Distance downstream from dam (miles)
1	Avery Walk Barns in field will be affected house is on hill	75 HC Mc Gee	573-22-8319	1.3 miles
2	Robert Fuwell Water is in back yard but not in home	HC 2 Box 116 Mc Gee, MO 63763-9713	573-495-2750	1.6 miles
3	Bonnie Fewell	HC 2 Box 81 Mc Gee, MO 63763-9713	Not listed	1.8 miles
4	Mingo National Wildlife Refuge Water will get into upper part of refuge	Highway 51, Puxico	573-222-3589	3.5 miles

(Use additional sheets if necessary)

Resources Available

Locally available resources include: (if not available please note)

Heavy Equipment Service and Rental	Sand and Gravel Supply	Ready-mix Concrete Supply
<p>Robertson Truck Sales</p> <p>Co RD 524</p> <p>Wappapelo, MO 63966</p> <p>(573) 222-8787</p>	<p>Brown Sand and Gravel</p> <p>3730 Highway Contract 3 Box, Wappapello</p> <p>(573) 297-3223</p>	<p>Politte Read Mix</p> <p>Van Buren MO:</p> <p>573-323-8566</p>
Pumps	Other Resources	Sand Bags
<p>MidWest Pumping & Portables LLC</p> <p>947 Highway Cc, Piedmont, MO 63957</p> <p>573) 223-2128</p>		<p>Fastenal</p> <p>Monett, MO 65708</p> <p>417-236-0730</p>

Appendix A Inundation Study

Inundation Map vs. Evacuation Area

Inundation maps have been developed from best available information using reasonable assumptions and standardized methods. They are approximations of the maximum water surface extents resulting from a complete dam breach and draining of the full reservoir. Inundation maps are empirical hydrologic and hydraulic simulations that can only be field verified in the event of an actual breach.

Evacuation areas and call lists should take into consideration the anticipated local impacts of flooding; knowledge of local infrastructure, both occupancy and ownership; and potentially interrupted services or cut-off access, which would be caused by dam failure. Depending upon actual circumstances, appropriate alert and evacuation areas could be more or less extensive than the simulated inundation zones.

Insert inundation map here. It is suggested this section be denoted by a tabbed divider to allow quick access to the inundation map during an emergency.

Appendix B
National Inventory of Dams (NID) Data

Lake Ray Dam:

State: **Missouri**

NID ID: **MO32033**

Sec: **06** Township: **27N** Range: **R08E**

Longitude: **-90.2352 decimal degree**

Latitude: **37.0373 decimal degree**

Longitude: **-90 ° 14' 6"**

Latitude: **37° 2' 14"**

County: **Wayne**

Stream: **Tributary to Lick Creek**

Nearest town downstream: **Wappapello**

Distance to nearest town downstream: **11.7 mi**

Year constructed/modified: **1997**

Nearest town: **McGee**

Distance to nearest town: **3.4 mi**

Type of dam: (indicate only one)

earthfill rockfill concrete tailings

Max. discharge: **1448 ft³/sec**

Max. storage: **830 ac-ft**

Normal storage: **611 acre-ft**

Surface area: **38 acres**

Drainage area: **384 acres**

Inspection frequency: **2 yrs**

State regulatory agency:

Missouri DNR WRC DRSP

Dam height: **42 ft**

Dam length: **850 ft**

Current hazard class: **1**

Principal spillway type: **14-inch diameter steel pipe**

Emergency spillway type: **Open channel on right abutment**

Comments:

Appendix C

Unusual or Emergency Event Log (To be completed during the emergency)

Lake Ray Dam

County: Wayne

When and how was the event detected?

Weather conditions:

General description of the emergency situation:

Emergency level determination:

Made by:

Actions and Event Progression

Date	Time	Action/event progression	Recorded by

Appendix D

Glossary

Abutment	The part of the valley side against which the dam is constructed. The left and right abutments of dams are defined with the observer looking downstream from the dam.
Appurtenances	Structures incident to or annexed to dams essential to the proper operation, maintenance or functioning of the dam. This includes such structures as spillways, low level outlet works and water conduits, such as tunnels, pipelines or penstocks, either through a dam or its abutments.
Breach	An opening through the dam that allows draining of the reservoir. A controlled breach is an intentionally constructed opening. An uncontrolled breach is an unintended failure of the dam.
Control section	A usually level segment in the profile of an open channel spillway above which water in the reservoir discharges through the spillway.
Dam	An artificial barrier generally constructed across a watercourse for the purpose of impounding or diverting water.
Emergency spillway	The appurtenant structure that provides the controlled conveyance of excess water through, over, or around the dam.
Instrumentation	An arrangement of devices installed into or near dams that provide measurements to evaluate the structural behavior and other performance parameters of the dam and spillway structures. Examples include seepage measuring weirs, piezometers, inclinometers and survey monuments.
Low level outlet works	An appurtenant structure, usually consisting of a pipe through the embankment or principal spillway structure equipped with a valve, whose purpose is to allow lowering the lake level.
Principal spillway	The appurtenant structure that conveys normal inflow through or around the embankment.
Reservoir	The body of water impounded or potentially impounded by the dam.
Seepage	The natural movement of water through the embankment, foundation, or abutment of the dam.

Appendix E

Record of Holders of Control Copies of this EAP

Copy Number	Organization	Person receiving copy	E-mail Address
1	Mr. Raymond L. Massey #3 Wild Rose Drive St Louis MO 63129	Mr. Raymond L. Massey	314-991-1687 (Home) (314-552-6075 (O) 314-602- 6075 (c)
2	Wayne county EMD P.O. Box 283 Greenville, MO 63944	Mr. Kent Bowman	(573) 224-3214
3	Missouri Department of Natural Resources Dam Safety Program and address	Bob Clay	mowaters@dnr.mo.gov

Record of Revisions and Updates Made to EAP

Revision Number	Date	Revisions made	By whom
1	Date	Describe revision to EAP	Name

Emergency Action Plan, or EAP

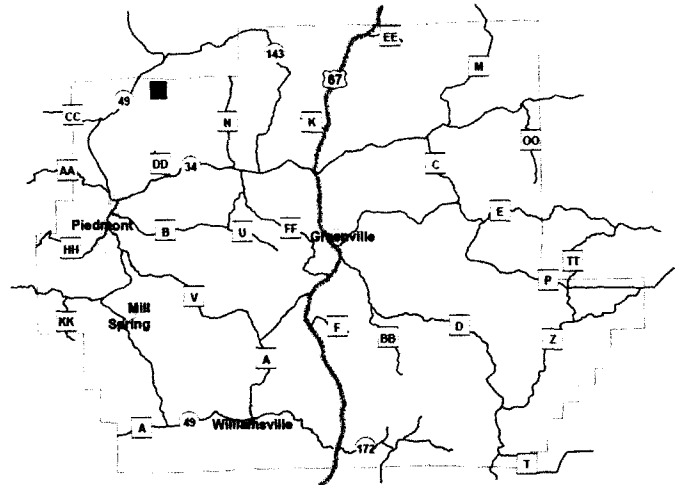
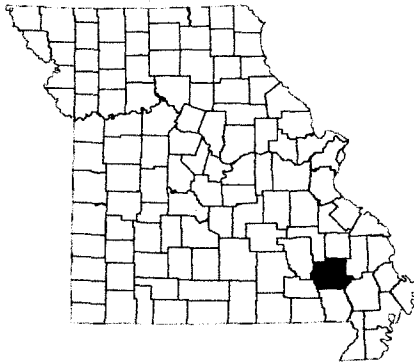
Seven Lakes #1 Dam or #3 Dam

National Inventory of Dams, NID, MO31032 #3

Wayne County, Missouri 30347 #1

SEMA Area E

Reviewed and Updated: 02/06/2012



Mr. Ray Pickens

The Seven Lakes #1 & #3

Dam owner/operator

July 14, 2012 _____

Date

Mr. Eric Fuchs and Mr. Michael Yeats

Emergency Management Director

Wayne County and Iron County

July 14, 2012 _____

Date

Basic EAP Data

Purpose

The purpose of this EAP is to reduce the risk to human life and minimize property damage during an unusual or emergency event at Seven Lakes #3 Dam.

Notification Procedure

This EAP provides general guidance for recognizing and characterizing an emergency situation occurring at the dam. The dam owner should act quickly to evaluate the emergency situation and then follow the notification procedures according to the corresponding level of emergency.

Potential Impacted Area

See *Inundation Map* (Appendix A) and *Residents/Businesses/Entities at Risk* table for the locations and contact information of the following residents and businesses that may be flooded if the dam should fail. This list may also include critical infrastructure such as pipelines, power plants, substations, or sewer plants.



Village of Des Arc, consisting of abandoned homes and trailers, some parttime and full time residents; Restaurant; Volunteer Fire Dept; Post Office; CR 344, CR 157

Directions to dam (Review Arrival Time Map that shows major roads to the dam)



From Piedmont: SR 49N to Right into Des Arc. Rt. on ICR 157 which becomes WCR 344, approximately 1.5 miles to the property

From Anapolis: SR 49S to left on 143, immediate right into Des Arc. Left on ICR 157 which becomes WCR 344, approximately 1.5 miles to property.

Guidance for Determining the Emergency Level

This information should be used as a general guide for recognizing and characterizing the type of emergency situation occurring at the dam. The dam owner should notify the appropriate emergency contacts based upon the emergency level assigned to each situation.

Level 1 Emergency - Nonemergency, unusual event, slow to develop

- Reservoir water surface elevation at emergency spillway crest or spillway is flowing with no active erosion.
- New seepage areas in or near the dam.
- New cracks in the embankment greater than ¼-inch wide without seepage.
- Visual movement/slippage of the embankment slope.
- Instrumentation readings beyond predetermined values.
- Measurable earthquake felt or reported on or within 50 miles of the dam.
- Damage (vandalism/sabotage) to dam or appurtenances with no impacts to the functioning of the dam.
- Modification (vandalism/sabotage) to the dam or appurtenances that could adversely impact the functioning of the dam.

Level 2 Emergency - Potential dam failure situation, rapidly developing

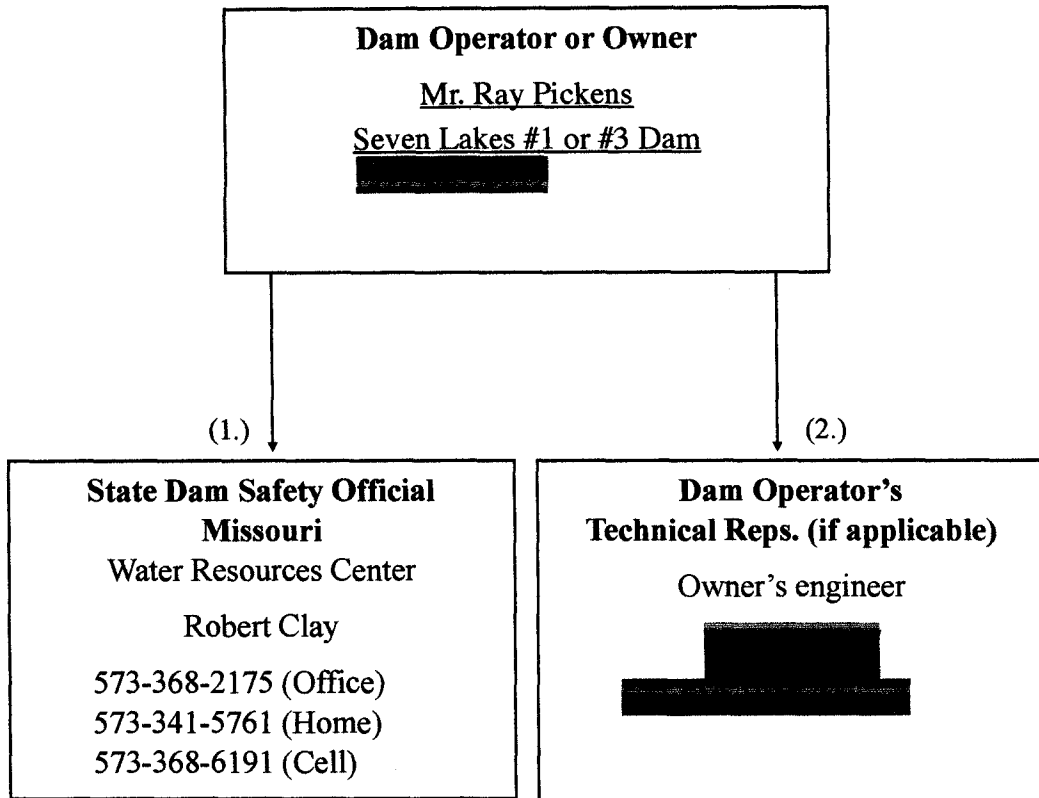
- Spillway flowing with active gully erosion.
- Spillway flow that could result in flooding of people downstream, if the reservoir level continues to rise.
- Reservoir level is 1 foot below the top of the dam.
- New seepage areas with cloudy discharge or increasing flow rate.
- Observation of new sinkhole in reservoir area, on embankment or downstream of dam.
- Cracks in the embankment with seepage.
- Earthquake resulting in visible damage to the dam or appurtenances.
- Verified bomb threat that, if carried out, could result in damage to the dam.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in seepage flow.

Level 3 Emergency - Urgent; dam failure imminent or is in progress

- Spillway flowing with an advancing headcut that is threatening the control section.
- Spillway flow that is flooding people downstream.
- Water from the reservoir is flowing over the top of the dam (not just auxiliary/emergency spillway).
- Seepage that is obviously eroding soil from within the embankment or rapidly increasing in flow rate.
- Rapidly enlarging sinkhole.
- Sudden or rapidly progressing slides of the embankment slopes.
- Earthquake resulting in uncontrolled release of water from the dam.
- Detonated bomb that has resulted in damage to the dam or appurtenances.
- Damage to dam (vandalism/sabotage) or appurtenances that has resulted in uncontrolled water release.

Emergency Level 1 Notifications

Nonemergency, unusual event; slowly developing.



Note:

1., 2., etc., denotes call sequence

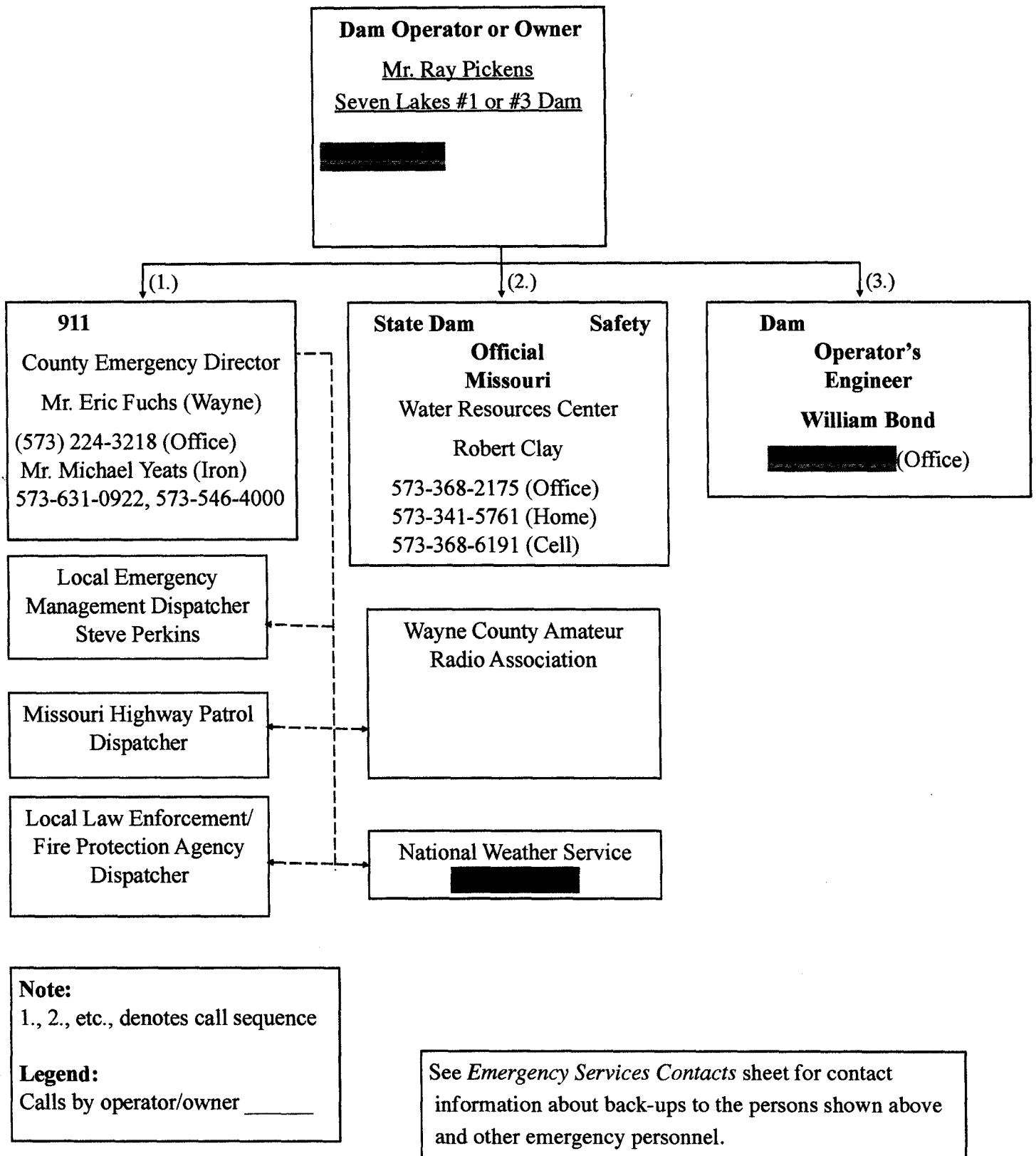
Legend:

Calls by operator/owner _____

See *Emergency Services Contacts* sheet for contact information about back-ups to the persons shown above and other emergency personnel.

Emergency Level 2 Notifications

Emergency event, potential dam failure situation; rapidly developing.



Emergency Level 3 Notifications

Urgent event, dam failure appears imminent or is in progress.

Dam Operator or Owner
Mr. Ray Pickens
Seven Lakes #1 Dam or #3 Dam
[Redacted]

911
County Emergency Director
Eric Fuchs (Wayne)
(573) 224-3218 (Office)
[Redacted] (Cell)
or Mike Yeats (Iron)
573-631-0922 or 573-546-4000

(2.)
State Dam Safety Official
Missouri
Water Resources Center
Robert Clay
573-368-2175 (Office)
573-341-5761 (Home)
573-368-6191 (Cell)

(3.)
Dam Operator's Engineer
William Bond
[Redacted] (Home)

Local Emergency Management
Dispatcher
Steve Perkins 573-546-4000

National Weather Service
[Redacted]

Missouri Highway Patrol
Dispatcher

Wayne County Amateur
Radio Association:

Local Law Enforcement/
Fire Protection Agency
Dispatcher

Note:
1., 2., etc., denotes call sequence

Legend:
Calls by operator/owner _____

See *Emergency Services Contacts* sheet for contact information for back-ups to the persons shown above and other emergency personnel.

Emergency Services Contacts

Agency / Organization	Principal Contact	Address	Office Phone No. with Area Code	Alternate Telephone Numbers
Wayne County Sheriff Iron County Sherriff				
Owner/Representative of Seven Lakes #1 or #3 Dam	Mr. Ray Pickens	P.O. box 84 Des Arc, Mo 63636		573-223-2519
County Emergency Management Director	Mr. Eric Fuchs or Mike Yeats Steve Perkins	P.O. Box 259 Greenville, MO 63944	(573) 224-3218 (573) 631-0922 573-546-4000	
Fire Department Wayne or Iron				
Police Wayne or Iron				
Highway Patrol			(573)223-4300	
Wayne County Road Department				
Water Resources Center Dam and Reservoir Safety Program	Robert Clay Chief Engineer	111 Fairgrounds Rd. Rolla, MO 65401	573-368-2175	573-341-5761 (H) 573-368-6191 (C)
Department of Natural Resources Emergency Response	Duty Officer EER	P.O. Box 176 Wayne City, MO 65102	24 HOUR NO: 573-634-2436	573-526-3380 (Brian Allen, Chief, EER)
SEMA Duty Officer				
National Weather Service	Jim Kramper	St. Charles, Missouri	636-447-1876	1-800-852-7497 636-447-1769 (Fax)
Missouri Department of Transportation	Emergency Operation Center 24-hour cell no.		573-522-9503	
Missouri Department of Transportation	County Shed			
Kickin Kountry 105 Local Radio	Manager		573-223-4518	

Residents/Businesses/Entities/Infrastructure at Risk

Entity No.	Resident/business or other impacted entity	Address	Phone No. with area code	Distance downstream from dam (miles)
	Post Office		(573) 598-3341	2 miles
	Des Arc Cafe	Des Arc	(573) 598-1402	2 miles
	Volunteer Fire Dept	Des Arc	(573) 598-1153	2 miles
	Borders	Des Arc	(573) 223-7683	1 mile
	Slusher		(573) 223-7182	1.5 miles
	Brewer	Des Arc	(573) 598-4007	2 miles
	Bonds Garage	Des Arc	(573) 598-4444	2 miles
	Sutton	Des Arc	(573) 598-1135	2 miles

Parker

Des Arc

(573)598-4622

2 miles

Obtaining specific personal information (phone numbers) from local residents has been difficult, if not impossible due to their preference for privacy. We have been advised by both Mr. Fuchs, Mr. Yeats and Mr. Perkins that contacting residents in an emergency situation would be their province. Steve Perkins, 911 director of Iron County is a contact person: 573-546-4000 or Troy Silvy, Volunteer Fire Chief, Des Arc: 573-598-1153.

Resources Available

Locally available resources include: (if not available please note)

Heavy Equipment Service and Rental	Sand and Gravel Supply	Ready-mix Concrete Supply
<div style="background-color: black; width: 100%; height: 100%;"></div>	<div style="background-color: black; width: 100%; height: 100%;"></div>	<div style="background-color: black; width: 100%; height: 100%;"></div>
Pumps	Other Resources	Sand Bags
<div style="background-color: black; width: 100%; height: 100%;"></div>	<div style="background-color: black; width: 100%; height: 100%;"></div>	<div style="background-color: black; width: 100%; height: 100%;"></div>

Appendix B
National Inventory of Dams (NID) Data

Seven Lakes #1 Dam:

State: **Missouri**

NID ID: **MO30347**

Sec: **20** Township: **30N** Range: **R04E**

Longitude: **-90.6396 decimal degree**

Latitude: **37.2621 decimal degree**

Longitude: **-90 ° 35' 22"**

Latitude: **37° 15' 43"**

County: **Wayne**

Stream: **Goose Creek**

Nearest town downstream: **Des Arc**

Distance to nearest town downstream: **1.4 mi**

Year constructed/modified: **1944**

Nearest town: **Des Arc**

Distance to nearest town: **1.4 mi**

Type of dam: (indicate only one)

earthfill rockfill concrete tailings

Max. discharge: **9404 ft³/sec**

Max. storage: **1780 ac-ft**

Normal storage: **1360 acre-ft**

Surface area: **57 acres**

Drainage area: **1326 acres**

Inspection frequency: **2 yrs**

State regulatory agency:

Missouri DNR WRC DRSP

Dam height: **55 ft**

Dam length: **1060 ft**

Current hazard class: **1**

Principal spillway type: **Open channel, partially
concrete lined, on left abutment**

Emergency spillway type: **None**

Comments: _____

Appendix B
National Inventory of Dams (NID) Data

Seven Lakes #3 Dam:

State: **Missouri**

NID ID: **MO31032**

Sec: **29** Township: **30N** Range: **R04E**

Longitude: **-90.6352 decimal degree**

Latitude: **37.2543 decimal degree**

Longitude: **-90 ° 38' 6"**

Latitude: **37° 15' 15"**

County: **Wayne**

Stream: **Goose Creek**

Nearest town downstream: **Des Arc**

Distance to nearest town downstream: **2.0 mi**

Year constructed/modified: **1944**

Nearest town: **Des Arc**

Distance to nearest town: **2.0 mi**

Type of dam: (indicate only one)

earthfill rockfill concrete tailings

Max. discharge: **9404 ft³/sec**

Max. storage: **1640 ac-ft**

Normal storage: **1360 acre-ft**

Surface area: **55 acres**

Drainage area: **506 acres**

Inspection frequency: **2 yrs**

State regulatory agency:

Missouri DNR WRC DRSP

Dam height: **45 ft**

Dam length: **1080 ft**

Current hazard class: **1**

Principal spillway type: **Open channel, partially
concrete lined, on right abutment**

Emergency spillway type: **None**

Comments: _____

Appendix C

Unusual or Emergency Event Log

(To be completed during the emergency)

Seven Lakes #3 Dam

County: Wayne

When and how was the event detected?

Weather conditions:

General description of the emergency situation:

Emergency level determination:

Made by:

Actions and Event Progression

Date	Time	Action/event progression	Recorded by

Appendix D

Glossary

Abutment	The part of the valley side against which the dam is constructed. The left and right abutments of dams are defined with the observer looking downstream from the dam.
Appurtenances	Structures incident to or annexed to dams essential to the proper operation, maintenance or functioning of the dam. This includes such structures as spillways, low level outlet works and water conduits, such as tunnels, pipelines or penstocks, either through a dam or its abutments.
Breach	An opening through the dam that allows draining of the reservoir. A controlled breach is an intentionally constructed opening. An uncontrolled breach is an unintended failure of the dam.
Control section	A usually level segment in the profile of an open channel spillway above which water in the reservoir discharges through the spillway.
Dam	An artificial barrier generally constructed across a watercourse for the purpose of impounding or diverting water.
Emergency spillway	The appurtenant structure that provides the controlled conveyance of excess water through, over, or around the dam.
Instrumentation	An arrangement of devices installed into or near dams that provide measurements to evaluate the structural behavior and other performance parameters of the dam and spillway structures. Examples include seepage measuring weirs, piezometers, inclinometers and survey monuments.
Low level outlet works	An appurtenant structure, usually consisting of a pipe through the embankment or principal spillway structure equipped with a valve, whose purpose is to allow lowering the lake level.
Principal spillway	The appurtenant structure that conveys normal inflow through or around the embankment.
Reservoir	The body of water impounded or potentially impounded by the dam.
Seepage	The natural movement of water through the embankment, foundation, or abutment of the dam.

Appendix E

Record of Holders of Control Copies of this EAP

Copy Number	Organization	Person receiving copy	E-mail Address
1	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]
3	Missouri Department of Natural Resources Dam Safety Program and address	Bob Clay	mowaters@dnr.mo.gov

Record of Revisions and Updates Made to EAP

Revision Number	Date	Revisions made	By whom
1	[REDACTED]	[REDACTED]	[REDACTED]

RECEIVED
JUL 30 2012

July 24, 2012

Robert Clay, Chief Engineer
DNR Dam Safety
P.O. Box 250
Rolla, MO 65402

Dear Bob,

Enclosed please find a completed copy of the **Emergency Action Plan (EAP)** for Seven Lakes Dams #1 & #3. We appreciate your agency's organizational efforts and preliminary work on this plan. We agree with DNR's pro-active approach to public safety.

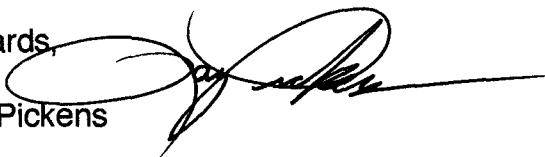
As per our discussion, I have included only one copy of the Seven Lakes **EAP** because the plans for Dams 1 & 3 are identical. I am also not including the maps for either Dam since your office has the originals. However, the NID Data sheets for both (Appendix B) are included.

Copies of the EAP, including maps, will be sent to Mr. Eric Fuchs, EMD for Wayne County, Mr. Michael Yeats, EMD for Iron County and Mr. Steven Perkins, 911 Director for Iron County. They intend to distribute the Plan to their respective emergency teams.

Thank you for your continued assistance and advice.

Regards,

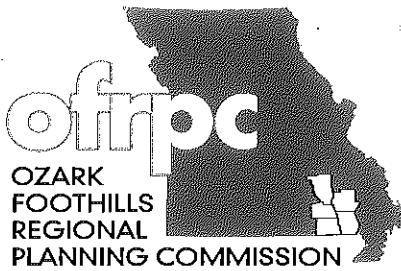
Ray Pickens



Wayne County Hazard Mitigation Plan, 2024

Appendix C – Planning Meeting Documentation

- *Initial Coordination Meeting, March 21, 2023*
- *Project Kick-Off Meeting, June 13, 2023*
- *Risk Assessment Meeting, October 31, 2023*
- *Mitigation Strategy Meeting, January 23, 2024*



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Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Hazard Mitigation Plan, 2024 Update*

Dear Commissioner Polk:

Since 1990, the State of Missouri has received more than forty Presidential Declarations for disaster related assistance. This assistance, set forth in the Stafford Act, is comprised on three basic programs: 1) individual assistance; 2) public assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your community's eligibility for FEMA HMGP funding.

Effective November 1, 2003, all counties U.S. counties must have an approved hazard mitigation plan to be eligible for HMGP funding. Hazard Mitigation, as defined by FEMA, is any action taken to eliminate or reduce the loss of life or property as the result of a disaster event. For example, if a flash flood were to destroy a local bridge, HMGP funding could be used to rebuild the bridge to reduce future washout occurrences by raising the bridge, changing the bridge type, or moving the bridge altogether. In Missouri, tornado safe rooms and residential flood buyout projects are frequently funded by FEMA's HMGP.

The Ozark Foothills Regional Planning Commission has been contracted to update the hazard mitigation plan for Wayne County. As a resident of Wayne County and an elected official, you have special knowledge of the region. We seek to utilize that knowledge to produce a comprehensive and community-specific update to the county's current hazard mitigation plan.

To ensure the plan's thoroughness, we are asking that you or a representative of your city participate in the Wayne County Hazard Mitigation Planning Committee. The time commitment to this committee will be minimal, with a total of four meetings taking place. **The first meeting will be Tuesday, March 21, 10:00 am at the Wayne County Courthouse in the County Commission Chambers.**

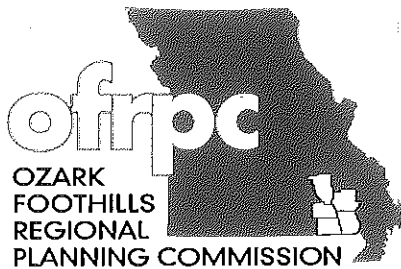
Once you have selected a representative of your city, county, or organization to serve on the planning committee, please call/text me at 573-300-9399 or via email at felicity@ofrpc.org. Please do not hesitate to contact me with questions or concerns. I look forward to seeing you or someone from your community on March 21st!

Sincerely,


Felicity Ray
Planner



SERVING BUTLER, CARTER, REYNOLDS, RIPLEY, AND WAYNE COUNTIES



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Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Natural Hazard Mitigation Plan, 2024 Update*

Dear Superintendent Marquis:

Since 1993, the State of Missouri has received millions of dollars in FEMA disaster assistance. This assistance, as set forth in the Stafford Act, is distributed through three basic programs: 1) individual assistance; 2) public assistance; and 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your school district's eligibility for HMGP funding.

Any county, city or special district in the State of Missouri must participate in and adopt an approved hazard mitigation plan to be eligible for HMGP funding. HMGP funding can be used to rebuild bridges, construct tornado safe rooms, install culverts, purchase flood-prone properties, and construct other mitigation structures which minimize the negative impacts of a natural hazard.

The Ozark Foothills Regional Planning Commission is in the process of updating the *2019 Wayne County Natural Hazard Mitigation Plan*. As a resident of Wayne County and a school district official, you have an acute knowledge of the region. FEMA and the State of Missouri require that we utilize your knowledge to produce an accurate, comprehensive, and community-specific hazard mitigation plan.

To meet this requirement, you or a representative of your school district must participate in the Wayne County Hazard Mitigation Committee. The time commitment will be minimal and last no longer than one year, with a total of four meetings during the spring, summer and fall of 2023. The first meeting will be Tuesday, March 21st at 10:00 a.m., at the Wayne County Courthouse - Commission Chambers.

If you wish to appoint someone other than yourself to represent your district on the committee, please call/ text me at (573) 300-9399 or contact me via email at felicity@ofrpc.org. Please do not hesitate to contact me with questions or concerns. I look forward seeing you on March 21st.

Sincerely,

Felicity Ray
Planner





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Fax: (573) 686-5467
Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Natural Hazard Mitigation Plan, 2024 Update*

Dear Superintendent Clubb:

Since 1993, the State of Missouri has received millions of dollars in FEMA disaster assistance. This assistance, as set forth in the Stafford Act, is distributed through three basic programs: 1) individual assistance; 2) public assistance; and 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your school district's eligibility for HMGP funding.

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Sincerely,

Felicity Ray
Planner





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Phone: (573) 785-6402
Fax: (573) 686-5467
Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Hazard Mitigation Plan, 2024 Update*

Dear Mayor Joy:

Since 1990, the State of Missouri has received more than forty Presidential Declarations for disaster related assistance. This assistance, set forth in the Stafford Act, is comprised on three basic programs: 1) individual assistance; 2) public assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). **This letter pertains to your community's eligibility for FEMA HMGP funding.**

Effective November 1, 2003, all counties U.S. counties must have an approved hazard mitigation plan to be eligible for HMGP funding. Hazard Mitigation, as defined by FEMA, *is any action taken to eliminate or reduce the loss of life or property as the result of a disaster event.* For example, if a flash flood were to destroy a local bridge, HMGP funding could be used to rebuild the bridge to reduce future washout occurrences by raising the bridge, changing the bridge type, or moving the bridge altogether. In Missouri, tornado safe rooms and residential flood buyout projects are frequently funded by FEMA's HMGP.

The Ozark Foothills Regional Planning Commission has been contracted to update the hazard mitigation plan for Wayne County. As a resident of Wayne County and an elected official, you have special knowledge of the region. We seek to utilize that knowledge to produce a comprehensive and community-specific update to the county's current hazard mitigation plan.

To ensure the plan's thoroughness, we are asking that you or a representative of your city participate in the Wayne County Hazard Mitigation Planning Committee. The time commitment to this committee will be minimal, with a total of four meetings taking place. **The first meeting will be Tuesday, March 21, 10:00 am at the Wayne County Courthouse in the County Commission Chambers.**

Once you have selected a representative of your city, county, or organization to serve on the planning committee, please call/text me at 573-300-9399 or via email at felicity@ofrpc.org. Please do not hesitate to contact me with questions or concerns. I look forward to seeing you or someone from your community on March 21st!

Sincerely,

Felicity Ray
Planner





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Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Hazard Mitigation Plan, 2024 Update*

Dear Mayor Burchard:

Since 1990, the State of Missouri has received more than forty Presidential Declarations for disaster related assistance. This assistance, set forth in the Stafford Act, is comprised on three basic programs: 1) individual assistance; 2) public assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your community's eligibility for FEMA HMGP funding.

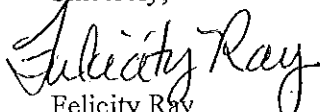
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Sincerely,


Felicity Ray
Planner



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Email: ofrpc@ofrpc.org

January 27, 2023

Re: *Wayne County Hazard Mitigation Plan, 2024 Update*

Dear Mayor Kirkpatrick:

Since 1990, the State of Missouri has received more than forty Presidential Declarations for disaster related assistance. This assistance, set forth in the Stafford Act, is comprised on three basic programs: 1) individual assistance; 2) public assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your community's eligibility for FEMA HMGP funding.


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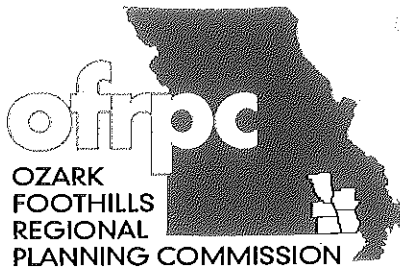
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Sincerely,


Felicity Ray
Planner



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January 27, 2023

Re: *Wayne County Hazard Mitigation Plan, 2024 Update*

Dear Chairperson ~~Clyburn~~: *Angela C.*

Since 1990, the State of Missouri has received more than forty Presidential Declarations for disaster related assistance. This assistance, set forth in the Stafford Act, is comprised on three basic programs: 1) individual assistance; 2) public assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). This letter pertains to your community's eligibility for FEMA HMGP funding.

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Sincerely,

Felicity Ray
Planner



SERVING BUTLER, CARTER, REYNOLDS, RIPLEY, AND WAYNE COUNTIES

To **Wayne County Hazard Mitigation Planning Committee**
From **Felicity Ray, Planner**
Ozark Foothills Regional Planning Commission
Tel / E-mail **(573) 300-9399 / felicity@ofrpc.org**
Date **3/22/2023**
Subject **Minutes from Wayne County Hazard Mitigation Initial Coordination Meeting held on March 21, 2023**

This document is a record of attendance and a summary of the issues discussed during the above meeting, including: the purpose of a hazard mitigation plan, the document outline, required steps in the plan update process, and identification of potential hazard mitigation planning committee members. See attached Attendance Roster.

Background

Mrs. Ray described how the plan requirement stemmed from 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). FEMA must approve the plan. Initial reviews are conducted by SEMA. The plan has a prescribed outline which facilitates approval. Each county's plan must be updated every five years. The current effort is Wayne County's required five-year update.

Wayne County and its participating jurisdictions must participate within the plan update process and adopt the plan via resolution to maintain eligibility for FEMA Hazard Mitigation Assistance Grants. Proposed requirements for jurisdictions to officially participate in the Multi-Jurisdictional Hazard Mitigation Plan were discussed. The requirements will be finalized during the Project Kick-Off Meeting when all committee members are in attendance.

Jurisdictions were informed that the Missouri State Emergency Management Agency is the State agency responsible for administering mitigation assistance grants. If jurisdictions are considering applying for hazard mitigation assistance funding, they were instructed to contact the State Hazard Mitigation Officer to obtain additional details regarding the various grant programs, the application process, and current available funds.

Local Plan Status

Missouri's hazard mitigation plan status listing by county was presented to the group. Wayne County's current hazard mitigation plan expires August 22, 2024.

Document Outline

Mrs. Ray presented a slide which outlined the document format as follows:

- ✓ SECTION 0: Executive Summary
- ✓ SECTION 1: Introduction & Planning Process
- ✓ SECTION 2: Profile & Capabilities
- ✓ SECTION 3: Risk Assessment
- ✓ SECTION 4: Mitigation Strategy
- ✓ SECTION 5: Plan Maintenance

Planning Committee

The purpose and duties of the Hazard Mitigation Planning Committee were discussed. Those in attendance were asked to identify community stakeholders as potential committee members. Discussion ensued among the group of appropriate committee members. Contact information for each nominee was provided to Mrs. Ray. Stakeholders discussed included representatives of neighboring communities/school districts, local & regional agencies involved in hazard mitigation and disaster response, water districts, businesses, chambers of commerce, and non-profit agencies.

Meeting Schedule

The meeting concluded with a discussion of the meetings necessary and prospective dates for such. The required meetings were discussed as follows:

- Project Kick-Off Meeting— Summer 2023
- Risk Assessment Meeting— Early Fall 2023
- Mitigation Strategy Meeting— Early Winter 2023-2024

The deadline for submission of the draft document to SEMA/FEMA was discussed as being February 22, 2024.

REYNOLDS COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

KICKOFF MEETING—SIGN-IN SHEET

Project: Wayne County Hazard Mitigation Plan Update, 2024

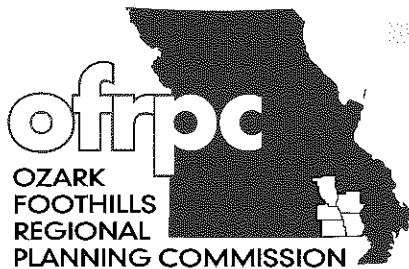
Meeting: Initial Coordination Meeting

Date/Time: 3/21/2023, 10:00AM

Facilitator: Felicity Ray, Planner, Ozark Foothills Regional Planning Commission

Place/Room: Wayne County Courthouse, Commission Chambers

Name	Title	Department/Agency	Email	Phone #	Signature
Felicity Ray	Planner	Ozark Foothills RPC	felicityr@ofrpc.org	573-300-9399	
Brian Rossman	WILSON	Ozark Foothills RPC	BRIAN@OFRPC.ORG	573-785-4402	
June Cronsti	Consultant	Wayne County	waynecourtsford@gmail.com	573-223-4185	
Loyd Rice	Manager	Go Semo Fiber	loyd@gosemo.com	573-576-4471	
Sharon Eudaley	Citizen	Williamsville	eudaley's@gmail.com	573-429-1889	
Doug Wood	East Dist Commr	Wayne	doug63@yahoo	300-0798	
Brian Polk	Wayne County		bpolk@winstream.net	429-6365	
Steve Foster	Wayne County		Foster hooling@yahoo.com	429-4282	
Ronda Crum	Wayne County Clerk	Wayne	wayne@sos.mo.gov	429-3059	
Minger Janner	Prosecutor	Wayne	ginger.janner@prosecutors.mo.gov	573-714-4218	



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April 21, 2023

RE: Wayne County Hazard Mitigation Plan – Five-Year Update, 2024

Dear Community Advocate:

Since 1990, the State of Missouri has received numerous Presidential Declarations for disaster related assistance. This assistance, as set forth in the *Stafford Act*, is comprised of three basic programs: 1) Individual Assistance; 2) Public Assistance; and, 3) the Hazard Mitigation Grant Program (HMGP). **This letter pertains to your community's/organization's eligibility for HMGP funding.**

Effective November 1, 2003, any Missouri community included in a Presidential Disaster Declaration must have an approved and updated hazard mitigation plan to be eligible for HMGP funding. Hazard mitigation is any action taken to eliminate or reduce the loss of life or property as the result of a disaster event. For example, if a flash flood were to destroy a local bridge, HMGP funding could be used to rebuild the bridge in such a way as to reduce future washout occurrences by elevating the bridge, changing the bridge type, or moving the bridge. Tornado safe rooms and flood buyouts are typically funded by the HMGP.

The Ozark Foothills Regional Planning Commission has been contracted by Wayne County and the State Emergency Management Agency (SEMA) to update the county's hazard mitigation plan. As a resident of Wayne County—or neighboring jurisdiction—and a government, community, or school district official, you have a special knowledge of the region. We seek to utilize that knowledge to produce a comprehensive, community-specific hazard mitigation plan.

We are asking that you or a representative of your city, county, or organization participate in the five-year update of the *Wayne County Hazard Mitigation Plan* by joining the Wayne County Hazard Mitigation Planning Committee. The time commitment to this committee will be minimal, with a total of three meetings taking place over the course of ten months. **The first of the three planning meetings will be held Tuesday, June 13th at 10:00 AM at the Wayne County Courthouse.**

Once you have selected a representative for your city, county, or organization to serve upon the planning committee, please contact me via phone call/text message at 573-300-9399, or via email at felicity@ofrpc.org. Please do not hesitate to reach out to me with questions. I look forward to seeing you or your community's designated representative on June 13, 2023!

Sincerely,

Felicity Ray
Planner



Brian Polk
Presiding Commissioner/
Floodplain Manager
Wayne County Courthouse
P.O. Box 48
Greenville, MO 63944

Sandy Joy
Mayor
City of Williamsville
P.O. Box 88
Williamsville, MO 63967

Sharon Eudaley, Representative
City of Williamsville

Williamsville, MO 63967

William Kirkpatrick
Mayor
City of Piedmont
Piedmont, MO 63957

Angela Clyburn
Chairperson of the Board
Village of Mill Spring
100 West 1st Street, Unit #2
Mill Spring, MO 63952

Mayor
City of Greenville
P.O. Box 427
Greenville, MO 63944

Mike Irons
East Wayne County Ambulance District

Todd
Clearwater Ambulance District
Piedmont, MO 63957

Waylon Freeze
Wayne County EMD

Pastor Brian Abbott
Clearwater Ministerial Alliance
16069 State Highway 34
Piedmont, MO 63957

J.C. Gebel
Koppers Tie Yard
509 Highway A
Williamsville, MO 63957

Plant Manager
Fine Laboratories

Fire Chief
Clearwater Fire Protection District
117 A West Fir Street
Piedmont, MO 63957

Jesse Roy, Presiding Commissioner
Ripley County
101 Courthouse Square, Suite 100,
Doniphan, MO 63935-1642

Administrator
Williamsville Nutrition Center
Williamsville, MO 6

Missouri Dept of Transportation
Southeast District
David Wyman, Area Engineer
2675 North Main
Sikeston, MO 63801

J.C. Gebel
Koppers Tie Yard
509 Highway A
Williamsville, MO 63967

Administrator
Piedmont Senior Center
Piedmont, MO 6

Superintendent Adrian Eftink
Woodland R-IV School District
Rte. 5 Box 3210
Marble Hill, MO 63764-9214

Stephanie Arbison
Piedmont Chamber of Commerce
Piedmont, MO 63957

Jason Hill
East Wayne Chamber of Commerce

Tina Burchard
Administrator
Wayne County Health Center
P.O. Box 259
Greenville, MO 63944

Superintendent Donald Wakefield
South Iron R-I School District
210 School Street
Annapolis, MO 63620-0210

Sue Bridgeman
Wayne County PWSD #4
P.O. Box 247
Wappapello, MO 63966

Superintendent Judd Marquis
Clearwater R-I School District
200 Henry White Blvd.
Piedmont, MO 63957

David Schremp
Ozark Border Electric Cooperative
3281 South Westwood Blvd.
Poplar Bluff, MO 63901

John Singleton
Black River Electric Cooperative

Superintendent Rick Clubb
Greenville R-I School District
P.O. Box 320
Greenville, MO 63944

Superintendent Cindy Crubb
Puxico School R-VIII School District
481 North Bedford Street
Puxico, MO 63960-9144

Superintendent Richard Sullivan
East Carter R-II School District
24 South Herren Ave.
Ellsinore, MO 63937-8208

Wayne County PWSD #

Plant Manager
Z Manufacturing

Wayne County Sheltered Workshop


Julie Gronski
Wayne County ARPA Coordinator

Wayne County Hazard Mitigation Plan Update - Project Kick-Off Meeting

Felicity Ray <felicity@ofrpc.org>

Sat 4/29/2023 9:28 PM

To: Wayne County HMP - 2024 <waynecountyhmpc@ofrpc.org>

 1 attachments (85 KB)

Signed Meeting Letter.pdf;

All:

Please see the attached letter, which has been mailed out to those we identified as potential attendees for the Project Kick-Off Meeting. As a reminder, the Project Kick-Off Meeting will be held Tuesday, June 13th at 10:00 AM at the Wayne County Courthouse.

I look forward to seeing all of you then!

Thank you,
Felicity

Felicity Ray
Ozark Foothills RPC
3019 Fair Street
Poplar Bluff, MO 63901
573-300-9399 - cell
felicity@ofrpc.org

Sent from my laptop kindly and spontaneously purchased for me in person by Shaquille O'Neal, at Best Buy-Galleria, Houston, TX, February 28, 2023. ❤️ He said his "momma told him to go bless somebody" that day. Be a Blessing!

To **Wayne County Hazard Mitigation Planning Committee**
From **Felicity Ray, Planner**
Ozark Foothills Regional Planning Commission
Tel / E-mail **573-300-9399 / felicity@ofrpc.org**
Date **June 15, 2023**
Subject **Minutes for the Wayne County Hazard Mitigation Plan Update Project Kick-Off Meeting held on June 13, 2023**

This document is a record of attendance and a summary of the issues discussed during the above-referenced meeting.

Attendees

Name	Title	Department	Jurisdiction
See Attached			

Introductions

Felicity Ray, Planner with the Ozark Foothills 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. All attendees were directed to sign the Attendance Roster.

Hazard Mitigation Planning Purpose

Mrs. Ray described how the plan requirement stemmed from 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). FEMA must approve the plan. Initial reviews are conducted by SEMA. The plan has a prescribed outline which facilitates approval. Each county's plan must be updated every five years. The current effort is Wayne County's required five-year update. Wayne County and its participating jurisdictions must participate within the plan update process and adopt the plan via resolution to maintain eligibility for FEMA Hazard Mitigation Assistance Grants.

Jurisdictions were informed that the Missouri State Emergency Management Agency is the State agency responsible for administering mitigation assistance grants. Jurisdictions were instructed to contact the State Hazard Mitigation Officer to obtain additional details regarding the grant programs, application process, and available funds. Applicable grant programs were

listed as follows:

- Hazard Mitigation Grant Program
- Building Resilient Infrastructure & Communities (BRIC) Program (previously Pre-Disaster Mitigation Grant Program)
- Flood Mitigation Assistance Program
 - *Repetitive Loss Program*
 - *Severe Repetitive Loss Program*

The definition of mitigation—as opposed to emergency preparedness/response—was discussed.

Planning Tasks / Multi-Jurisdictional Approach

The nine-task planning process was highlighted as follows:

- ✓ Task 1: Determine the Planning Area and Resources
- ✓ Task 2: Finalize the Planning Team
- ✓ Task 3: Create an Outreach Strategy
- ✓ Task 4: Review Community Capabilities
- ✓ Task 5: Conduct a Risk Assessment
- ✓ Task 6: Develop a Mitigation Strategy
- ✓ Task 7: Review and Adopt the Plan
- ✓ Task 8: Keep the Plan Current

Participation Requirements

The requirements for jurisdictions to officially participate within the Multi-jurisdictional Hazard Mitigation Plan update process was determined. It was decided that meeting attendance would be offered virtually or in-person.

Public Involvement

Mrs. Ray described that in previous plan updates, online surveys were used to collect public opinion regarding the hazards affecting the planning area. Specifically, the survey monkey tool has been helpful. Those in attendance discussed ways to collect public opinion and agreed to a survey using the online resource. Committee members were encouraged to disseminate the online survey link to members of the public once the survey was created.

Furthermore, discussion was had regarding the opportunity for public comment following completion of the draft plan.

Plan Format

Mrs. Ray presented a slide showing the overall format of the plan update document as follows

- Executive Summary
- Chapter 1—Planning Process
- Chapter 2—Jurisdiction Profiles
- Chapter 3—Risk Assessment
- Chapter 4—Mitigation Strategy
- Chapter 5—Plan Maintenance
- Appendices

The goals for the current plan were discussed. Mrs. Ray stated that the goals for the plan update would be finalized during the Risk Assessment Meeting to be held in 2-3 months. The plan goals as identified during 2019 were listed as follows:

1. Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.

2. Implement mitigation actions that improve the continuity of government and essential services from the adverse effects of disasters.
3. Implement mitigation actions that improve the protection of public and private property from the adverse effects of disasters.
4. Implement mitigation actions that improve the protection of each community from the adverse effects of disasters.

Discussion of Hazards

Previous FEMA disaster declarations involving the county were listed and reviewed. Severe storms and flooding were noted as occurring most frequently. Hazards identified as applicable to the planning area were as follows:

- Dam Failure
- Drought
- Earthquakes
- Extreme Heat
- Wildfire
- Flooding (Flash and River)
- Land Subsidence/Sinkholes
- Thunderstorm/High Winds/Lightning/Hail
- Tornado
- Winter Weather/Snow/Ice/Severe Cold.

The participating jurisdictions determined there are no levees in Wayne County; consequently, "Levee Failure" was not identified as an applicable hazard.

Data Collection Questionnaires

Blank Data Collection Questionnaires were distributed to those in attendance followed by electronic copies. All jurisdictions were encouraged to complete the Data Collection Questionnaire (DCQ) for their respective jurisdiction by August 1, 2023.

Critical Facility Inventory

The importance of critical facilities in hazard mitigation planning was discussed. Critical facilities were described as falling with three categories: essential facilities (hospitals, emergency services centers, etc.), high-potential loss facilities (schools, dams, government buildings, etc.) and transportation/lifeline facilities (highways, railroads, gas pipelines, water treatment plants, etc.). Examples of such facilities were provided. Participants were asked to brainstorm critical facilities within his/her respective community and determine which hazards were likely to negatively impact those facilities.

Next Steps

The next meeting will focus upon the assessment of risk for each participating jurisdiction. At the end of the meeting, Data Collection Questionnaires were distributed. Jurisdictions were asked to complete the questionnaires and email them to Mrs. Ray by August 1, 2023. The meeting

concluded with a discussion of the remaining meetings required to complete the planning process:

-
- September 2023—Risk Assessment Meeting
 - Early 2024—Mitigation Strategy (FINAL) Meeting
-

**WAYNE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE
PROJECT KICK-OFF MEETING—SIGN-IN SHEET**

Project: Wayne County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update
Meeting Date/Time: June 13, 2023 10:00 A.M.
Facilitator: Felicity Ray, Planner
 Ozark Foothills Regional Planning Commission
Place/Room: Wayne County Courthouse
 109 Walnut Street, Greenville, MO 63944

Name	Title	Department/Agency	Email	Phone #	Signature
Felicity Ray	Planner	OFRPC	felicitycoty@pc.org	573-200-9399	
Steve Foster	Commissioner	Wayne Co	Foster Hauling @chehae.com	573-429-4282	
Brian Polk	Commissioner	Wayne Co	WAYNE @ SOS.MO.GOV bpolk@wmo.steep.com	573 429-6365	
Doug Wood	Commissioner	Wayne Co	dougwood63042@comcast.net	573 300 0798	
Tammy Thurman	City Clerk	City of Piedmont	tammy@cityofpiedmont.com	573-223-7460	
Julie Grunski	Contractor	Wayne County	waynecc@crossroadsfund.org jg@wcc.com	573-778-5453	
FRED ESER	operations mgr.	USACE	FRED.W.ESSER@USACE.MO.gov	501-340-1472	
David Schremp	GM	OZARK BORDER ELEC	DSCHREMP@OZARKBORDERELEC.COM	573-785-4631	
John Singleton	GM	BLACK RIVER ELECTRIC	jsingleton@brec.coop	573-783-3381	
Rick Clubb	Superintendent Greenville Schools	Greenville R-2	relubb@gv.bears.k12.mo.us	573-224-3844	

WAYNE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE PROJECT KICK-OFF MEETING—SIGN-IN SHEET

Project: Wayne County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update

Meeting Date/Time: June 13, 2023
10:00 A.M.

Facilitator: Felicity Ray, Planner
Ozark Foothills Regional Planning Commission

Place/Room: Wayne County Courthouse
109 Walnut Street, Greenville, MO 63944

Name	Title	Department/Agency	Email	Phone #	Signature
Waylon Freeze	Director	Wayne County Emergency Management	WCMOEMA@grmail.com	573 944 0726	
Dr. Richard Sullivan	Superintendent	East Carter County R-2 Schools	rsullivan@ecarter.k12.mo.us	573-322-5625 Ext 6	
Matt Wilkerson	Area Engineer	MoDOT	Matthew.wilkerson@ modot.mo.gov	573-703- 6891	
Leeanna Quick	Greenville City Clerk	City of Greenville	cogom@windstream. net	573-224- 3911	Leeanna Quick
CARL RICKMAN	GREENWILE CITY ATTORNEY	//	CARL RICKMAN @ GMAIL.COM	573 776 5657	Carl Rickman
Amber Sturgeon	East Wayne Chamber Commerce	"	abeck433@hotmail.com	573-300-0704	Amber Sturgeon
LAWANA BAUGUS	Clerk/Operator	Wayne Co PWS #2	WAYNEWATERDISTRICT2 & WINDSTREAM.NET	573-944-9099 573-856-4979	LAWANA BAUGUS
Sharon Eubarley	Representative	Williamsville	Eubarley1947@gmail.com	573-1889 573-29-1889	Sharon Eubarley
Rannda Croom	County Clerk	Wayne County	Wayne@sos.mo.gov	573-429-3059	Rannda Croom

Next Hazard Mitigation Planning Meeting

Felicity Ray <felicity@ofrpc.org>

Fri 9/8/2023 4:34 PM

To: Wayne County HMP - 2024 <waynecountyhmprpc@ofrpc.org>

Hello All!

Our next hazard mitigation planning meeting will be held October 31st at 10:00 AM at the Wayne County Commission Chambers. We had originally discussed a possible date in September, but have settled on October 31st.

If you have not yet completed your Data Collection Questionnaires, please do so and email them to me. Also, remember to advertise the public feedback survey to your friends, acquaintances and community members!

Please let me know if you have questions. 573-300-9399

Thank you!

Felicity

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To **Wayne County Hazard Mitigation Planning Committee**
From **Felicity Ray, Planner**
Ozark Foothills Regional Planning Commission
Tel / E-mail **573-300-9399 / felicity@ofrpc.org**
Date **November 2, 2023**
Subject **Minutes for the Wayne County Hazard Mitigation Plan Update Risk Assessment Meeting held on October 31, 2023**

This document is a record of attendance and a summary of the issues discussed during the above-referenced meeting.

Attendees

Name	Title	Department	Jurisdiction
See Attached			

Introductions

Felicity Ray, Planner with the Ozark Foothills 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. All attendees were directed to sign the Attendance Roster.

Purpose/Participation Status

Mrs. Ray provided a brief summary of the purpose of the Hazard Mitigation Plan and the Disaster Mitigation Act of 2000 that codified the requirement of local governments to adopt a hazard mitigation plan to maintain eligibility for FEMA Hazard Mitigation Assistance Grants. The nine-task planning process was summarized. Participants were informed that, once the meeting was concluded, the planning committee will have completed Tasks 1-4 as well as a portion of Task 5.

Hazards identified as applicable to the planning area—as determined during the Project Kick-Off meeting—were reiterated. The participating jurisdictions were reminded that because there are no levees in Wayne County, “Levee Failure” was not identified as an applicable hazard.

A review of the requirements for jurisdictions to officially participate within the Multi-jurisdictional Hazard Mitigation Plan update process was provided. A record of prior meeting attendance was reviewed. Not all MPC members had attended 100% of prior planning meetings. Meeting attendance was offered both virtually or in-person. All jurisdictions were reminded of the prior Data Collection Questionnaire (DCQ) completion requirement and submission deadline. A paper copy of a blank DCQ was provided to the Village of Mill Spring during the meeting. The village committed to submitting their complete DCQ as soon as possible.

Public Participation/Survey

Mrs. Ray also provided a status update and summary of responses to date for the Public Survey that had been disseminated via survey monkey found at <https://www.surveymonkey.com/r/WayneCountyHazardMitigationPublicSurvey>. To date, twenty-three surveys had been completed. Committee members were encouraged to continue to disseminate the online survey link to members of the public prior to survey closure on December 31, 2023. A slide showing participation status by community was presented.

Plan Format/Results of Countywide Risk Assessment

Mrs. Ray presented a slide showing the overall format of the plan update document as follows:

- Executive Summary
- Chapter 1—Planning Process
- Chapter 2—Jurisdiction Profiles
- **Chapter 3—Risk Assessment**
- Chapter 4—Mitigation Strategy
- Chapter 5—Plan Maintenance
- Appendices

The summary of the risk assessment portion of the plan update was presented via PowerPoint and discussed by those in attendance. The planning committee, along with other representatives from the participating jurisdiction(s), were requested to review the risk assessment data and provide comments/additional data by December 31, 2023

Mitigation Goals

Following the discussion of the risk assessment, Mrs. Ray facilitated a discussion regarding the mitigation goals. Common categories of mitigation goals were presented, as well as the 2017 Reynolds County Hazard Mitigation Plan goals and the 2018 State Hazard Mitigation Plan goals.

This planning effort is an update to an existing hazard mitigation plan. The goals from the previous hazard mitigation plan were reviewed and discussed. Discussed ensued which distinguished goals from actions. Each mitigation action was identified as pertaining to one or more mitigation goal(s). The definition of mitigation—as opposed to emergency preparedness/response—was reiterated.

Those in attendance were divided into groups by jurisdiction for the purpose of goal identification. The first three goals for the current plan update remained unchanged from those selected during the 2019 plan update conducted five years prior. The fourth 2019 goal (*Implement mitigation actions that improve the protection of each community from the adverse effects of disasters.*) was removed due to redundancy.

The plan update goals were identified as follows:

1. Implement mitigation actions that improve the protection of human life, health, and safety from the adverse effects of disasters.

2. Implement mitigation actions that improve the continuity of government and essential services from the adverse effects of disasters.
3. Implement mitigation actions that improve the protection of public and private property from the adverse effects of disasters.

Mitigation Actions

The next meeting will focus upon the evaluation of existing and the creation of new mitigation actions. At the end of the Risk Assessment Meeting, the Mitigation Action Worksheets from the 2019 plan were provided to each jurisdiction. Jurisdictions were asked to review the current mitigation actions prior to the next meeting and report action status to Mrs. Ray by December 31, 2023.

Next Steps

The meeting concluded with a discussion of the remaining steps to complete the planning process:

- December 31, 2023—Risk Assessment Comments and Action Status Due
- January 2023—Final Meeting, Updating/Developing Mitigation Actions
- January 2023 – Mitigation Action Forms Due (Continuing & New)
- February 2023 –Final Draft of Plan Update for Committee Review
- February 2023 –Jurisdictions Adopt Draft Plan
- February 2023—Submit Plan to SEMA
- March 2023—Final Public Comment Period / State Review Begins
- May 2023— Submit Plan to FEMA
- August 2023—Anticipate FEMA’s Approval Pending Adoption

WAYNE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE RISK ASSESSMENT MEETING—SIGN-IN SHEET

Project: Wayne County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update **Meeting Date/Time:** October 31, 2023 10:00 A.M.
Facilitator: Felicity Ray, Planner **Place/Room:** Wayne County Courthouse
 Ozark Foothills Regional Planning Commission 109 Walnut Street, Greenville, MO 63944

Name	Title	Department/Agency	Email	Phone #	Signature
Felicity Ray	Planner	OFRPC	felicity@ofrpc.org	573-300-9399	F.C. Ray
Doug Wood	East Dist Commission	Wayne Co	doug.wood63@yah	573-300-0788	Doug Wood
BRIAN POLK	Wayne		Wayne @ SOS.MO.GOV	573-429-6365	Brian Polk
Steve Foster	Walmart	Wayne	Foster.Hauling@yah	573-429-4282	Steve Foster
Ronda Crum	County Clerk	Wayne	Wayne@sos.mo.gov	573-224-5000	Ronda Crum
Sharon Eudaley	Citizen	Williamsville	eudaley.s1947@gmail.com	573-429-1889	Sharon Eudaley
LAWANA BAUGUS	operator	Wayne Co POSD #2	WANN@waterdistrict2 @windstream.net	573-944-9099	Lawana Baugus
Annay Thurman	City Clerk	Pattonville	annay.thurman@pattonville.mo.gov	573-429-4143	Annay Thurman
Andrew Clyburn	Chairman	Village Mill Spring	Village Clerk 2 @ windsman.net		Andrew Clyburn
Robert Daniel	NOEM	USACE Clearwater	robert.m.daniel@usace.army.mil	573-225-7777	Robert Daniel

USACE-Army.mil

WAYNE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE RISK ASSESSMENT MEETING—SIGN-IN SHEET

Project: Wayne County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update	Meeting Date / Time: October 31, 2023 10:00 A.M.
Facilitator: Felicity Ray, Planner Ozark Foothills Regional Planning Commission	Place / Room: Wayne County Courthouse 109 Walnut Street, Greenville, MO 63944


Name	Title	Department / Agency	Email	Phone #	Signature
Richard Dehaven	Sgt	Greenville R-1 Sheriff's Office	adrian@custgr.net	673-2277 7426	
Matt Wilkerson	Area Engineer	MoDOT	matthew.wilkerson@mo.gov	573-703 6891	
Naylor Freeze	Emergency Management Director	Wayne County EMA	wcmoema@gmail.com	573-944 0726	
Rick Clubb	Superintendent	Greenville R-2	rlclubb@gv.bears.k12.mo.us	573-224-3944	
Leanna Quick	Greenville City Clerk	City of Greenville	cogom@windstream.net	573-224 3911	
Dr. Michael J. Hines	Superintendent	East Central Community Coll.	rsh@eastcentral.k12.mo.us	573-322 56586	

Next Meeting - 1/23/2024

Felicity Ray <felicity@ofrpc.org>

Fri 1/12/2024 11:32 AM

To:Wayne County HMP - 2024 <waynecountyhmpec@ofrpc.org>

 1 attachments (41 KB)

mitigation action worksheet.pdf;

Good Morning All!

Quick reminder that our next and final hazard mitigation planning meeting will be held Tuesday, January 23rd at 10:00 AM in the Wayne County Commission Chambers. We will be identifying mitigation actions to complete the plan update!

You may recall that the county, each municipality, and both school districts are to identify at least one mitigation action for each hazard. That means each of your entities will need to produce 10 completed mitigation action worksheets. The hazards we decided to include are as follows:

- Dam Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Severe Thunderstorm, Hail, High Wind
- Severe Winter Weather
- Sinkholes
- Tornado
- Wildfire

I have attached a blank mitigation action worksheet. The link below will take you to a FEMA publication which offers ideas for mitigation actions. You may need to copy and paste it into your browser. We will discuss mitigation strategies and refine the actions during the meeting.

[fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf)

Thank you for participating thus far in the plan update! I look forward to seeing you on the 23rd!

Thank you,
Felicity

Felicity Ray
Ozark Foothills RPC
3019 Fair Street
Poplar Bluff, MO 63901
573-300-9399 - cell
felicity@ofrpc.org

Sent from my laptop kindly and spontaneously purchased for me in person by Shaquille O'Neal, at Best Buy-Galleria, Houston, TX, February 28, 2023. ❤️ He said his "momma told him to go bless somebody" that day. Be a Blessing!

To **Wayne County Hazard Mitigation Planning Committee**
From **Felicity Ray, Planner**
Ozark Foothills Regional Planning Commission
Tel / E-mail **(573) 300-9399 / felicity@ofrpc.org**
Date **January 24, 2024**
Subject **Minutes from Wayne County Hazard Mitigation Planning Meeting #3**
(Mitigation Strategy Meeting) held on January 23, 2024

This document is a summary record of the issues discussed during the above meeting, including: a brief review of the purpose of a Hazard Mitigation Plan, the public survey results, updating the mitigation strategy, plan maintenance and the next steps in this process.

Review Purpose/Participation Status

Felicity Ray, Planner, with the Ozark Foothills Regional Planning Commission provided a brief summary of the purpose of the Hazard Mitigation Plan and the Disaster Mitigation Act of 2000 that codified the requirement of local governments to adopt a hazard mitigation plan to maintain eligibility for FEMA Hazard Mitigation Assistance Grants. The nine-task planning process was summarized and participants were informed that at the conclusion of the meeting, the planning committee will have completed Tasks 1-5 as well as the majority of Task 6.

A review of the requirements for jurisdictions to officially participate in the Multi-jurisdictional Hazard Mitigation Plan was provided. The Village of Mill Spring neither met the meeting participation requirements, nor provided a completed Data Collection Questionnaire.

Public Survey Results

A summary of the public survey results was provided. Twenty-three surveys had been completed as of the meeting date.

According to the survey responses, of the hazards evaluated, the top three in terms of probability of occurrence with the planning area and beginning with most likely were: Thunderstorm, High Winds, & Hail, Drought, and Extreme Heat. The top four hazards presented in terms of potential magnitude within the planning area and beginning with most severe were: Tornado, Earthquake, Dam Failure, and Drought.

Previous Actions

Handouts were previously provided to each jurisdiction listing all actions submitted in the *2019 Wayne County Hazard Mitigation Plan*. The action handouts included the updated action status that was provided for all previous actions by each jurisdiction after meeting #2.

For each Continuing and New actions, jurisdictions were asked to complete an Mitigation Action Assessment Worksheet. Jurisdictions were reminded that they were to identify at least one mitigation action for each of the ten identified hazards.

Mitigation Strategy

To determine any new actions that should be added to the mitigation strategy update, the following information was reviewed:

- Plan Goals
- Problem Statements for each hazard
- Previously Identified actions for each hazard
- FEMA's Mitigation Ideas booklet
- Public Opinion from Surveys

Each jurisdictional representative was encouraged to discuss their suggested mitigation actions with their jurisdiction's governing body prior to finalization. Communities participating in the National Flood Insurance Program were reminded that they must have one action addressing continued compliance.

STAPLEE Worksheet

For each Continuing and New action to be included in the plan, the responsible jurisdiction was notified of the requirement to complete a STAPLEE Worksheet and record the results on the action plan worksheet. The STAPLEE worksheet provides a framework to determine the general effectiveness in accomplishing the goals of life safety and/or reduction or prevention of damage from a hazard event. This method analyzes the Social, Technical, Administrative, Political, Legal, Economic and Environmental aspects of a project and is commonly used by public administration officials and planners for making planning decisions.

The due date for completion and return of the mitigation action worksheets for all Continuing and New actions was set as January 31, 2024.

Plan Maintenance

The FEMA requirement to establish a formal plan maintenance process was discussed. This is required to ensure that the mitigation plan remains an active and relevant document. After discussion, the following plan maintenance process was agreed to by group consensus:

- The HMPC will meet annually to review the Hazard Mitigation Plan. At the Emergency Management Director's discretion, the HMPC may also meet to review the plan after significant hazard events;
- The county's Emergency Management Director (EMD) will convene and organize the meetings.
- The Wayne County Commission will coordinate the update/re-submittal to SEMA and FEMA every 5 years;
- Individual Representatives on the HMPC will integrate mitigation strategy, to the extent practicable, during the update of other jurisdictional plans such as Comprehensive Plans, Capital Improvement Plans, Infrastructure Plans, and School Emergency Plans;
- After the annual review, the county's EMD will forward the Mitigation Strategy with status updates to mayors, city clerks, and school superintendents for consideration in other planning mechanisms/discussions; and,

- The public will be involved in the plan maintenance process by publication of a press release indicating the HMPC has met. A summary of mitigation action status updates, as well as highlights of specific completed mitigation actions shall be included in the release.

Next Steps

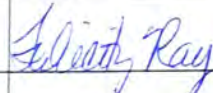
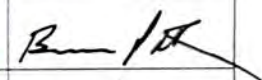


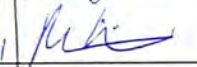
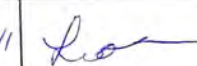
The meeting concluded with a discussion of the remaining steps to complete the planning process as follows:

January 31, 2024— Action Forms Due
March 2024— Jurisdictions Adopt Plan
February 2024 –HMP Committee Comment Period
March/April 2024— Final Public Comment Period
March 22, 2024— Submit Plan to SEMA
May 2024— Submit Plan to FEMA
August 2024— Anticipate FEMA’s Approval

WAYNE COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

MITIGATION STRATEGY MEETING—SIGN-IN SHEET

Project:	Wayne County, Missouri Multi-jurisdictional Hazard Mitigation Plan Update	Meeting Date/Time:	January 23, 2024 10:00 A.M.
Facilitator:	Felicity Ray, Planner Ozark Foothills Regional Planning Commission	Place/Room:	Wayne County Courthouse 109 Walnut Street, Greenville, MO 63944

Name	Title	Department/Agency	Email	Phone #	Signature
Sharon Eudaley	Designated Representative	City of Williamsville	Eudaleys1947@gmail.com	573-429-1889	Attended via Phone
Felicity Ray	Planner	OFRPC	felicity@ofrpc.org	573-300-4354	
Doug Wood	Commissioner	Wayne Co	dougwood638@yahoo.com	573-300-0788	
Brian Polk	Wayne Co	Presiding Commissioner	wayne@sos.mo.gov brian.randapolk@gmail.com	573-429-6363	
Steve Foster	Wayne Co	Associate Commissioner	Foster.Hawkings@pda.com	573-429-4282	
Rhonda Crum	W. County Clerk	Wayne County	Wcrum@sos.mo.gov	573-224-5600	
A. Richard Sullivan	Superintendent	East Carter County R-2	rsullivan@eccarter.k12.mo.us	573.322.5825x6	
Matt Wilkerson	Area Engineer	MoDOT	matthew.wilkerson@mo-dot.mo.gov	573-703-6891	
Rick Lubbs	Superintendent	Greenville R-2	rlubbs@gv.bears.k12.mo.us	573-224-3874	
Leeanna Quick	City Clerk	City of Greenville	lquick@windstream.net	573-224-3911	

Wayne County Hazard Mitigation Plan, 2024

Appendix D – Public Participation Documentation

- *Social Media Postings/Solicitations*
- *Survey Responses*
- *Public Meeting Documentation*



1

Ozark Foothills Regional Planning Commission

🔍 wayne county hazard mitigation



Ozark Foothills Regional Planning Commission



Published by Felicity Brady Ray · March 11 at 8:33 AM · 🌐

Attention Wayne County Residents & Business Owners! The Wayne County Hazard Mitigation Plan, 2024 Update is now available for public review and comment through April 30th. Comments are encouraged and may be emailed to felicity@ofrpc.org. The draft document is available at <https://www.ofrpc.org/counties.php>

OFRPC.ORG

Ozark Foothills Regional Planning Commission | Visit Southeast Missouri



Ozark Foothills Regional Planning Commission

1 share



Like



Comment



Share



Write a comment...



Ozark Foothills Regional Planning Commission



Published by Andrew Murphy · October 17, 2023 · 🌐

****Attention**** Wayne County Residents

Please take a couple minutes and complete your county's feedback survey for Hazard mitigation planning.

We have received 20 responses thus far. ... **See more**

System dark mode is now on. Switch Facebook to always match system setting? Yes



1



SURVEYMONKEY.COM

Wayne County Hazard Mitigation Plan Community Feedback Survey

Take this survey powered by surveymonkey.com. Create your own surveys for free.

Like

Comment

Share



Write a comment...



Ozark Foothills Regional Planning Commission

Published by Felicity Brady Ray · July 8, 2023

<https://www.surveymonkey.com/.../WayneCountyHazardMitigat...>

Do you live or work in Wayne County? If so, we want to hear your opinion regarding public safety and natural disasters. Take 3 minutes to complete the 5-question survey below!



SURVEYMONKEY.COM

Can you spare a few moments to take my survey?

Please take the survey titled "Wayne County Hazard Mitigation Plan Community Feedback Survey". Your feedback is important!

Like

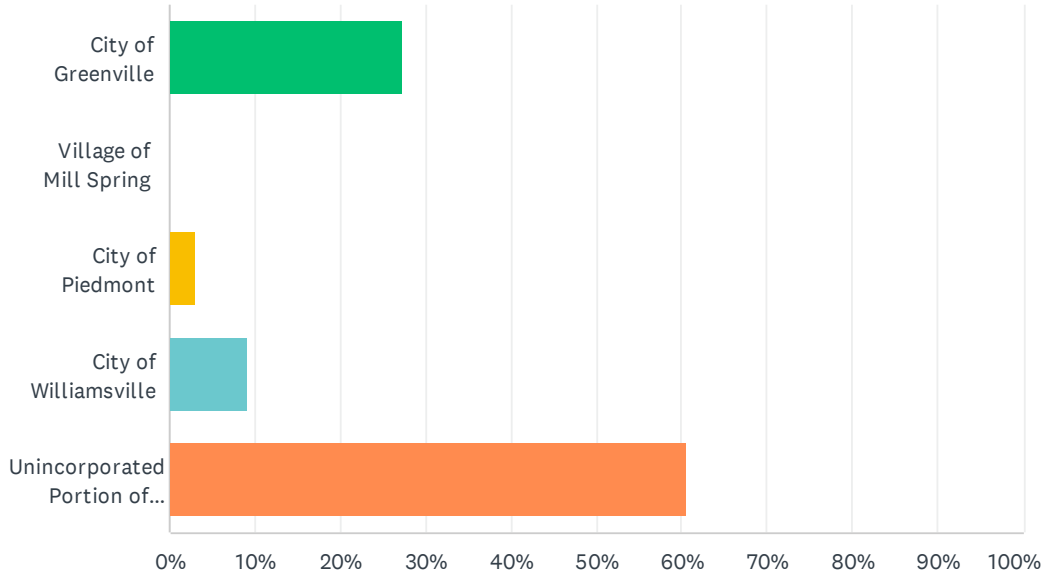
Comment

Share

System dark mode is now on. Switch Facebook to always match system setting? Yes

Q1 Please select where you live (permanently or seasonally) in Wayne County from the list below. If you work in Wayne County and live elsewhere, please select where you work.

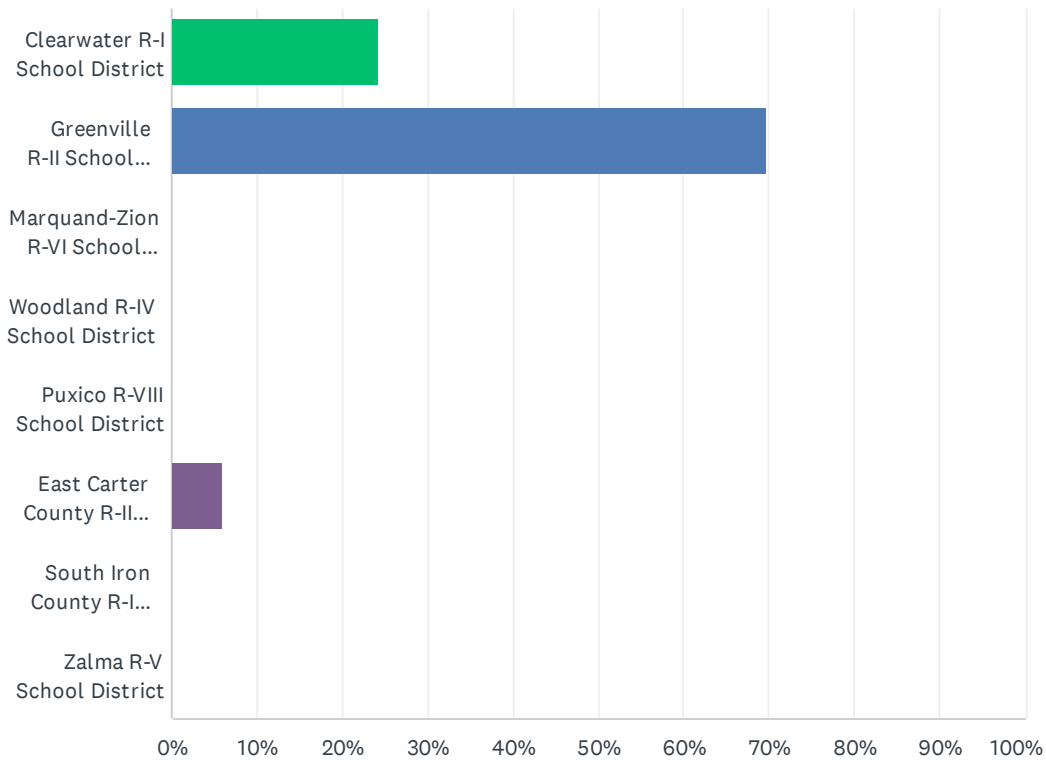
Answered: 33 Skipped: 0



ANSWER CHOICES	RESPONSES	
City of Greenville	27.27%	9
Village of Mill Spring	0.00%	0
City of Piedmont	3.03%	1
City of Williamsville	9.09%	3
Unincorporated Portion of Wayne County (not in a city or village)	60.61%	20
TOTAL		33

Q2 There are multiple school districts with all or some of their district located in Wayne County. In which Wayne County school district do you live (permanently or seasonally)? If you work, but do not live in Wayne County, please indicate the school district in which your work site is located if known.

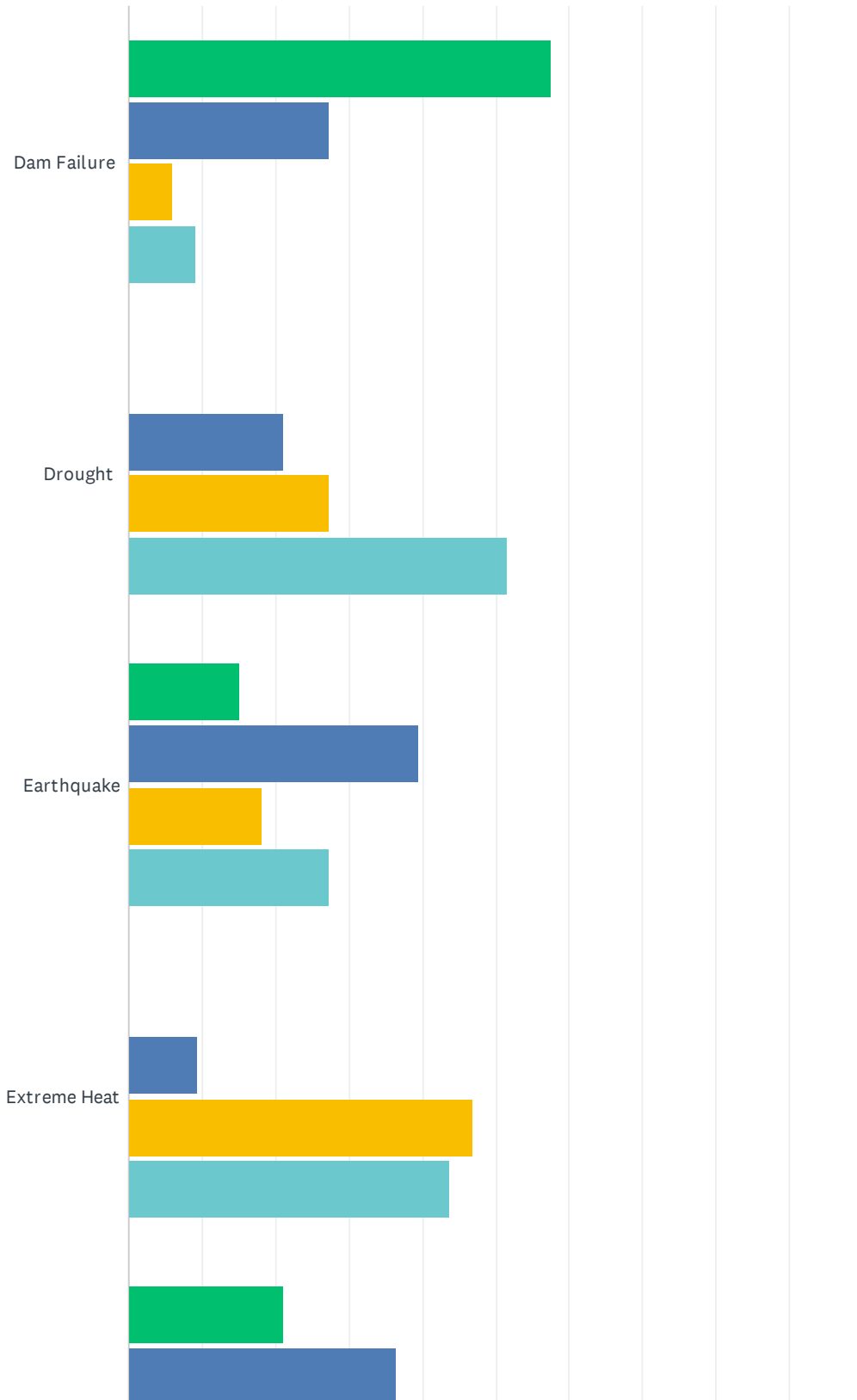
Answered: 33 Skipped: 0



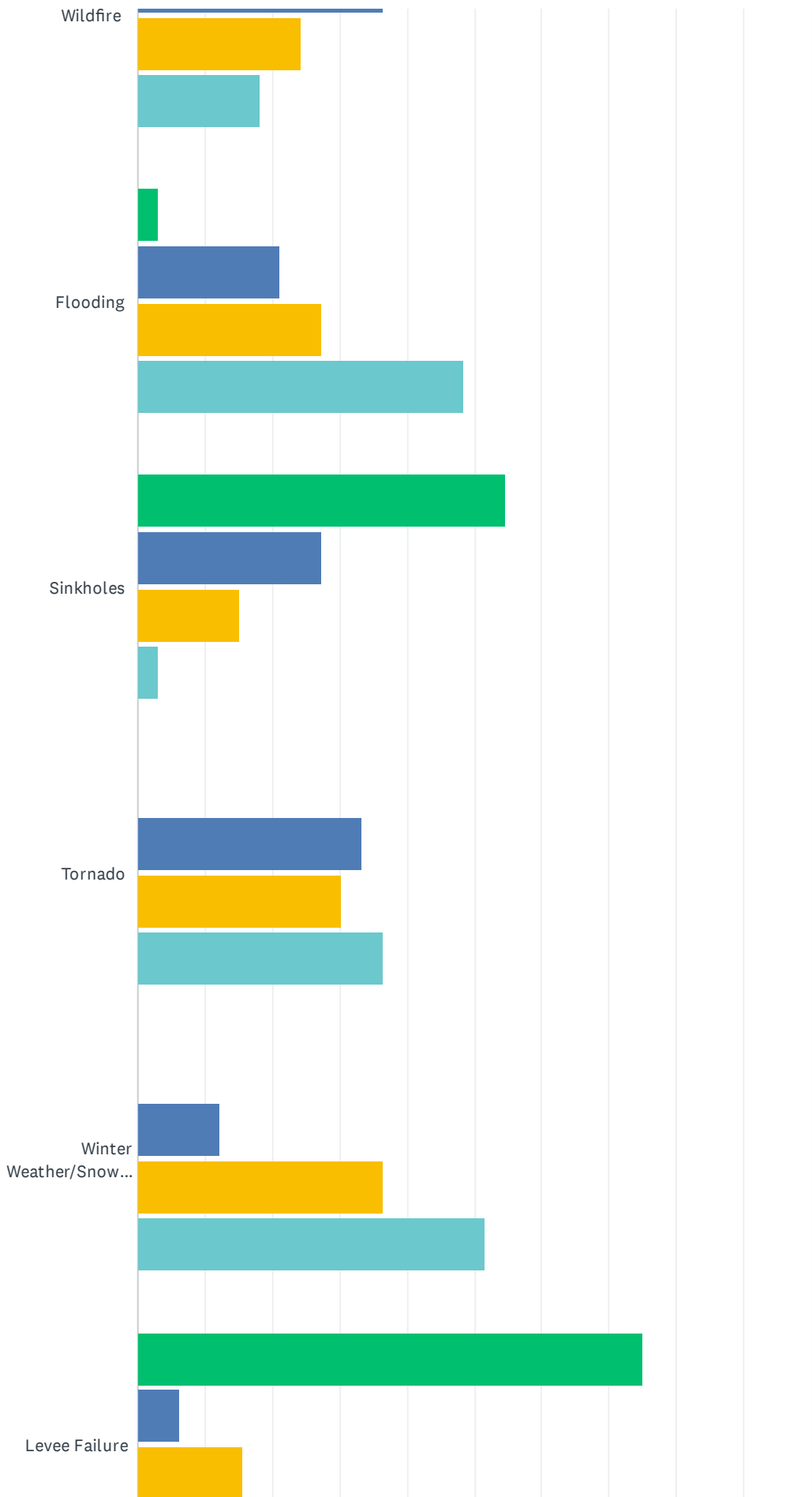
ANSWER CHOICES	RESPONSES	
Clearwater R-I School District	24.24%	8
Greenville R-II School District	69.70%	23
Marquand-Zion R-VI School District	0.00%	0
Woodland R-IV School District	0.00%	0
Puxico R-VIII School District	0.00%	0
East Carter County R-II School District	6.06%	2
South Iron County R-I School District	0.00%	0
Zalma R-V School District	0.00%	0
TOTAL		33

Q3 Please tell us your opinion of the likelihood each of the below hazards will occur where you live or work in Wayne County within the next year.

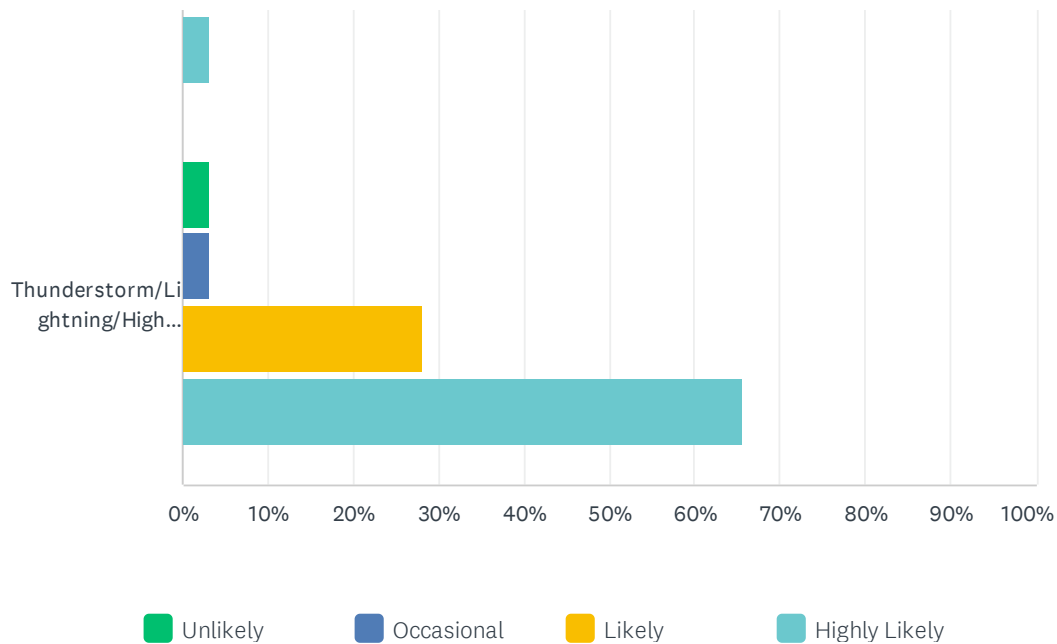
Answered: 33 Skipped: 0



Wayne County Hazard Mitigation Plan Community Feedback Survey



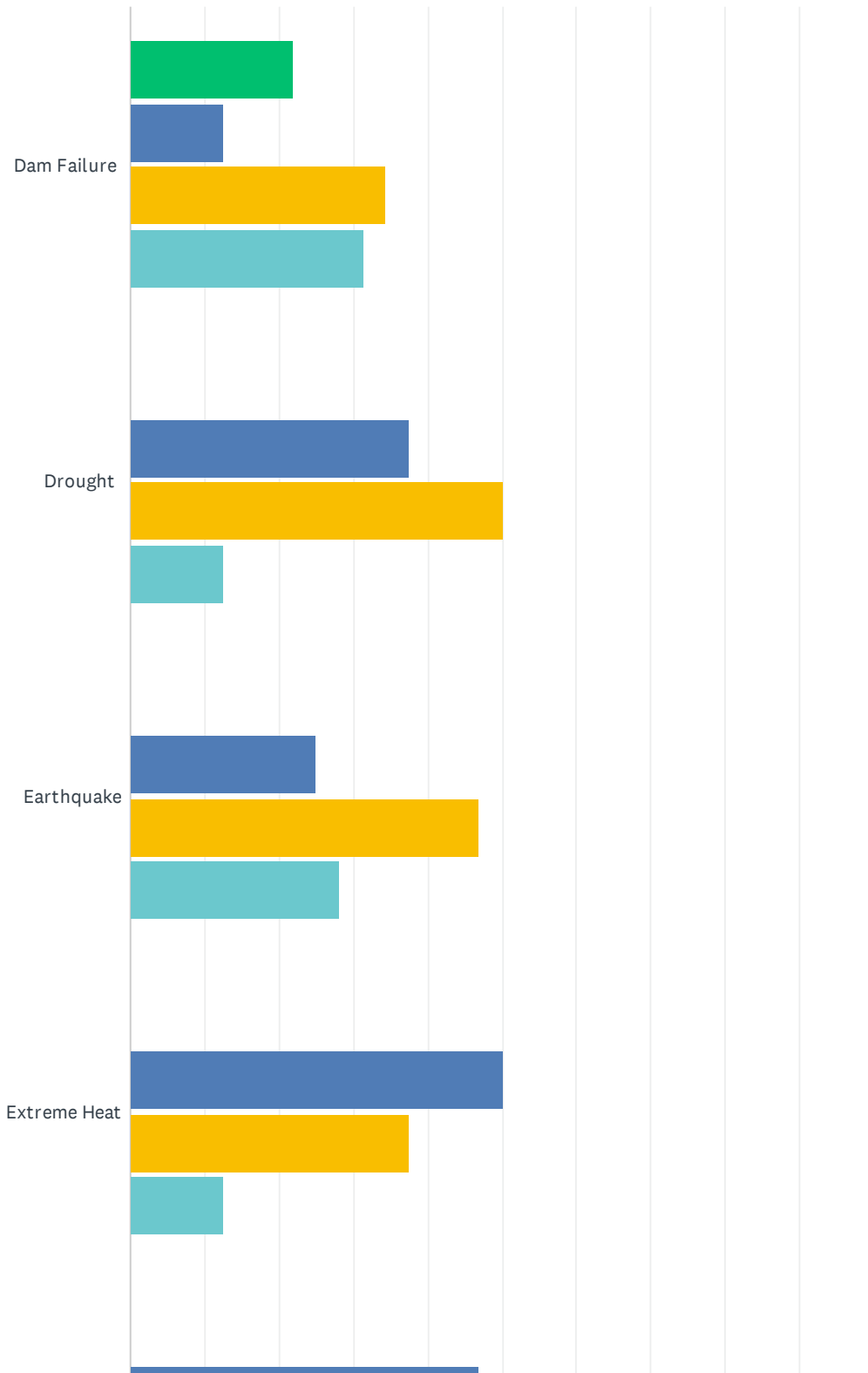
Wayne County Hazard Mitigation Plan Community Feedback Survey



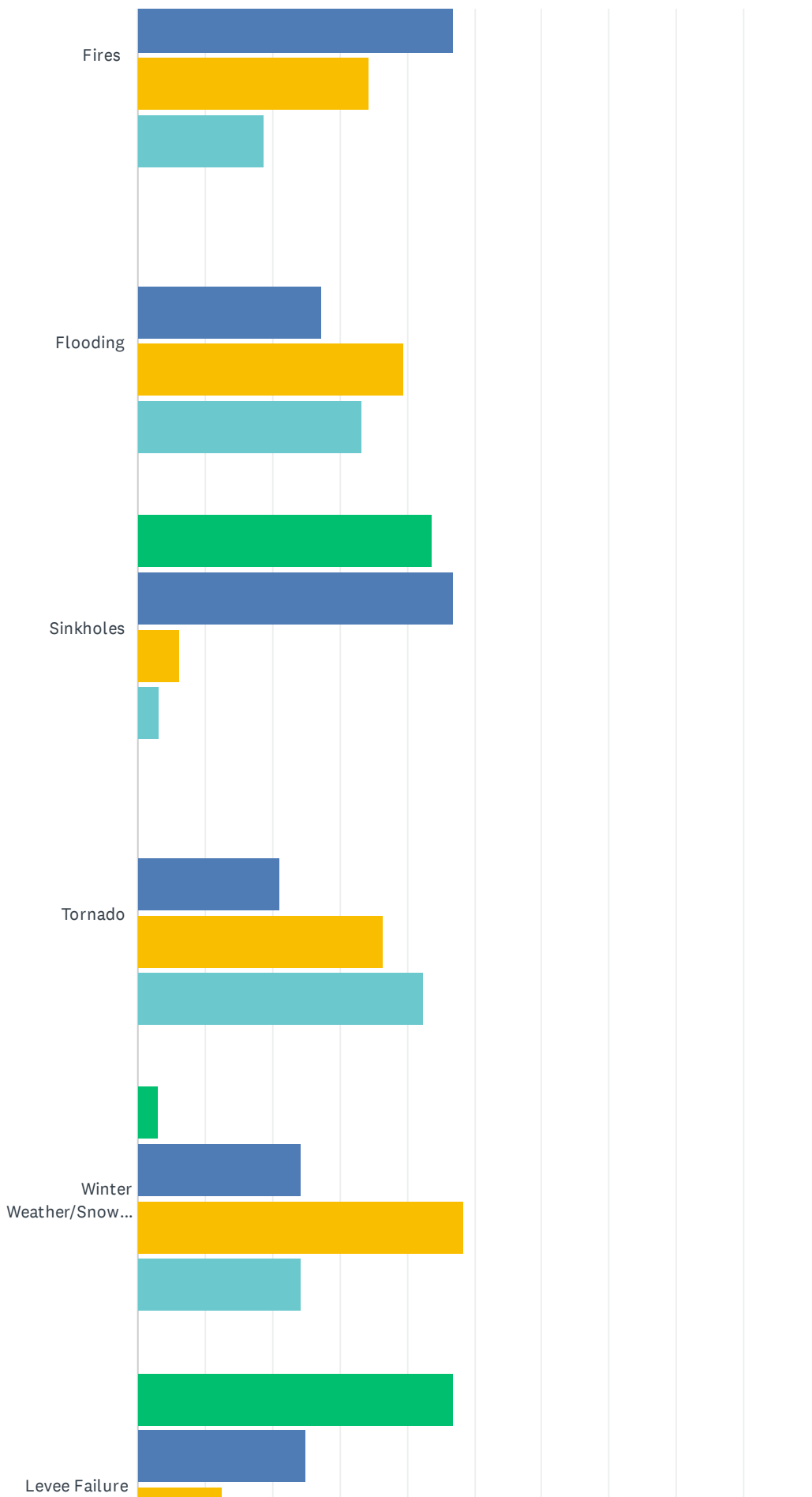
	UNLIKELY	OCCASIONAL	LIKELY	HIGHLY LIKELY	TOTAL	WEIGHTED AVERAGE
Dam Failure	57.58% 19	27.27% 9	6.06% 2	9.09% 3	33	1.67
Drought	0.00% 0	21.21% 7	27.27% 9	51.52% 17	33	3.30
Earthquake	15.15% 5	39.39% 13	18.18% 6	27.27% 9	33	2.58
Extreme Heat	0.00% 0	9.38% 3	46.88% 15	43.75% 14	32	3.34
Wildfire	21.21% 7	36.36% 12	24.24% 8	18.18% 6	33	2.39
Flooding	3.03% 1	21.21% 7	27.27% 9	48.48% 16	33	3.21
Sinkholes	54.55% 18	27.27% 9	15.15% 5	3.03% 1	33	1.67
Tornado	0.00% 0	33.33% 11	30.30% 10	36.36% 12	33	3.03
Winter Weather/Snow/Ice/Extreme Cold	0.00% 0	12.12% 4	36.36% 12	51.52% 17	33	3.39
Levee Failure	75.00% 24	6.25% 2	15.63% 5	3.13% 1	32	1.47
Thunderstorm/Lightning/High Wind/Hail	3.13% 1	3.13% 1	28.13% 9	65.63% 21	32	3.56

Q4 Please tell us your opinion of the potential magnitude of each hazard's impact on the community and area where you live or work in Wayne County.

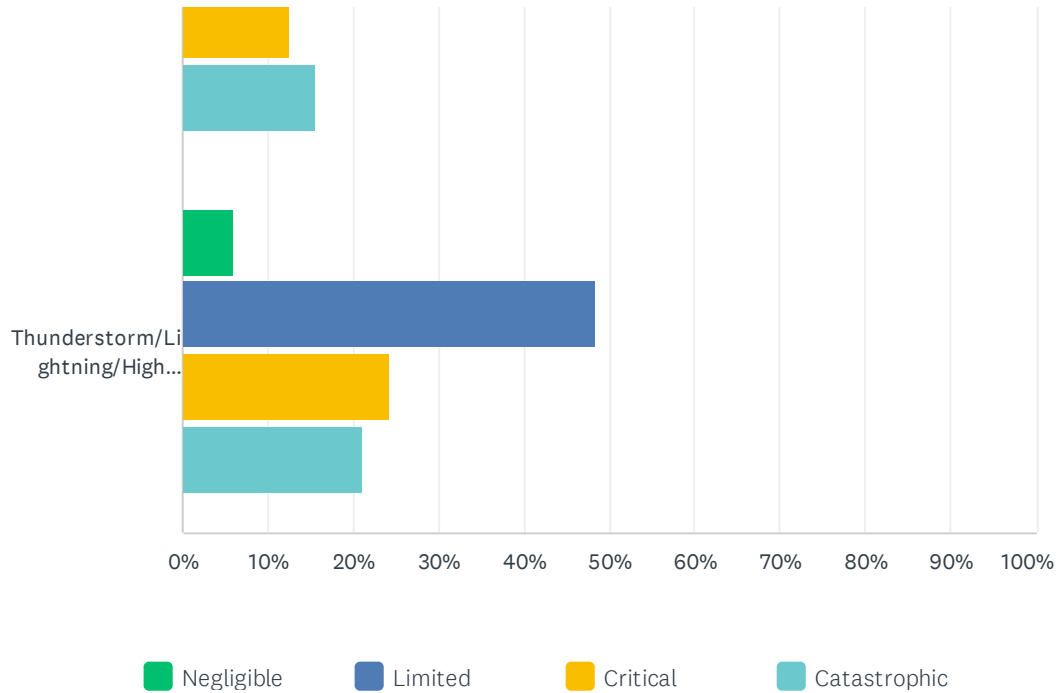
Answered: 33 Skipped: 0



Wayne County Hazard Mitigation Plan Community Feedback Survey



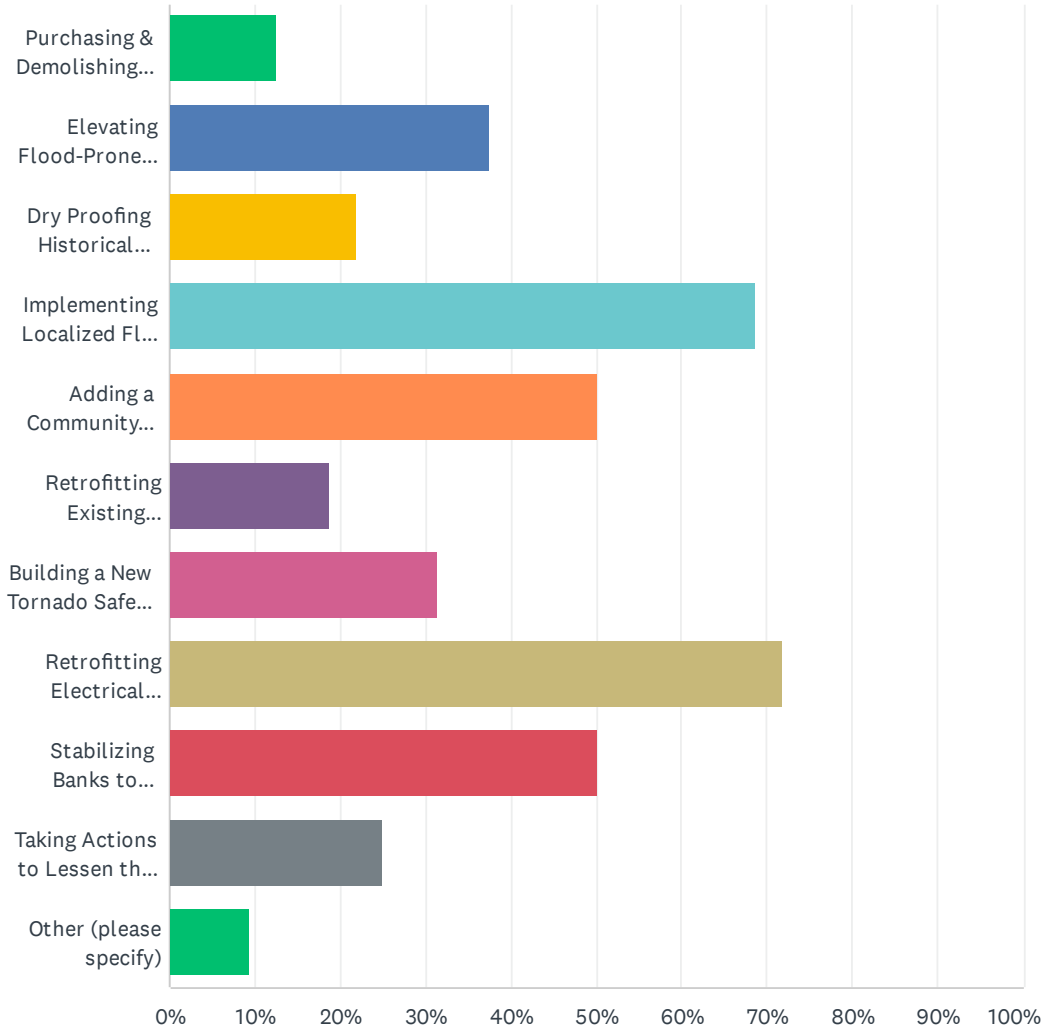
Wayne County Hazard Mitigation Plan Community Feedback Survey



	NEGLIGIBLE	LIMITED	CRITICAL	CATASTROPHIC	TOTAL	WEIGHTED AVERAGE
Dam Failure	21.88% 7	12.50% 4	34.38% 11	31.25% 10	32	2.75
Drought	0.00% 0	37.50% 12	50.00% 16	12.50% 4	32	2.75
Earthquake	0.00% 0	25.00% 8	46.88% 15	28.13% 9	32	3.03
Extreme Heat	0.00% 0	50.00% 16	37.50% 12	12.50% 4	32	2.63
Fires	0.00% 0	46.88% 15	34.38% 11	18.75% 6	32	2.72
Flooding	0.00% 0	27.27% 9	39.39% 13	33.33% 11	33	3.06
Sinkholes	43.75% 14	46.88% 15	6.25% 2	3.13% 1	32	1.69
Tornado	0.00% 0	21.21% 7	36.36% 12	42.42% 14	33	3.21
Winter Weather/Snow/Ice/Extreme Cold	3.03% 1	24.24% 8	48.48% 16	24.24% 8	33	2.94
Levee Failure	46.88% 15	25.00% 8	12.50% 4	15.63% 5	32	1.97
Thunderstorm/Lightning/High Winds/Hail	6.06% 2	48.48% 16	24.24% 8	21.21% 7	33	2.61

Q5 From the list below, please choose which projects you feel would help lessen future damages from these hazards within the Wayne County community where you live or work.

Answered: 32 Skipped: 1



Wayne County Hazard Mitigation Plan Community Feedback Survey

ANSWER CHOICES	RESPONSES	
Purchasing & Demolishing Flood-Prone Properties	12.50%	4
Elevating Flood-Prone Structures	37.50%	12
Dry Proofing Historical Structures	21.88%	7
Implementing Localized Flood Reduction Efforts (i.e. stormwater management or minor flood control projects)	68.75%	22
Adding a Community Tornado Safe Room to an Existing Building	50.00%	16
Retrofitting Existing Buildings & Facilities to Withstand High Winds	18.75%	6
Building a New Tornado Safe Room	31.25%	10
Retrofitting Electrical Lines and Power Stations to Withstand High Winds and Ice	71.88%	23
Stabilizing Banks to Prevent Soil Erosion	50.00%	16
Taking Actions to Lessen the Chance of Wildfires	25.00%	8
Other (please specify)	9.38%	3
Total Respondents: 32		

Q6 Please tell us about any other issues you feel the Wayne County Hazard Mitigation Planning Committee should consider when updating the county's current hazard mitigation plan.

Answered: 4 Skipped: 29

MINUTES

JOINT MEETING OF
THE OZARK FOOTHILLS REGIONAL PLANNING COMMISSION,
THE OZARK FOOTHILLS DEVELOPMENT ASSOCIATION,
THE OZARK FOOTHILLS SOLID WASTE MANAGEMENT DISTRICT COUNCIL &
ADVISORY COMMITTEE
AND
THE RIPLEY COUNTY PUBLIC HOUSING AGENCY

MARCH 9, 2023
CARTER COUNTY NUTRITION CENTER
116 BALL PARK ROAD, VAN BUREN, MO 63965
6:00 PM

CALL TO ORDER

The meeting was called to order at 6:00 p.m. by Chairman, Brian Polk.

APPROVAL OF MINUTES AND FINANCIAL REPORTS

The minutes of the meeting held December 8, 2022, and financial statements for the quarter ending December 31, 2022, were reviewed. Commissioner Jesse Roy made a motion to approve the minutes and financial statements of the December 8, 2022, meeting and the financial statements for the quarter ending December 31, 2022. Commissioner Ron Keeney seconded. No opposition. Motion carried.

TRANSPORTATION ADVISORY COMMITTEE

Coordinator Murphy passed around mileage sign-in sheets for the Public Transit Plan. Time and mileage will be counted as part of the 20% match for the Plan.

Coordinator Murphy reported on the Transportation Planning Progress Report. The Transportation Advisory Committee is meeting April 13, 2023, at 6:00 p.m. to start the prioritization process for 2023. Coordinator Murphy is currently meeting with all the county commissions and holding TAC meetings.

Coordinator Murphy further discussed the Regional Transportation Plan Update and the Public Transit-Human Services Transportation Plan. Coordinator Murphy has been working on updating these two plans which are updated every 2 and 5 years. The deadline is June 2023. There are drafted copies of the two Plans on the Ozark Foothills Regional Planning Commission website. The Regional Transportation Plan Update and the Public Transit-Human Services Transportation Plan are being presented tonight. Both Plans were e-mailed out to the TAC this morning, and in April 2023 the TAC will be asked to adopt both Plans. The Commission will be

asked to adopt these Plans at the June 2023 Commission Meeting. Both Plans have to be approved by June 30, 2023, to take effect. If you would like a copy of the Plans, please see the OFRPC website or contact Coordinator Murphy.

SOLID WASTE MANAGEMENT DISTRICT

Recycling Center Supervisor, Jamie Lansford reported that cardboard prices are still down to \$50 a ton. The Baler is working.

Director Lutes informed the group that once a year we have to do a grant call for the funding that DNR gives the Solid Waste Management District (SWMD). Typically, the Recycle Center is the only applicant to those funds. The SWMD receives \$90,000 a year from DNR, and the Planning Commission applies for the \$90,000 to run the Recycling Center. The Planning Commission submitted that application for the SWMD for the \$90,000. No other applications were received. The Executive Committee scored the application in the executive committee held this evening and recommended that the SWMD award those funds to the Ozark Foothills Regional Planning Commission for the operation of the Recycle Center.

A Motion to approve Solid Waste Management District Sub Grant Award was made by Commissioner Vince Lampe and seconded by Commissioner Jesse Roy; all board members approved. With no opposition, the motion carried.

OZARK FOOTHILLS DEVELOPMENT ASSOCIATION

Director Lutes reported to the group that there is one business incubator space available for rent and another space that will be available in the near future. These spaces are for startup businesses, if you know of anyone who would be interested in renting a space, please contact the Planning Commission.

Regarding building improvements, Director Lutes reported that we replaced fluorescent lights in incubator spaces #4 and #5 with LED bulbs. We are currently looking for grant opportunities to replace all of the building's lights with LED fixtures.

Director Lutes discussed the proposed additional new parking lot. A diagram of the 32-space lot was passed around for members to review. Request for Bids will be going out soon.

OZARK FOOTHILLS REGIONAL COMMUNITY FOUNDATION

Disaster Recovery Coordinator, Lydia Keller reported on the Foundation Status Report for the Ozark Foothills Regional Community Foundation (OFRCF). The market value as of 3/8/2023 is \$2,166,171.05. This is an increase of \$98,888.35 from the previous commission meeting in December 2022. There were \$13,110.58 contributions made by donors and \$22,870.55 granted by fundholders.

This year is the Community Foundations 50th Anniversary Daffodil Project. You will be seeing daffodils across our communities. The annual CFO Affiliate Conference has rebranded to the Rural Philanthropy Summit. This will be held on April 25, 2023, in Springfield, MO. Coordinator Keller and some of the OFRCF Board members will be attending.

The OFRCF Board will have brochures available soon. If you would like to have any brochures for your office or business to increase awareness regarding the Foundation, please contact Coordinator Keller.

The Community Foundation has three board positions for representatives open for Wayne County, Ripley County, and Reynolds County. The board is taking suggestions to meet and consider candidates. If you have any recommendations, please e-mail, call, or let me know after this meeting. The board wants to ensure that all counties are represented. The next board meeting is April 11, 2023, at 4:00 p.m. at the Ozark Foothills Regional Planning Commission.

Judy Cantoni, Ozark Community Foundation, informed the group that the Community Foundation covers Southern Missouri. The Community Foundation works a lot in the private sector. Individuals that have interests in their community and want to give back will help fund community projects. The Ozark Community Foundation also works with agency partners who are looking to invest their funds.

RIPLEY COUNTY PUBLIC HOUSING AGENCY

Housing Coordinator Niki Harp reported upon the Section 8 Rental Assistance Program. The Ripley County Public Housing Agency is assisting 379 families in our five-county region. In addition, the RCPHA also has 50 VASH vouchers. These are used to house homeless Veterans that are referred to the RCPHA by the VA Hospital. All 50 of these vouchers are filled. There are 232 families on the waiting list and the waiting list is currently closed.

Family Self Sufficiency (FSS) Coordinator Shaquana Ferguson reported that there are 49 families on the Family Self-Sufficiency Program who are working towards the goals they set for themselves. Eleven clients have been enrolled in the FSS program since the last Commission Meeting. There are currently 24 families on the FSS waiting list that we are working on scheduling enrollment appointments with. Ten of the active families have increased their household earnings from wages since they enrolled for the program. This has made them eligible to earn escrow money that they will receive if they successfully graduate from the program. We will have 1 family successfully graduate from the FSS program this month.

There are currently 11 families on the Home Ownership Program. We also have 10 families with the goal of home ownership and 6 of those families are actively working on repairing their credit so they can reach their goal of homeownership.

Director Lutes discussed updating the Annual Plan/MTW Supplemental- Resolutions. Coordinator Niki Harp has been working on the annual update. There are copies of the Annual Plan if anyone would like to review it. There were four resolutions to be approved at the meeting.

Chairman Polk presented the group with the *Civil Rights Certification, PHA Certification of Compliance, MTW Certification of Compliance and Certification of Payments.*

A motion to approve *Civil Rights Certification, PHA Certification of Compliance, MTW Certification of Compliance and Certification of Payments*, was made by Commissioner Ron Keeney and seconded by Commissioner Vince Lampe. No opposition. Motion carried.

NEW GRANTS RECEIVED

Director Lutes reported upon the grant awards received during the prior quarter. It was summarized as follows:

- Ripley County/Purman VFD, AFG, equipment purchase, \$36,551.66;
- Carter County, MO DNR-DEIRA, replace 1 Dump Truck, \$45,504.25;
- Ripley County Public Housing Agency, Department of Housing and Urban Development, to support the Family Self-Sufficiency (FSS) program, \$51,436.00;
- Ozark Foothills Regional Planning Commission, MO DED, assist State Office of Broadband Development in multi-year planning for BEAD and DEA Grant Agreements, \$26,315.79.

GRANT APPLICATIONS SUBMITTED

Director Lutes reported the New Grant Application Abstracts. A summary of each proposal was provided to those in attendance as an attachment to *Resolution #327*. A motion was made by Mayor Dennis Cox and seconded by Commissioner Jesse Roy; with no opposition, adoption of the resolution was approved.

DIRECTOR'S REPORT

Director Lutes thanked the Carter County Nutrition Center for the meal. He also introduced Steve Chitwood, Reynolds County Presiding Commissioner, Debi Reynolds, Carter County Clerk, Gerri Flatt, Clerk for City of Van Buren, Holly Holt, Van Buren Chamber of Commerce, Susan VanWinkle, Van Buren Chamber of Commerce to the group.

Director Lutes reported on the Butler and Wayne County Hazard Mitigation Plans. The Butler County Hazard Mitigation Plan is approaching completion, Felicity Ray is working on it. The Wayne County Hazard Mitigation Plan is in the beginning stages and expires in August 2024, Felicity Ray will be working on that as well. Carter County will be the next Hazard Mitigation

Plan to be updated. It is very important that everyone attend their County Hazard Mitigation Plan meetings.

Director Lutes reported on the CDBG Application Cycles-FY23. The MIT & MID cycles will be opening around mid-April and close in mid-July. CDBG has not been able to tell us if our counties will be eligible for the MIT and MID cycles. We will let everyone know when we have more information. The CDBG FY23 Regular Competition Cycle should open late summer.

Director Lutes further reported on Broadband Engagement and Grant Opportunities. There are a lot of opportunities opening up, please be watching your e-mails and be in contact with the Planning Commission. The OFRPC is currently working with the Missouri Office of Broadband on outreach and trying to get all the funds we can get for services in our region. The Broadband In-Person meeting will be held at the Ozark Foothills Regional Planning Commission in May, 2023. Missouri Association of Councils of Government (MACOG) is working with us on grants to select clusters of areas across our counties in our State looking for the biggest areas of need for Broadband.

The Delta Regional Authority (DRA) has the Strategic Capacity Planning grant cycle that is open now, and will be open until the funds run out. These grants usually pertain to projects that create jobs and workforce development. Assistant Director, Andrew Murphy, also stated that feasibility studies, preliminary engineering reports and transportation plans are also included in the Strategic Planning Capacity grants. If anyone is interested in applying, let the Planning Commission know as soon as possible. The regular SEDAP round, which is the DRA's regular round of funding, is open April through July as well as the WORC round of funding.

Director Lutes discussed the Comprehensive Economic Development Strategy (CEDS). We are working on CEDS and it has to be completed sometime in 2024.

Director Lutes reported on the Audits for the Ozark Foothills Regional Planning Commission, Ripley County Public Housing Agency and the Ozark Foothills Development Association for FY2021-2022. If you would like to review the report please let us know.

Director Lutes handed out Community Profiles to each County Commissioner. The profiles include County and City information. We are still working on obtaining information and will be doing updates to the profiles after the April elections. If any information is incorrect, please let the Planning Commission know. These Community Profiles can be e-mailed to anyone who would like a copy.

Heath Robins from Senator Eric Schmitt's office reported on the legislative update. There is nothing new to report at this time. If anyone needs any letters of support contact Heath by phone or e-mail. Heath plans on attending as many commission meetings as he can.

Mike Schoelhamer from Congressman Jason Smith's office reported on the legislative update. He thanked the group for their support of Congressman Smith. If anyone has any concerns, questions or need letters of support, please contact Mike by phone or e-mail. Also, Madison Baker is the new District Director for Congressman Smith's Office.

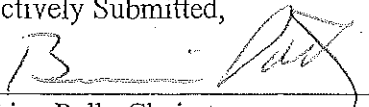
GENERAL DISCUSSION

No general discussion.

ADJOURNMENT

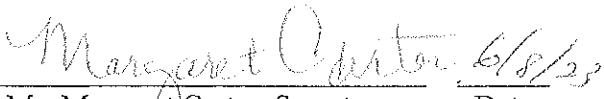
On a motion made by Member Darrell Dement and seconded by Mayor Dennis Cox, the meeting was adjourned at 7:00 P.M.

Respectively Submitted,



Mr. Brian Polk, Chairman

6/8/23
Date



Ms. Margaret Carter, Secretary

6/8/23
Date

ATTENDANCE

COMMISSION MEMBERS IN ATTENDANCE

BRIAN POLK	DEBI REYNOLDS	GERRI FLATT
PAUL JOHNSON	MARGARET CARTER	HEATH ROBINS
VINCE LAMPE	DARRELL DEMENT	STACY HAMPTON
JESSE ROY	DENNIS COX	
CHAD HENSON	TOM WILDER	
GARY EMMONS	STEVE CHITWOOD	
BILL MORIARITY	REBECCA PACHECO	
RON KEENEY	MIKE SCHOELHAMER	

COMMISSION MEMBERS NOT IN ATTENDANCE

ANGELA CLYBURN	RUSSELL FRENCH	
BILL KIRKPATRICK	DR. JIM JONES	
LARRY BURCHARD	JUSTIN PARKS	
STEVE DAVIS	GARY CONWAY, JR.	SANDY JOY
WAYNE OGDEN	STANLEY BARTON	
RICK JULIUS	PAUL WOOD	TERESA LEE
MIKE HOERNER		WAYNE GIBBS

REV. GREGORY KIRK

DALE DAY

DOUG MOSBEY

BRANDON WOOLARD

STAFF

JAMIE LANSFORD

CAROLYN MEEKS

CAMILLE DONNELL

ALAN LUTES

BROOKE HINKLIN

RACHEL COLEMAN

ILENE WARD

RAAMIN BURRELL

LYDIA KELLER

DAVEY HICKS

AMBER HORNBECK

NIKI HARP

ANDREW MURPHY

BRIAN ROSENER

AMY BAUGUS

SHAQUANA FERGUSON

GUEST

LORI DUNLAP

GLORIA DEMENT

MARCIA CHITWOOD

HOLLY HOLT

SUSAN VANWINKLE

JUDY CANTONI

MINUTES

JOINT MEETING OF
THE OZARK FOOTHILLS REGIONAL PLANNING COMMISSION,
THE OZARK FOOTHILLS DEVELOPMENT ASSOCIATION,
THE OZARK FOOTHILLS SOLID WASTE MANAGEMENT DISTRICT COUNCIL &
ADVISORY COMMITTEE
AND
THE RIPLEY COUNTY PUBLIC HOUSING AGENCY

JUNE 8, 2023
OZARK FOOTHILLS REGIONAL PLANNING COMMISSION
3019 FAIR STREET
6:00 PM

CALL TO ORDER

The meeting was called to order at 6:00 p.m. by Chairman, Brian Polk.

APPROVAL OF MINUTES AND FINANCIAL REPORTS

The minutes of the meeting held March 9, 2023, and financial statements for the quarter ending March 31, 2023, were reviewed. Member Darrell Dement made a motion to approve the minutes and financial statements of the March 31, 2023, meeting and the financial statements for the quarter ending March 31, 2023. Commissioner Vince Lampe seconded. No opposition. Motion carried.

TRANSPORTATION ADVISORY COMMITTEE

Coordinator Murphy reported on the Transportation Planning Progress Report. The TAC (Transportation Advisory Committee) met in April 2023 and did their 2023 project prioritizations. All 5 counties came up with 3 projects for project priorities, maintenance and multimodal. See Coordinator Murphy if you would like to see the list or have any questions about the projects. The next TAC meeting is July 13, 2023, and the regional prioritization will be done at that time. The drafted STIP (Statewide Transportation Improvement Program) released June 7, 2023, and is listed on MoDOT's website. They are taking public comment through early July. The State Highways and Transportation Commission will approve that STIP with any changes at their next meeting on July 12, 2023.

Coordinator Murphy discussed the Regional Transportation Plan Update. The Regional Transportation Plan is updated every 2 years. The plan was presented to this Board in March. The Board was asked to review it, so that the plan would be able to be adopted tonight. The TAC has reviewed and approved this plan. There have been a lot of updates to the plan and a lot of new maps have been added. All mapping was done in-house with ARC GIS. Community

Development Specialist, Raamin Burrell assisted with this. This update will cover our region until June 2025. Please contact Coordinator Murphy if you have any questions.

Coordinator Murphy further discussed the Public Transit-Human Services Transportation Plan. This has to be updated every 5 years. This plan has been completely overhauled since the last plan 5 years ago. There were 10 public meetings on this plan update to get feedback from the public. We released surveys which we provided to everyone in the room at our December 2022 board meeting. We ended up with 373 Transit Surveys completed. The TAC approved the Public Transit-Human Services Transportation Plan in April 2023. If anyone has any comments or questions, please contact Coordinator Murphy.

A motion to approve the Regional Transportation Plan Update and the Public Transit-Human Services Transportation Plan was made by Commissioner Ron Keeney and seconded by Commissioner Jesse Roy.; With no opposition, the motion carried.

The Regional Transportation Plan Update and the Public Transit-human Services Transportation Plan will be submitted to MoDOT before June 30, 2023, and they take effect July 1, 2023.

Coordinator Murphy informed the group of MoDOT's BRO and bridge change that was done last year. This year they have released those applications again. There will be 1 year of funding for FY 2024. Chairman Brian Polk will be kept on as the TAC representative for this year. MoDOT has not communicated with Coordinator Murphy on when they want those scored.

SOLID WASTE MANAGEMENT DISTRICT

Recycling Center Supervisor, Jamie Lansford reported that cardboard prices are on the rise. The Baler is working. Kevin Allen is the new driver.

Director Lutes discussed the Solid Waste Management District Grants Submissions. The grant applications were approved at the March 2023 meeting. Director Lutes will submit them after they are approved at this meeting with the matching budgets. These are annual grants that we always apply for. The \$90,000 grant goes to operating the Recycling Center and \$5,000 is used to operate the Solid Waste Management District, Region Q.

A Motion to approve submitting both grants with the updated budget figures and to approve the yearly administrative contract renewal in the amount of \$11,000, was made by Executive Member Jesse Roy and seconded by Executive Member Margaret Carter; all board members approved. With no opposition, the motion carried.

OZARK FOOTHILLS DEVELOPMENT ASSOCIATION

Director Lutes reported to the group that there are 2 business incubator spaces available for rent, Unit #8 and Unit #10. These spaces are for startup businesses, if you know of anyone who would be interested in renting a space, please contact the Planning Commission.

Regarding building improvements, no updates have been done. We are currently looking at the DNR Energy loan to replace all of the building's lights with LED fixtures.

Chairman Polk reported on the bids received on the proposed new parking lot at the Planning Commission. Three bids were received for the new parking lot. Jokerst Inc. from St. Genevieve bid was \$129,972.50, Robertson Bridge & Asphalt's bid was \$134,833.75, RLP's bid was \$142,999.00. The Executive Board suggested that the lowest bid which was Jokerst Inc. be accepted. A motion to proceed with the Parking Lot Bid with Jokerst, Inc. was made by Mayor Sandy Joy. The motion died for lack of a second. After discussion with the members of the board, Mayor Dennis Cox suggested using the next lowest bid of Robertson Bridge/Asphalt due to the fact that they are local within our 5-county region and the price difference is only about \$5,000. Director Lutes informed the board that we direct solicited the contractors in our area and as far out as St. Genevieve. Director Lutes also stated that there are no grant funds for this project, so we are not held to accepting lowest bid for funding. Mayor Dennis Cox expressed that he prefers to hire local because it brings money into our 5-county region.

Director Lutes explained to the group that the bid advertisement was for the lowest, most responsive, most responsible bidder. Assistant Director, Andrew Murphy shared the actual advertisement for bids with the group. The advertisement also states that the owner reserves the right to wave any informalities or to reject any and all bids.

Chairman Polk shared with the group that the Bid Spec Sheet was initially sent out with a 4" rock base. It was supposed to be 6" and the bidders were notified and they all received the notification. Jokerst, Inc. was the only company that had marked out the 4" base and changed it to the 6" base. The other bids still said 4" and there was very little price difference in the listing for the base. The Executive Board felt that the other 2 bidders had bid with the 6" base as well because of the price of the base being so close. Director Lutes stated that the plans that went out with the Bid Spec had 6" on the base and was sent to all bidders by e-mail and confirmed the 6" base as per the plans that were sent out with the Bid Spec. All bids will be checked to ensure that that they were bid for 6" base.

A motion to accept Robertson Bridge/Asphalt's Bid of \$134,833.75 was made by Commissioner Jesse Roy as long as the bid includes the 6" base and meets all other bid requirements. This motion is made based on Robertson Bridge/Asphalt being local in our 5-county region. In the event that the bid does not prove to be correct in total, then bid shall go to the next lowest bid of Jokerst, Inc. in the amount of \$129,972.50 providing they meet the bid requirements. Motion was seconded by Mayor Dennis Cox. No opposition. Motion carried.

OZARK FOOTHILLS REGIONAL COMMUNITY FOUNDATION

Disaster Recovery Coordinator, Lydia Keller reported on the Foundation Status Report for the Ozark Foothills Regional Community Foundation (OFRCF). The market value as of 6/8/2023 is

\$2,273,607.79. This is an increase of \$107,436.74 from the previous commission meeting from 3/8/2022 to 6/8/2023. There was an investment increase of \$49,072.79. There were 24 contributions made by donors totaling \$87,902.37 and 11 grants out by fundholders totaling \$26,537.81.

The annual CFO Conference has rebranded to the Rural Philanthropy Summit. This was held on 4/25/2023 in Springfield, MO. Board President, Russell French and Coordinator Keller attended.

The OFRCF brochures are available now. If you would like to have any brochures for your office or business to increase awareness regarding the Foundation, please see Coordinator Keller after this meeting and she can provide some to you or she can arrange to drop some off at the office.

The Community Foundation does have open board positions. The board is taking suggestions to meet and consider candidates, if you have any recommendations, please email, call, or let Coordinator Keller know after the meeting.

The Board is expected to host its annual community grant in the coming months. Information regarding eligibility requirements and award amount will be available at a later date.

Next board meeting is June 13, 2023, at 4:00 p.m. at Ripley County Caring Community in Doniphan.

RIPLEY COUNTY PUBLIC HOUSING AGENCY

Housing Coordinator Ilene Ward reported upon the Section 8 Rental Assistance Program. The Ripley County Public Housing Agency is assisting 375 families in our five-county region. In addition, the RCPHA also has 50 VASH vouchers. These are used to house homeless Veterans that are referred to the RCPHA by the VA Hospital. 49 of these vouchers are filled.

The RCPHA waiting list was open May 1, 2023 through May 15, 2023. We received 289 applications. There are currently 269 families on the waiting list and the waiting list is currently closed.

Family Self Sufficiency (FSS) Coordinator Shaquana Ferguson reported that there are 67 families on the Family Self-Sufficiency Program who are working towards the goals they set for themselves. 23 participants have been enrolled in the FSS program since March 9, 2023, and she has enrolled 2 participants for July. Around 80% of active clients are MTW (Move to Work). As of May 31, 2023, we have \$28,126.64 accumulated in escrow accounts for 17 clients. There is 1 program graduate effective 5/31/2023 for exceeding her household income. Her accumulated escrow was \$2,318.46. During her time on the program, this client finished high school, enrolled in college, purchased reliable transportation for her household and went over income on her Section 8 voucher.

There are currently 11 families on the Home Ownership Program and nearly all of the FSS clients are working on income and credit to add to that number.

The next PCC Meeting will be held September 18, 2023 at 11:00 a.m. Coordinator Ferguson is actively looking for a childcare coordinator to add to the board since reliable childcare is a barrier for many FSS participants. If you know anyone who would be interested, please contact Coordinator Ferguson.

Director Lutes discussed updating the Administration Plan for RCPHA which is due in November, 2023, and that we just became aware of this week. A Motion to have a special meeting by phone with the RCPHA Board in October to vote on changes to the Administration Plan was made by Commissioner Ron Keeney and seconded by Commissioner Jesse Roy. No opposition. Motion carried.

NEW GRANTS RECEIVED

Director Lutes, reported upon the grant awards received during the prior quarter. It was summarized as follows:

- Carter County, MO DED ARPA-Local Tourism Asset Development, Remodel/Refurbish Historic Courthouse, \$630,454 (50/50 Match);
- Naylor, MO DED ARPA-Community Revitalization, Gap Funding on new Nutrition Center Building, \$753,553;
- Poplar Bluff Demo, MO DED ARPA Community Revitalization, DEMO old City Hall building, \$306,000;
- Poplar Bluff Parks & Recreation, MO DED ARPA Community Facilities, Soccer Complex Expansion, \$250,120;
- Ripley County/Doniphan R-1 School, CDBG Community Facilities, Interior of new shop building for Current River Career Center, \$614,000;
- Williamsville, CDBG Community Facilities, Roof Replacement on Community Center Hall, \$260,280;
- Three Rivers College (TRC), DRA Delta Workforce Program, Workforce Initiatives, \$402,392;
- Ripley County Public Housing Agency, FCC-ACP Outreach-2 year Position, Hire a Coordinator to assist eligible broadband subscribers with enrolling in Affordable Connectivity Program (ACP), \$125,000.
- Ozark Foothills Regional Planning Commission, Economic Development Administration (EDA) Partnership Planning, financial assistance to Economic Development Districts (EDDs), \$70,000/year for 3 years (\$210,000)

Grant Amendments

Ripley County/PWSD #2, CDBG, Gap Funding for Water Distribution Project, \$241,893.50 additional funding added to original grant.

GRANT APPLICATIONS SUBMITTED

Director Lutes reported the New Grant Application Abstracts. A summary of each proposal was provided to those in attendance as an attachment to *Resolution #328*. A motion was made by member Darrell Dement and seconded by Commissioner Ron Keeney; with no opposition, adoption of the resolution was approved.

DIRECTOR'S REPORT

Director Lutes introduced the new City Clerk of Fisk, Courtney Schuster and thanked her for attending. Staff at OFRPC has been trying to reach out and meet the new Clerks and Mayors.

Director Lutes reported that the FY2024 Budget was presented to the Executive Board. The Budget was presented to the group. This budget includes a 6% cost of living adjustment (COLA) for staff.

A motion to approve *FY2024 Budget, Resolution #329*, was made by member Chad Henson and seconded by Mayor Dennis Cox. No opposition. Motion carried.

Director Lutes reported on the Wayne County Hazard Mitigation Plan. Felicity Ray is working on this plan and the project kickoff meeting is scheduled for June 13, 2023 at 10:00 in Wayne County. It is very important that everyone attend their County Hazard Mitigation Plan meetings. The Carter County Hazard Mitigation Plan will be updated sometime next year.

Director Lutes discussed the CDBG Application Cycles-MID/MIT. There are several anticipated grant rounds that will be opening up. The first one to open will be the Planning Capacity Building Grant. This grant should open June 30, 2023, and will be open for 60 days. If any community is interested in this grant, please reach out to our office. The next grant to open will be the General Infrastructure Grant which will probably open around August. This grant is tied to the MID/MIT funding for the 2017 flooding disaster. They will give priority to the MID zip codes which include VanBuren and Doniphan zip codes in Carter and Ripley counties respectively. Other grants that we hope will open in 2023, are the Public Facility Hardness and Critical Facility Generation. Delta Regional Authority has some grant cycles open now, Strategic Planning Program and Community Infrastructure Fund which are both on rolling bases. SEDAP is open, but is getting ready to close June 25, 2023.

Director Lutes further discussed Broadband Engagement and Grant Opportunities. We are part of MACOG and we are working with consultants and the Missouri Office of Broadband Development. The next broadband meeting will be a Zoom meeting on June 14, 2023 at 8:30 a.m. for our region. It will be a Broadband Gap Overview zoom meeting, you are welcome to come watch it at the Planning Commission or sign in from your office or home.

Director Lutes reported on the CEDS (Comprehensive Economic Development Strategy). Coordinator, Raamin Burrell has been working on updating this Strategy. The final draft should

be done by December, 2023. She will be reaching out to set up meetings with our cities and counties. This Strategy needs to be updated for applying for grants.

Community Profiles are all complete and copies have been sent out to all of our communities. When information changes, please notify us so we can make changes and update. If you need a copy of the Community Profile, please contact us.

The 2023 Melvin Brinkley Public Service Aware Nominations are due by August 15, 2023. The applications will be reviewed at the September 14, 2023 commission meeting. The Melvin Brinkley Public Service Award was established by the planning commission in 2002 to honor the late Melvin Brinkley, Chairman of the Village of Mill Spring in Wayne County. Chairman Brinkley served as village chairman for nearly 16 years and was known to many as a dedicated public servant. The award recognizes an Ozark Foothills resident who has contributed selflessly to the betterment of their community and strengthened their community due to their actions. The guidelines are that the nominee can not be nominated for the duties they perform as an elected official, they are from our 5-county region and they are not paid for the work that they are nominated for.

Lori Dunlap, DED, informed the group that 9 grants are out through the Department of Economic Development. They are all released now and 3 are active and open. The grants open are non-profit, cell tower and entertainment industry grants. The non-profit grants are 501C3 and C19. If anyone is interested in the Missouri Works Program, that provides tax incentives and tax credits to help communities create jobs and increase your tax base please contact Lori.

Director Lutes reported that we applied for 9 non-for-profits under ARPA. Those were for nutrition centers and 1 sheltered workshop. We provided assistance and training when the guidance came out to other non-for profits who showed interest. We are unsure of how many of them actually went forward with an application other than the 9 we worked on.

Luke Collins at Senator Holly Thompson Rehder's Office reported on the Legislative Update. They just got out of session on May 12 and have lost Wayne County with the recent redistricting but have gained Reynolds County. Please reach out to their office if you need any assistance.

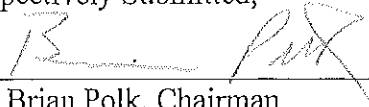
GENERAL DISCUSSION

Chairman Polk reviewed the Parking Lot Bids again with the group. The figures in the bids are correct. The rock yardage that was discussed for the base rock was calculated on 6 inches of base and the Bid Spec sheet has 4 inches, so we are assuming all 3 bidders bid the 6 inches of base. This will all be confirmed with the bidders.

ADJOURNMENT

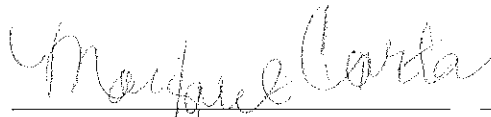
On a motion made by Mayor Dennis Cox and seconded by Member Chad Henson, the meeting was adjourned at 7:17 P.M.

Respectively Submitted,



Mr. Brian Polk, Chairman

Date



Ms. Margaret Carter, Secretary

Date

ATTENDANCE

COMMISSION MEMBERS IN ATTENDANCE

BRIAN POLK	DEBI REYNOLDS	LUKE COLLINS
PAUL JOHNSON	MARGARET CARTER	VINCE LAMPE
DARRELL DEMENT	JESSE ROY	DENNIS COX
LORI DUNLAP	SANDY JOY	DR. JAMES JONES
RUSSELL FRENCH	CHAD HENSON	DOUG MOSBEY
COURTNEY SCHUSTER	STEVE CHITWOOD	HEATHER MOSBEY
BILL MORIARITY	REBECCA PACHECO	
RON KEENEY		

COMMISSION MEMBERS NOT IN ATTENDANCE

ANGELA CLYBURN	GARY EMMONS
BILL KIRKPATRICK	RHONDA BURSON
JASON HILL	JUSTIN PARKS
SHANE CORNMAN	TERESA LEE
DAWN HOOD	WAYNE GIBBS
LAURA BETH SMITH	REV. GREGORY KIRK
MIKE HOERNER	DALE DAY
GARY CONWAY, JR.	STANLEY BARTON
STANLEY BARTON	BRANDON WOOLARD
PAUL WOOD	

STAFF

JAMIE LANSFORD

CAROLYN MEEKS

CAMILLE DONNELL

ALAN LUTES

BROOKE HINKLIN

RACHEL COLEMAN

ILENE WARD

RAAMIN BURRELL

LYDIA KELLER

DAVEY HICKS

AMBER HORNBECK

BRIAN ROSENER

NIKI HARP

ANDREW MURPHY

KEVEN ALLEN

AMY BAUGUS

SHAQUANA FERGUSON

GUEST

GLORIA DEMENT

JOHN JOY

SARAH FRENCH

MINUTES

JOINT MEETING OF THE OZARK FOOTHILLS REGIONAL PLANNING COMMISSION, THE OZARK FOOTHILLS DEVELOPMENT ASSOCIATION, THE OZARK FOOTHILLS SOLID WASTE MANAGEMENT DISTRICT COUNCIL & ADVISORY COMMITTEE AND THE RIPLEY COUNTY PUBLIC HOUSING AGENCY

**SEPTEMBER 14, 2023
REDMAN CREEK SHELTER, WAPPAPELLO, MO
6:00 PM**

CALL TO ORDER

The meeting was called to order at 6:00 p.m. by Chairman, Brian Polk.

APPROVAL OF MINUTES AND FINANCIAL REPORTS

The minutes of the meeting held June 8, 2023, and financial statements for the quarter ending June, 30 2023, were reviewed. Commissioner Jesse Roy made a motion to approve the minutes and financial statements of the June 8, 2023, meeting and the financial statements for the quarter ending June 30, 2023. Commissioner Vince Lampe seconded. No opposition. Motion carried.

TRANSPORTATION ADVISORY COMMITTEE

Coordinator Murphy reported on the Transportation Planning Progress Report. The TAC (Transportation Advisory Committee) met on July 13, 2023. A review of the Ozark Foothills Region Priorities was announced as follows:

1. Highway 21 South at Briar Creek – Bridge Replacement in Ripley County
2. 4-lane Highway 67 from Highway 160 to the state line in Butler County
3. Highway 34 East of CR236 approximately 300 yards, small bridge replacement over Gizzard Creek in Wayne County
4. Safety Shoulders on Highway 49 from Highway 67 to Mill Spring and Piedmont to Iron County line and widen existing box culverts in Wayne County
5. Tie Highway F bridge/low water crossing flooding in Reynolds County &
Highway 160 – Repair poor construction so people do not get sea sick in Ripley County

“Maintenance Needs” Priorities

1. Overlay 72 Highway from 72/21 Junction to 72/32 Junction in Reynolds County
2. Resurface Route NN in Butler County
3. Tie Redesign median crossover of Highway V & Highway A at Highway 60 in Ellsinore in Carter County Highway 49: Resurface from Williamsville to Iron County Line in Wayne County
4. Resurface Route O in Butler County

Multi-Modal Priorities

1. Add bike lane for TransAmerica Bike Trail on Highway 76 Bike Route in Reynolds County
2. Extend the Poplar Bluff airport runway in Butler County
3. Sidewalk repair/construction in City of Ellington in Reynolds County
4. Sidewalk construction on Cemetery Road in Williamsville in Wayne County
5. Sidewalks in Ellsinore from East Carter Schools to US Highway 60

Coordinator Murphy explained that the BRO selection committee met. 27 applications were submitted in the MoDOT Southeast District. Seven will be awarded. This has not been officially announced yet.

Coordinator Murphy discussed the MoDOT TAP applications. The Southeast District, which is 25 counties including all five OFRPC counties, received 14 applications. The total requests were shy by approximately \$935,000 that MoDOT had available for award. There is a chance a second call for projects could go out soon. As long as the 14 applications meet all required criteria, they are expected to be awarded. The City of Doniphan was the only applicant in our region.

SOLID WASTE MANAGEMENT DISTRICT

Recycling Center Supervisor, Jamie Lansford was not present at the meeting. Director Alan Lutes reported that cardboard prices are on the rise, \$85.00 as opposed to \$50.00. We have a few schools that we are picking up white paper from, if anyone knows of any other places that would like to recycle white paper, contact the Recycling Center. Revenues for the Recycling Center are down and expenses are still up and constant. If anyone has any ideas on how to help the Recycling Center, please let our office know.

Director Lutes reported on the Annual Report. A copy was passed around to those in attendance. A copy can be e-mailed to anyone who requests it. A motion to approve the Annual Report,

Resolution #OFSWMD-2023-01, was made by Commissioner Jesse Roy and seconded by Commissioner Vince Lampe; with no opposition, adoption of the resolution was approved.

OZARK FOOTHILLS DEVELOPMENT ASSOCIATION

Director Lutes reported to the group that there are 2 business incubator space available for rent, Unit #8 and Unit #10. These spaces are for startup businesses, if you know of anyone who would be interested in renting a space, please contact the Planning Commission. There are pictures of the incubator spaces on the OFRPC website.

Director Lutes reported on the new parking lot update. Pictures were passed around to show the group the progress. Everyone will be able to utilize the new parking lot at the December commission meeting. The old parking lot will be sealed and restriped after the new parking lot is complete.

Regarding building improvements, no updates have been done. We have been looking at the DNR Energy loan to replace all of the building's lights with LED fixtures. We are going to move forward with that and apply and see what happens. We will discuss further in December.

Director Lutes stated that the 2 lots that were owned by Ozark Foothills Development Association on the north end of Poplar Bluff were sold last month. Chairman Polk explained to the group that the OFDA owned the lots for the Self- Help Housing Program which no longer exists.

OZARK FOOTHILLS REGIONAL COMMUNITY FOUNDATION

Disaster Recovery Coordinator, Lydia Keller reported on the Foundation Status Report for the Ozark Foothills Regional Community Foundation (OFRCF). The market value as of 9/14/2023 is \$2,215,013.24. This is a decrease of \$27,748.68 from the previous commission meeting. There was an investment increase of \$95,940.61. There were \$225,509.28 contributions made by donors since the last commission meeting and \$345,737.66 was granted out of those funds.

The OFRCF brochures are available now. If you would like to have any brochures for your office or business to increase awareness regarding the Foundation, please see Coordinator Keller after the meeting and she will provide them or she will arrange to drop some off at your office.

Coordinator Keller is currently working on distributing envelopes and brochures to local funeral homes for a Funeral Home Campaign to build awareness. So far, she has dropped off brochures at seven funeral homes who have agreed to display on the entrance tables.

Ryan Ainley, of Naylor, has agreed to join the Community Foundation Board as the Ripley County representative. This is a 3-year term. The Community Foundation does have other open board positions, the positions include Reynolds and Wayne County Representatives. The board

is taking suggestions to meet and consider candidates, if you have any recommendations, please email, call, or let Coordinator Keller know after the meeting.

The annual community grant is now open. Applications are available online. There is \$1,000 available. 1-2 grants will be awarded. The application will close on 9/28/2023 at 4:00 p.m. Any 501c3 that serves any county(ies) in our five-county region is eligible to apply.

The next OFRCF meeting will be a Strategic Planning Roundtable on 9/28/2023 at 4:00 p.m. at Castello's. The board will be reflecting on the previous year and creating objectives for this year.

Coordinator Keller introduced the new Disaster Recovery Coordinator, Misty Edwards who will be taking over the Ozark Foothills Regional Community Foundation. Coordinator Edwards reported that she has distributed Community Foundation brochures to several different funeral homes in the area. Ryan Ainley of Naylor has agreed to join the Community Foundation board to represent Ripley County. There are 3 more positions open on the Community Foundation Board. The annual Community Foundation Grant opened on September 1 and is open until September 28.

RIPLEY COUNTY PUBLIC HOUSING AGENCY

Housing Coordinator Niki reported upon the Section 8 Rental Assistance Program. The Ripley County Public Housing Agency is assisting 375 families in our five-county region. In addition, the RCPHA also has 50 VASH vouchers. These are used to house homeless Veterans that are referred to the RCPHA by the VA Hospital. 49 of these vouchers are filled.

There are 197 families on the Waiting List. The Waiting List is currently closed.

Family Self Sufficiency (FSS) Coordinator Shaquana Ferguson reported that the next PCC meeting will be held September 28, 2023 at 11:00 a.m. She is actively looking for an affordable mechanic to add to the board since unreliable transportation is a barrier for a few of the FSS Participants. If you may know someone, please get a card from her.

There are currently 62 families on the Family Self-Sufficiency Program. Coordinator Ferguson has enrolled 7 participants since June 8, 2023, and has enrolled 1 participant for October. Around 87% of active clients are Move to Work (MTW). As of July 31, 2023, there is \$33,982.20 accumulated in escrow. Many clients have enrolled into adult education courses at the Excel Center, through Ripley County Community Partnership with Ms. Lisa Aden and through the online agency Graduation Alliance. The Timothy foundation in Poplar Bluff also offers similar courses and discipleships, so clients have this option to choose from as well.

Director Lutes discussed updating the Administration Plan for RCPHA due to HUD's change to the Final Rule. Coordinator Niki Harp has been working on the updates and has copies if anyone would like to review them. A copy of the Administration Plan can also be e-mailed to anyone who would like to review it.

A motion to approve the Administration Plan, *Resolution #330*, was made by Commissioner Vince Lampe and seconded by Commissioner Jesse Roy; with no opposition, adoption of the resolution was approved.

FUNDING OPPORTUNITIES -SPECIAL PRESENTATION

Disaster Recovery Coordinator Lydia Keller discussed how to prepare organizations for funding opportunities. She reviewed all documents that cities and counties are required to have to apply for funding.

NEW GRANTS RECEIVED

Director Lutes, reported upon the grant awards received during the prior quarter. It was summarized as follows:

- City of Williamsville, MO DNR LSLI, Lead Line Pipe Inventory, \$178,000;
- Reynolds County PWS #1, MO DNR LSLI, Lead Line Pipe Inventory, \$22,200;
- Ripley County PWS #1, MO DNR LSLI, Lead Line Pipe Inventory, \$300,000;
- Ozark Foothills Regional Planning Commission, Delta Regional Authority (DRA), LDD Pilot, Portion of 2-Year Salary for Disaster Recovery Coordinator, \$57,140;
- Carter County Big Springs Sheltered Workshop, MO DED, ARPA Non-Profit, Operation Expense Recovery, \$25,000;
- Carter County Nutrition Center, MO DED, ARPA Non-Profit, Operation Expense Recovery, \$25,000;
- Ripley County Nutrition Center, MO DED, ARPA Non-Profit, Operation Expense Recovery, \$25,000;
- Wayne County Nutrition Center, MO DED, ARPA Non-Profit, Operation Expense Recovery, \$25,000.

Grant Amendments

Ripley County, CDBG DP-MIT, Gap funding for Jail Generator, \$5,603 additional funding added to original grant.

Poplar Bluff, CDBG General Infrastructure, Gap Funding for Roxie Road and Bridge Project, \$167,389.24 additional funding added to original grant.

GRANT APPLICATIONS SUBMITTED

Director Lutes reported the New Grant Application Abstracts. A summary of each proposal was provided to those in attendance as an attachment to *Resolution #331*. A motion was made by Commissioner Jesse Roy and seconded by Commissioner Vince Lampe; with no opposition, adoption of the resolution was approved.

DIRECTOR'S REPORT

Director Lutes informed the group that former OFRPC member, Wayne Gibbs passed away last week. Mr. Gibbs represented Carter County-Agricultural Sector. If anyone has any suggestions of who could fill that position, please let the planning commission know. There are other sector positions open as well.

Director Lutes introduced new staff, Misty Edwards, Disaster Recovery Coordinator, who will be taking Lydia Keller's position and Erica Kingery, Affordable Connectivity Program Coordinator.

The FY23 Annual Report was presented and discussed at the meeting. If anyone would like a copy or an emailed copy, please contact the planning commission.

Director Lutes reported that Felicity Ray is working on the Wayne County Hazard Mitigation Plan. She held the kick off meeting on June 13, 2023 in Wayne County and the Risk Assessment meeting is scheduled for October 31, 2023, at the Wayne County Courthouse. Next, we will be working on the Carter County Hazard Mitigation Plan.

CDBG opened their Downtown Revitalization Program on September 6, 2023 and it is currently open. The CDBG MID/MIT rounds will have a meeting on September 27, 2023, and we are hoping to know when that cycle will open after that date. The staff is presently working on at least 30 applications for this round. Please contact our office if you have any projects you want us to apply for. Also, CDBG decided to roll FY23& FY24 -Competitive into one grant cycle and open in April, 2024.

Broadband Grant Opportunities (BEAD) should have a lot of funds coming after the first of the year. A lot of the applications for the BEAD will be applied for by the internet service providers. There is a meeting scheduled for September 27, 2023. We will keep everyone updated. We have sent out e-mails to the county and city clerks for the support for jails grant program in our area. To be eligible to receive those funds, it has to be tied to COVID -19 and a Needs Assessment needs to be completed by September 20, 2023.

Director Lutes gave an update on CEDS. The CEDS draft should be ready for review and comment at the December 2023 Board Meeting. The final version will be available for review by the March, 2024 Board Meeting and then any changes can be noted or made before it is submitted to EDA. It is due to be submitted to EDA by September, 2024. Once it is approved, it will be implemented January, 2025. Please contact Raamin Burrell at the Planning Commission if you have any questions.

The Employee Handbook & Operation Manual updates were discussed during the Executive Meeting and it will be discussed and presented at the December, 2023 meeting.

Lori Dunlap, DED, discussed with the group non-profit grants and those have been processed and we should know something in another week. The second round of NAP grants are out at the end of September.

Director Lutes announces that Heath Robins with Senator Schmidt's office was in attendance but had to leave.

GENERAL DISCUSSION

Chairman Polk discussed with group ways to get more attendance at the commission meetings. Meetings begin an hour earlier than in previous years. Chairman Polk asked the group if the time change could be affecting attendance at the commission meetings. Director Lutes shared that Assistant Director, Andrew Murphy and some of the OFRPC staff have been meeting with new county and city clerks and encourage them attend meetings and explaining to them what we can do for them. Assistant Director Murphy suggested sending out a Survey Monkey to see what time would work best for everyone for commission meetings. After further discussion it was the consensus of those in attendance that the meeting time should not be changed.

ADJOURNMENT

On a motion made by Commissioner Vince Lampe and seconded by Commissioner Jesse Roy, the meeting was adjourned at 7:13 P.M.

Respectively Submitted,

_____	_____	_____	_____
Mr. Brian Polk, Chairman	Date	Ms. Margaret Carter, Secretary	Date

ATTENDANCE

COMMISSION MEMBERS IN ATTENDANCE

BRIAN POLK

MARGARET CARTER

VINCE LAMPE

GARY EMMONS

DARRELL DEMENT

JESSE ROY

DENNIS COX

LORI DUNLAP

BRANDON WOOLARD

CHAD HENSON

HEATH ROBINS

BILL MORIARTY

REBECCA PACHECO

COMMISSION MEMBERS NOT IN ATTENDANCE

ANGELA CLYBURN

PAUL JOHNSON

STEVE CHITWOOD

BILL KIRKPATRICK

RHONDA BURSON

RUSSELL FRENCH

JASON HILL

JUSTIN PARKS

RON KEENEY

SHANE CORNMAN

PAUL
WOOD

SANDY JOY

DAWN HOOD

DOUG MOSBEY

LAURA BETH SMITH

TERESA LEE

MIKE HOERNER

REV. GREGORY KIRK

GARY CONWAY, JR.

RON RUPP

STANLEY BARTON

STANLEY BARTON

DR. JAMES JONES

STAFF

	CAROLYN MEEKS	CAMILLE DONNELL
ALAN LUTES	BROOKE HINKLIN	RACHEL COLEMAN
ILENE WARD	RAAMIN BURRELL	LYDIA KELLER
DAVEY HICKS	AMBER HORNBECK	BRIAN ROSENER
NIKI HARP	ANDREW MURPHY	ERICA KINGERY
AMY BAUGUS	SHAQUANA FERGUSON	MISTY EDWARDS

GUEST

CATHY LAMPE	STEVE FOSTER
DEAN FINCH	
BABE MANN	

MINUTES

**JOINT MEETING OF
THE OZARK FOOTHILLS REGIONAL PLANNING COMMISSION,
THE OZARK FOOTHILLS DEVELOPMENT ASSOCIATION,
THE OZARK FOOTHILLS SOLID WASTE MANAGEMENT DISTRICT COUNCIL &
ADVISORY COMMITTEE
AND
THE RIPLEY COUNTY PUBLIC HOUSING AGENCY**

**DECEMBER 14, 2023
OZARK FOOTHILLS REGIONAL PLANNING COMMISSION,
3019 FAIR STREET, POPLAR BLUFF, MO 63901
6:00 PM**

CALL TO ORDER

The meeting was called to order at 6:04 p.m. by Chairman, Brian Polk.

APPROVAL OF MINUTES AND FINANCIAL REPORTS

The minutes of the meeting held September 14, 2023, and financial statements for the quarter ending September, 30 2023, were reviewed. Member, Darrell Dement made a motion to approve the minutes and financial statements of the September 14, 2023, meeting and the financial statements for the quarter ending September 30, 2023. Member, Russell French seconded. No opposition. Motion carried.

TRANSPORTATION ADVISORY COMMITTEE

Coordinator Murphy reported on the Transportation Planning Progress Report. The next TAC (Transportation Advisory Committee) meeting is Thursday, January 11, 2024. We are looking at holding the meeting virtually as we are in a bit of a down period with MoDOT and not a lot is happening. MoDOT's STIP will not see much change over the next year or two as inflation and rising costs caused a lot of overages for construction projects.

MoDOT held an unfunded needs meeting for the Southeast District last month in Dexter, MO at the Bootheel RPC. The Unfunded Needs List is available on MoDOT's website for viewing.

The Recreational Trails Program from MoDNR is opening this month. Applications will most likely be due mid-February and applications are an 80/20 match requirement. We recommend contributing 30% if possible for the bonus points as the program is competitive at the state level. Up to \$250,000 can be requested.

MoDOT, the 4 RPCs in MoDOT's Southeast District, the University of MO Extension, and MoDHSS had a meeting a couple weeks ago to discuss Active Transportation Planning in

SEMO. Both the University of MO and MoDHSS have received separate 5-year grants from the CDC to focus on obesity and health with an active transportation focus. I don't have a lot of information on this currently, as each grant has a different focus on metrics, but 3 of our 5 counties were identified in the criteria used to receive the grant. MoDHSS will be speaking about this at the April TAC meeting.

SOLID WASTE MANAGEMENT DISTRICT

Recycling Center Supervisor, Jamie Lansford reported that the new baler is broke down. A Tech from Cram-A-Lot was sent to the Recycling Center today and parts will have to be ordered. Prices are up on cardboard. Discussion was had about finding the parts elsewhere.

OZARK FOOTHILLS DEVELOPMENT ASSOCIATION

Director Lutes reported to the group that there are 2 business incubator spaces available for rent, Unit #8 and Unit #10. These spaces are for startup businesses, if you know of anyone who would be interested in renting a space, please contact the Planning Commission. There are pictures of the incubator spaces on the OFRPC website.

The OFDA applied for an energy loan for new LED lights in our building. We are not eligible due to being a not-for-profit organization. We are going to work on replacing the lights ourselves.

OZARK FOOTHILLS REGIONAL COMMUNITY FOUNDATION

Disaster Recovery Coordinator, Misty Edwards reported on the Foundation Status Report for the Ozark Foothills Regional Community Foundation (OFRCF). The market value as of 12/14/2023 is \$2,340,430.95. This is an increase of \$125,417.71 from the previous commission meeting. There was an investment increase of \$14,864.51. There were \$204,105.74 contributions made by donors since the last commission meeting and \$78,688.03 was granted out of those funds.

The Community Foundation has open Board positions. Ryan Ainley has joined the board recently representing Ripley County leaving priorities to include Reynolds and Wayne County Representatives. The board is taking suggestions to meet and consider candidates.

The annual community grant was completed in November. The Timothy Foundation and Naylor Nutrition Center were selected to be the two recipients of the two \$500 grant awards.

Kaitlyn McConnell visited from the Springfield office and spoke with Russell French, Rebeca Pacheco, Ryan Ainley and Judy Cantoni on Friday, November 17. The meeting was meant to allow Kaitlyn to meet with board members one on one to gather information for a publication celebrating the CFO's 50-year anniversary.

During the meeting on the 17th Hazel Slusher and Chad Foster came in to represent Naylor Nutrition during a check presentation.

Christmas Cards from the OFRCF were ordered through MinitPrint and those were sent out to fund holders on the last day of November.

Reynolds County Day Center has expressed interest in opening a fund account.

The Private donor for the Naylor Community has made the promise of another generous donation to the Naylor Community by means of bequeathing half of his estate to the community.

RIPLEY COUNTY PUBLIC HOUSING AGENCY

Housing Coordinator Ilene Ward reported upon the Section 8 Rental Assistance Program. The Ripley County Public Housing Agency is assisting 372 families in our five-county region. In addition, the RCPHA also has 50 VASH vouchers. These are used to house homeless Veterans that are referred to the RCPHA by the VA Hospital. 49 of these vouchers are filled.

There are currently 52 families on the Waiting List. The Waiting List is currently closed. We will be accepting applications February 1, 2024 through February 7, 2024.

Housing Coordinator Niki Harp reported on the Family Self Sufficiency (FSS) Program. There are currently 65 families on the FSS program. Thirteen of these participants have been enrolled since the September Commission meeting. 86% of active FSS clients are Move-to-Work (MTW) households. As of November 30, 2023, we have \$43,177.89 accumulated in escrow accounts for 33 clients. We have \$14,445.71 in forfeited escrow.

There are 11 participants in the home ownership program and 30 FSS families actively working on the goal of Homeownership.

There is an FSS participant that has met all of her goals on her individual service plan and will successfully graduate this month. She was not able to attend our meeting this evening due to her work schedule. She is a single mother with 2 children. She has maintained full time employment throughout her 5-year time on the program and has been able to increase her income significantly and is working toward home ownership. This participant will be graduating with and escrow balance of \$10,302.16.

NEW GRANTS RECEIVED

Director Lutes, reported upon the grant awards received during the prior quarter. It was summarized as follows:

- City of Williamsville, USDA-CF, Maintenance Tractor, \$47,200;
- Ellington Nutrition Center, MO DED ARPA NON-PROFIT, Operation Expense Recovery, \$25,000;
- Poplar Bluff/Butler County, Northside Nutrition Center, MO DED ARPA NON-PROFIT, Operation Expense Recovery, \$25,000;

- Butler County, Broseley Nutrition Center, MO DED ARPA NON-PROFIT, Operation Expense Recovery, \$25,000;
- Poplar Bluff, DRA-Strategic Planning Grant, Comprehensive Plan Update, \$72,500;
- Rogers Theater, Inc., MO DED ARPA Entertainment, Program Support, \$31,683;
- Naylor Nutrition Center, MO DED, ARPA NON-PROFIT, Operation Expense Recovery, \$25,000;
- Doniphan, MODOT TAP, Sidewalk Improvements, \$500,000;
- Butler County, DPS Enhancing Election Security, Election Security, \$7,680;
- Ozark Foothills Regional Planning Commission, Poplar Bluff Chamber, TRC, MTC Regional Node Planning, Further Technology and Entrepreneurship through Southern Missouri Innovation Network, \$15,000;
- Ellsinore, DRA SEDAP, Gap Funding for Firehouse Construction, \$304,743;
- Reynolds County PWS #1, Lesterville, DRA CIF, Water System Restoration, \$876,000;
- Poplar Bluff-Municipal Utilities, FEMA (BRIC) Building Resiliency Infrastructure & Communities, Backup Well Alice Street, Received Invitation to Apply for Grant \$1,300,000;
- Wayne County, USDA Rural Development-Community Facilities, Radios and Communication Equipment-Sheriff's Department, \$41,300;

Grant Amendments

Ripley County PWS #2, MO DED-CDBG CV, Gap funding for addition service meters, \$22,200 additional funding added to original grant.

Williamsville Nutrition Center, MO DED-CDBG CV, Gap Funding for new flooring, \$4,824 additional funding added to original grant.

GRANT APPLICATIONS SUBMITTED

Director Lutes reported the New Grant Application Abstracts. A summary of each proposal was provided to those in attendance as an attachment to *Resolution #333*. A motion was made by Commissioner Ron Keeney and seconded by Commissioner Jesse Roy; with no opposition, adoption of the resolution was approved.

DIRECTOR'S REPORT

Director Lutes awarded William (Bill) Moriarty of Carter County with the 2023 Melvin Brinkley Public Service Award.

Director Lutes recognized Davey Hicks for his 5 years of service with the Ozark Foothills Recycling Center.

Assistant Director, Andrew Murphy recognized Executive Director, Alan Lutes for his 5 years of service with the Ozark Foothills Regional Planning Commission.

Director Lutes reported that Felicity Ray is working on the Wayne County Hazard Mitigation Plan. Next, we will be working on the Carter County Hazard Mitigation Plan.

Director Lutes reported that CDBG is grouping together Fiscal Years 2023 and 2024 Competitive Cycle and it will open in April, 2024. This cycle will be open for 5 months. If any communities are interested in a project, please contact the Planning Commission. As of right now, the MID/MIT round will open up in September. Downtown Revitalization grant opportunity is open right now. So far, only one application has been received.

Director Lutes discussed broadband grant opportunities-BEAD & Digital Equity Act. Missouri is the third largest State in the Nation as far as the amount of money we will receive for broadband. There is a lot of preparation and planning being done. We are still about a year away from the application opening but we will be getting more information to the communities.

The other grant opportunities are funding from DELTA Regional Authority (DRA) and Economic Development Authority. There a few of those opportunities open at this time and there will be more opportunities opening soon especially with DRA. We will send notice of these grant opportunities to our communities.

Director Lutes introduced Affordable Connectivity Program (ACP) Coordinator, Erica Kingery. Coordinator Kingery reported that the Affordable Connectivity Program is part of the FCC's Infrastructure Investment and Job Act. They gave \$14.2 million dollars for this grant which provides a \$30 discount for eligible households or \$75 off of their internet bill if they are on tribal land. Anyone on food stamps, Medicaid, WIC, Pell grant or a child is on free and reduced lunches at school, SSI or receiving Veteran's Benefits qualifies for ACP. As of right now funds for this program are due to run out in 2024, but we are hoping for more funding. In September there were 17 enrollments, October-12 enrollments and November -37 enrollments and December-22 enrollments. If any community would like Erica to come to their area, please let her know.

Director Lutes gave an update on the Comprehensive Economic Development Strategy (CEDS). The CEDS draft is ready for review and comment. Copies of the draft were handed out during the meeting. The final version will be available for review by the March, 2024 Board Meeting and then any changes can be noted or made before it is submitted to EDA. It is due to be submitted to EDA by September, 2024. Once it is approved, it will be implemented January, 2025. Please contact Raamin Burrell at the Planning Commission if you have any questions.

The Employee Handbook & Operation Manual updates were discussed during previous executive Meetings and policy updates have been made. Copies of the changes are available for review.

A motion to approve *Employee Handbook & Operations Manual Updates, Resolution #334 and #335*, were made by Commissioner Ron Keeney and seconded by Commissioner Jesse Roy. No opposition, adoption of the Resolutions were approved.

Director Lutes introduced Kyle Aubuchon with Senator Bean's office. As of January 1, 2024, he is the new Chief of Staff for Senator Jason Bean.

Director Lutes announced that Madison Baker with Jason Smith's office was in attendance but had to leave.

Lori Dunlap, DED, discussed with the group that she represents 10 counties in Missouri which include our 5 counties. Lori is the Regional Engagement Division contact. Brochures were brought to explain her services.

GENERAL DISCUSSION

Director Lutes announced that the next Commission Meeting will be March 14, 2024 in Ellington.

Director Lutes thanked everyone in attendance and recognized Jason Lott, Ozark National Scenic Riverways and Keith Elliott.

ADJOURNMENT

On a motion made by Commissioner Steve Chitwood and seconded by Commissioner Ron Keeney, the meeting was adjourned at 7:15 P.M.

Respectively Submitted,

Mr. Brian Polk, Chairman

Date

Ms. Margaret Carter, Secretary

Date

ATTENDANCE

COMMISSION MEMBERS IN ATTENDANCE

BRIAN POLK	RON RUPP	RUSSELL FRENCH
MARGARET CARTER	VINCE LAMPE	GARY EMMONS
DARRELL DEMENT	JESSE ROY	DENNIS COX
LORI DUNLAP	BRANDON WOOLARD	TOM WILDER
CHAD HENSON	DEBI REYNOLDS	MADISON BAKER
BILL MORIARTY	REBECCA PACHECO	STEVE CHITWOOD
LAURA BETH SMITH	RON KEENEY	
DIANA BROWER		
BARB POTTER		

COMMISSION MEMBERS NOT IN ATTENDANCE

ANGELA CLYBURN	PAUL JOHNSON	
BILL KIRKPATRICK	RHONDA BURSON	
JASON HILL	JUSTIN PARKS	
SHANE CORNMAN	PAUL WOOD	SANDY JOY
DAWN HOOD		DOUG MOSBEY
MIKE HOERNER	TERESA LEE	
GARY CONWAY, JR.	REV. GREGORY KIRK	
STANLEY BARTON	DR. JAMES JONES	

STAFF

ALAN LUTES	CAROLYN MEEKS	CAMILLE DONNELL
ILENE WARD	BROOKE HINKLIN	RACHEL COLEMAN
DAVEY HICKS	RAAMIN BURRELL	BRIAN ROSENER
NIKI HARP	AMBER HORNBECK	
AMY BAUGUS	ANDREW MURPHY	ERICA KINGERY
	MISTY EDWARDS	JAMIE LANSFORD

GUEST

BONNIE FAY MORIARITY	SARAH FRENCH
GLORIA DEMENT	KEITH ELLIOTT
JASON LOTT	SALLY RUPP

Wayne County Hazard Mitigation Plan, 2024

Appendix E – STAPLEE Worksheets

- *Wayne County*
- *City of Greenville*
- *City of Piedmont*
- *City of Williamsville*
- *Village of Mill Spring*
- *Clearwater R-I School District*
- *Greenville R-II School District*

STAPLEE Worksheet		
Name of Jurisdiction:	WAYNE COUNTY	
Action or Project		
Action/Project Number:	Wayne 1	
Name of Action or Project:	Wayne County Floodplain Ordinance	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		3
E: Will the project have either a neutral or positive impact on the natural Environment?		1
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		18
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		17
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		35
<input checked="" type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Execution

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	WAYNE COUNTY	
Action or Project		
Action/Project Number:	Wayne 2	
Name of Action or Project:	Dam Failure Communications Plan	
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		3
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?		3
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		0
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	WAYNE COUNTY	
Action or Project		
Action/Project Number:	Wayne 3	
Name of Action or Project:	Earthquake Communications Plan	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; <u>Emergency Services</u>	
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?		3
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?		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 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	WAYNE COUNTY
Action or Project	
Action/Project Number:	W 4
Name of Action or Project:	Mapping of Sinkholes
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	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?	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?	0
Could it be implemented quickly?	1
STAPLEE SCORE	16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 5*

Name of Action or Project: *Livestock Water Access*

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	2
T: Is it Technically feasible and potentially successful?	3
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 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?	0
STAPLEE SCORE	15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 6*

Name of Action or Project: *Education Regarding Dangers of Extreme Temps*

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 .	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?	1
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	15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 7*

Name of Action or Project: *Storm Spotter Network*

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	3
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?	3
E: Is it Economically beneficial?	0
E: Will the project have either a neutral or positive impact on the natural Environment?	0
Will historic structures be saved or protected?	0
Could it be implemented quickly?	2
STAPLEE SCORE	<i>14</i>

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		<i>14</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>28</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 8*

Name of Action or Project: *Call Response on Snow/Ice-Covered Roads*

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	3
T: Is it Technically feasible and potentially successful?	3
A: Does the jurisdiction have the Administrative capacity to execute this action?	2
P: Is it Politically acceptable?	3
L: Is there Legal authority to implement?	1
E: Is it Economically beneficial?	1
E: Will the project have either a neutral or positive impact on the natural Environment?	0
Will historic structures be saved or protected?	0
Could it be implemented quickly?	2
STAPLEE SCORE	15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 9*

Name of Action or Project: *Tornado Caused injuries*

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	3
T: Is it Technically feasible and potentially successful?	3
A: Does the jurisdiction have the Administrative capacity to execute this action?	3
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?	0 2
Will historic structures be saved or protected?	0
Could it be implemented quickly?	2
STAPLEE SCORE	21

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		36

<input checked="" 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)

STAPLEE Worksheet

Name of Jurisdiction:	WAYNE COUNTY
Action or Project	
Action/Project Number:	Wayne 10
Name of Action or Project:	Firewise Wayne County
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; 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?		1
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?		1
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	WAYNE COUNTY	
Action or Project		
Action/Project Number:	Wayne 11	
Name of Action or Project:	Low Water Crossing Replacements	
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		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?		1
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		12
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24
<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: **WAYNE COUNTY**

Action or Project

Action/Project Number: *Wayne 12*

Name of Action or Project: *Generation Installation*

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	1
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?	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?	1
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 5-10 points based on the likelihood that lives will be saved.	4
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	WAYNE COUNTY	
Action or Project		
Action/Project Number:	Wayne 13	
Name of Action or Project:	Bridge/Roadway Work Prioritization	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		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?		2
E: Is it Economically beneficial?		3
E: Will the project have either a neutral or positive impact on the natural Environment?		0
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 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	CITY OF GREENVILLE
Action or Project	
Action/Project Number:	Greenville 2
Name of Action or Project:	Floodplain Ordinance Enforcement
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	1
T: Is it Technically feasible and potentially successful?	3
A: Does the jurisdiction have the Administrative capacity to execute this action?	3
P: Is it Politically acceptable?	2
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?	1
Could it be implemented quickly?	1
STAPLEE SCORE	19

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		16
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		35

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 2	
Name of Action or Project:	Dam Failure Effect on Water Table	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		1
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?		0
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF GREENVILLE

Action or Project

Action/Project Number: Greenville 3

Name of Action or Project: Earthquake Communications Plan

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	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?	0
E: Will the project have either a neutral or positive impact on the natural Environment?	3
Will historic structures be saved or protected?	0
Could it be implemented quickly?	2
STAPLEE SCORE	15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		27

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF GREENVILLE

Action or Project

Action/Project Number: Greenville 4

Name of Action or Project: Mapping of Sinkholes

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	3
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?	0
Will historic structures be saved or protected?	1
Could it be implemented quickly?	1
STAPLEE SCORE	14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 5	
Name of Action or Project:	Drought Communications Preparation	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		1
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?		1
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 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 checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 6	
Name of Action or Project:	Education Re: Dangers Associated w/ Extreme Heat & Cold	
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		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?		1
E: Will the project have either a neutral or positive impact on the natural Environment?		3
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 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF GREENVILLE

Action or Project

Action/Project Number: *Greenville 7*

Name of Action or Project: *Storm Spotter Network*

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	2	
T: Is it Technically feasible and potentially successful?	3	
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?	1	
E: Will the project have either a neutral or positive impact on the natural Environment?	2	
Will historic structures be saved or protected?	0 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 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5-6
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 8	
Name of Action or Project:	Emergency Vehicle List Capable of Responding During Ice & Snow Events	
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		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?		1
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?		3
STAPLEE SCORE		
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 9	
Name of Action or Project:	Tornado Shelter Public Information	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
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?		3
P: Is it Politically acceptable?		3
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?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		3
STAPLEE SCORE		22
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		36
<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF GREENVILLE	
Action or Project		
Action/Project Number:	Greenville 10	
Name of Action or Project:	Firewise Wayne County	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
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?		3
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 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont 1	
Name of Action or Project:	Floodplain Ordinance Enforcement	
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		2
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
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?		0
Could it be implemented quickly?		2
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		16
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		37

<input checked="" 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)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF PIEDMONT

Action or Project

Action/Project Number: Piedmont 2

Name of Action or Project: Dam Failure Communications Plan

Mitigation Category: Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services

STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	Score
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S: Is it Socially Acceptable 3

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? 0

E: Will the project have either a neutral or positive impact on the natural Environment? 3

Will historic structures be saved or protected? 0

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 5-10 points based on the likelihood that lives will be saved. 8

Will the implemented action result in a reduction of disaster damages? Assign 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 13

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 27

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Payment 3	
Name of Action or Project:	29 Communications Plan	
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		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?		1
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		27
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Reidment 4	
Name of Action or Project:	Mapping of Sinkholes	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		0
Could it be implemented quickly?		1
STAPLEE SCORE		13
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF PIEDMONT

Action or Project

Action/Project Number: *Piedmont 5*

Name of Action or Project: *Water Restrictions During Drought*

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	1
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?	3
Will historic structures be saved or protected?	0
Could it be implemented quickly?	3
STAPLEE SCORE	16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont 6	
Name of Action or Project:	Extreme Temperature Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		1
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?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont 7	
Name of Action or Project:	Storm Spotter Network	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
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?		1
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 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		27

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF PIEDMONT

Action or Project

Action/Project Number: Piedmont 8

Name of Action or Project: Emergency Vehicle Listing

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	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?	1
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	14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		27

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont 9	
Name of Action or Project:	Tornado Shelter Public Information	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; Emergency Services	
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?		2
P: Is it Politically acceptable?		3
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?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		20
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		34

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont 10	
Name of Action or Project:	Firewise Piedmont	
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		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?		1
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?		2
STAPLEE SCORE		18
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF PIEDMONT	
Action or Project		
Action/Project Number:	Piedmont II	
Name of Action or Project:	Plan Integration	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		1
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		1
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		11
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		21

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF PIEDMONT

Action or Project

Action/Project Number: Piedmont 12

Name of Action or Project: Low Water Crossing Replacements

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 5-10 points based on the likelihood that lives will be saved.	
Will the implemented action result in a reduction of disaster damages?	Assign 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 checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 1	
Name of Action or Project:	Enforce Floodplain Ordinance	
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		2
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
P: Is it Politically acceptable?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		3
E: Will the project have either a neutral or positive impact on the natural Environment?		1
Will historic structures be saved or protected?		1
Could it be implemented quickly?		2
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		35
<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 2	
Name of Action or Project:	Low Water Crossing Work	
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		3
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
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?		2
Will historic structures be saved or protected?		1
Could it be implemented quickly?		1
STAPLEE SCORE		20
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		33
<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 3	
Name of Action or Project:	Earthquake Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; 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?		1
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?		0
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		11
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		22

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction: CITY OF WILLIAMSVILLE

Action or Project

Action/Project Number: Williamsville 4

Name of Action or Project: Mapping Potential Sinkhole Locations

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	1
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?	1
Could it be implemented quickly?	1
STAPLEE SCORE	14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 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 checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 5	
Name of Action or Project:	Conservation of Water	
Mitigation Category:	<input checked="" type="checkbox"/> 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		1
T: Is it Technically feasible and potentially successful?		1
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		3
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?		3
Will historic structures be saved or protected?		1
Could it be implemented quickly?		3
STAPLEE SCORE		17
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 6	
Name of Action or Project:	Extreme Heat Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
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?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
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 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	35
MITIGATION EFFECTIVENESS SCORE		712
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 7	
Name of Action or Project:	Storm Protection	
Mitigation Category:	Prevention; <u>Structure and Infrastructure Projects</u> ; 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		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?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		3
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?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 8	
Name of Action or Project:	Winterization of Critical Facilities	
Mitigation Category:	Prevention; <u>Structure and Infrastructure Projects</u> ; 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		3
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
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?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		34
<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 9	
Name of Action or Project:	Tornado Awareness	
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		3
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
P: Is it Politically acceptable?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		3
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		34
<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CITY OF WILLIAMSVILLE	
Action or Project		
Action/Project Number:	Williamsville 10	
Name of Action or Project:	Burn Bans	
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		2
T: Is it Technically feasible and potentially successful?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
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?		3
STAPLEE SCORE		24
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		38
<input checked="" 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)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 2</i>
Name of Action or Project:	<i>Enforce Floodplain Ordinance</i>
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	1
T: Is it Technically feasible and potentially successful?	3
A: Does the jurisdiction have the Administrative capacity to execute this action?	3
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?	1
Could it be implemented quickly?	2
STAPLEE SCORE	24

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		35

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	VILLAGE OF MILL SPRING	
Action or Project		
Action/Project Number:	Mill Spring 2	
Name of Action or Project:	Anniswater Lake Dam Study	
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		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?		1
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	4
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 3</i>
Name of Action or Project:	<i>Earthquake Comm. Plan</i>
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; <u>Emergency Services</u>

STAPLEE Criteria	Score
Evaluation Rating	
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	
S: Is it Socially Acceptable	<i>2</i>
T: Is it Technically feasible and potentially successful?	<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?	<i>2</i>
P: Is it Politically acceptable?	<i>2</i>
L: Is there Legal authority to implement?	<i>2</i>
E: Is it Economically beneficial?	<i>2</i>
E: Will the project have either a neutral or positive impact on the natural Environment?	<i>2</i>
Will historic structures be saved or protected?	<i>1</i>
Could it be implemented quickly?	<i>1</i>
STAPLEE SCORE	<i>15</i>

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	<i>7</i>
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	<i>5</i>
MITIGATION EFFECTIVENESS SCORE		<i>12</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>27</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Springs</i>
Name of Action or Project:	<i>Sinkhole Mapping</i>
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	<i>2</i>
T: Is it Technically feasible and potentially successful?	<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?	<i>2</i>
P: Is it Politically acceptable?	<i>2</i>
L: Is there Legal authority to implement?	<i>2</i>
E: Is it Economically beneficial?	<i>—</i>
E: Will the project have either a neutral or positive impact on the natural Environment?	<i>2</i>
Will historic structures be saved or protected?	<i>—</i>
Could it be implemented quickly?	<i>1</i>
STAPLEE SCORE	<i>12</i>

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	<i>5</i>
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	<i>5</i>
MITIGATION EFFECTIVENESS SCORE		<i>10</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>22</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 5</i>
Name of Action or Project:	<i>Drought Ed. Program</i>
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	<i>2</i>
T: Is it Technically feasible and potentially successful?	<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?	<i>2</i>
P: Is it Politically acceptable?	<i>2</i>
L: Is there Legal authority to implement?	<i>2</i>
E: Is it Economically beneficial?	<i>1</i>
E: Will the project have either a neutral or positive impact on the natural Environment?	<i>2</i>
Will historic structures be saved or protected?	<i>1</i>
Could it be implemented quickly?	<i>2</i>
STAPLEE SCORE	
<i>16</i>	

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	<i>5</i>
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	<i>6</i>
MITIGATION EFFECTIVENESS SCORE		<i>11</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>27</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 2</i>
Name of Action or Project:	<i>Ex Temp. Danger Education</i>
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		<i>2</i>
T: Is it Technically feasible and potentially successful?		<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?		<i>2</i>
P: Is it Politically acceptable?		<i>2</i>
L: Is there Legal authority to implement?		<i>2</i>
E: Is it Economically beneficial?		<i>1</i>
E: Will the project have either a neutral or positive impact on the natural Environment?		<i>3</i>
Will historic structures be saved or protected?		<i>1</i>
Could it be implemented quickly?		<i>2</i>
STAPLEE SCORE		<i>15</i>
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	<i>7</i>
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	<i>5</i>
MITIGATION EFFECTIVENESS SCORE		<i>12</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>27</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	Mill Spring 7
Name of Action or Project:	Gas Meter Spatter Network
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	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?	1
E: Will the project have either a neutral or positive impact on the natural Environment?	3
Will historic structures be saved or protected?	—
Could it be implemented quickly?	1
STAPLEE SCORE	15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 8</i>
Name of Action or Project:	<i>Emergency Vehic. List</i>
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; <u>Emergency Services</u>

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?	1
E: Will the project have either a neutral or positive impact on the natural Environment?	3
Will historic structures be saved or protected?	1
Could it be implemented quickly?	2
STAPLEE SCORE	15
Mitigation Effectiveness Criteria	Evaluation Rating
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.
MITIGATION EFFECTIVENESS SCORE	12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	27

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	Mill Spring 9
Name of Action or Project:	Outdoor Notification Siren
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	3
T: Is it Technically feasible and potentially successful?	3
A: Does the jurisdiction have the Administrative capacity to execute this action?	3
P: Is it Politically acceptable?	3
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?	3
Will historic structures be saved or protected?	—
Could it be implemented quickly?	2
STAPLEE SCORE	28

Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		33

<input checked="" 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)

STAPLEE Worksheet

Name of Jurisdiction:	VILLAGE OF MILL SPRING
Action or Project	
Action/Project Number:	<i>Mill Spring 10</i>
Name of Action or Project:	<i>Firewise Status</i>
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	<i>2</i>
T: Is it Technically feasible and potentially successful?	<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?	<i>2</i>
P: Is it Politically acceptable?	<i>2</i>
L: Is there Legal authority to implement?	<i>2</i>
E: Is it Economically beneficial?	<i>2</i>
E: Will the project have either a neutral or positive impact on the natural Environment?	<i>3</i>
Will historic structures be saved or protected?	<i>1</i>
Could it be implemented quickly?	<i>1</i>
STAPLEE SCORE	<i>17</i>
Mitigation Effectiveness Criteria	Evaluation Rating
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.
MITIGATION EFFECTIVENESS SCORE	<i>12</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-1	
Name of Action or Project:	Flood Prevention	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		3
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		3
E: Will the project have either a neutral or positive impact on the natural Environment?		2
Will historic structures be saved or protected?		1
Could it be implemented quickly?		1
STAPLEE SCORE		20
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		34

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	<i>1000</i>	
Name of Action or Project:	<i>Dam Failure Education</i> <i>Clearwater R-1-2</i>	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; 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?		3
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?		1
STAPLEE SCORE		17
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		16
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		32

<input checked="" 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)

STAPLEE Worksheet

Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT
Action or Project	
Action/Project Number:	<i>Earthquake Awareness Drills</i>
Name of Action or Project:	<i>Clearwater R-1-3</i>
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	3
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?	3
E: Is it Economically beneficial?	1
E: Will the project have either a neutral or positive impact on the natural Environment?	0 3
Will historic structures be saved or protected?	0
Could it be implemented quickly?	3
STAPLEE SCORE	19
Mitigation Effectiveness Criteria	Evaluation Rating
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.
MITIGATION EFFECTIVENESS SCORE	14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	33

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-4	
Name of Action or Project:	Sinkhole Safety Information	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; (Education and Outreach); 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?		1
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?		0
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?		2
STAPLEE SCORE		19
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-5	
Name of Action or Project:	Drought Tolerant Landscape Design	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
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?		2
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?		1
Could it be implemented quickly?		1
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		33

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-6	
Name of Action or Project:	Extreme Heat Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
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?		3
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		18
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-1 SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-7	
Name of Action or Project:	Seven Weather Awareness & Drills	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
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?		3
P: Is it Politically acceptable?		3
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?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		22
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		35

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	<i>Procedures for School Closing During Severe Winter Weather</i>	
Name of Action or Project:	<i>Clearwater R-1-8</i>	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
T: Is it Technically feasible and potentially successful?		1
A: Does the jurisdiction have the Administrative capacity to execute this action?		3
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		0
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		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26
<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
 (Name, Title, Phone Number) _____

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-9	
Name of Action or Project:	Construct Safeschool	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
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?		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?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		0
STAPLEE SCORE		17
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	9
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	CLEARWATER R-I SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Clearwater R-1-10	
Name of Action or Project:	Wildfire Response & Maintenance	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; 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?		3
Will historic structures be saved or protected?		2
Could it be implemented quickly?		1
STAPLEE SCORE		18
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	6
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT
Action or Project	
Action/Project Number:	<i>Greenville R-II-1</i>
Name of Action or Project:	<i>Food Pantry</i>
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	3	
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?	1	
E: Will the project have either a neutral or positive impact on the natural Environment?	3	
Will historic structures be saved or protected?	0	
Could it be implemented quickly?	1	
STAPLEE SCORE	16	
Mitigation Effectiveness Criteria	Evaluation Rating	
Score		
Will the implemented action result in lives saved?	Assign 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 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 checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-2	
Name of Action or Project:	Dom Failure Action	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
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?		1
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		12
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		22

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT
Action or Project	
Action/Project Number:	<i>Greenville R-II-3</i>
Name of Action or Project:	<i>Earthquake Education</i>
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		<i>2</i>
T: Is it Technically feasible and potentially successful?		<i>2</i>
A: Does the jurisdiction have the Administrative capacity to execute this action?		<i>2</i>
P: Is it Politically acceptable?		<i>2</i>
L: Is there Legal authority to implement?		<i>2</i>
E: Is it Economically beneficial?		<i>1</i>
E: Will the project have either a neutral or positive impact on the natural Environment?		<i>1</i>
Will historic structures be saved or protected?		<i>0</i>
Could it be implemented quickly?		<i>2</i>
STAPLEE SCORE		<i>14</i>
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	<i>7</i>
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	<i>5</i>
MITIGATION EFFECTIVENESS SCORE		<i>12</i>
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		<i>26</i>

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-4	
Name of Action or Project:	Sinkhole Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		1
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?		0
Could it be implemented quickly?		1
STAPLEE SCORE		11
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		23

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT
Action or Project	
Action/Project Number:	24
Name of Action or Project:	Bright Education
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; <u>Education and Outreach</u> ; Emergency Services

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	
S: Is it Socially Acceptable	1
T: Is it Technically feasible and potentially successful?	1
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?	0
E: Will the project have either a neutral or positive impact on the natural Environment?	3
Will historic structures be saved or protected?	0
Could it be implemented quickly?	2
STAPLEE SCORE	12
Mitigation Effectiveness Criteria	Evaluation Rating
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.
MITIGATION EFFECTIVENESS SCORE	10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)	22

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet

Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT
Action or Project	
Action/Project Number:	Greenville R-II-6
Name of Action or Project:	Excessive Heat Exposure
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		3
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?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
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 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		28

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
(Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-7	
Name of Action or Project:	Lightning Protection	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		0
P: Is it Politically acceptable?		1
L: Is there Legal authority to implement?		1
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?		0
Could it be implemented quickly?		1
STAPLEE SCORE		11
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24
<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)

Completed by
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-11-8	
Name of Action or Project:	Severe Winter Weather School Cancellations	
Mitigation Category:	<input checked="" type="checkbox"/> Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		3
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?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		3
STAPLEE SCORE		17
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		12
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-89	
Name of Action or Project:	Tornado Drills	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
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?		3
P: Is it Politically acceptable?		3
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		3
STAPLEE SCORE		21
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		34

<input checked="" 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)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-10	
Name of Action or Project:	Wildfire Safety Education	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach ; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		1
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?		0
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?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 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 checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

STAPLEE Worksheet		
Name of Jurisdiction:	GREENVILLE R-II SCHOOL DISTRICT	
Action or Project		
Action/Project Number:	Greenville R-II-11	
Name of Action or Project:	Plan Mitigation	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		1
T: Is it Technically feasible and potentially successful?		1
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?		0
E: Will the project have either a neutral or positive impact on the natural Environment?		3
Will historic structures be saved or protected?		0
Could it be implemented quickly?		0
STAPLEE SCORE		11
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign 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 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		21

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by _____
 (Name, Title, Phone Number)

Wayne County Hazard Mitigation Plan, 2024

Appendix F – Adoption Resolutions

- *Wayne County*
- *City of Greenville*
- *City of Piedmont*
- *City of Williamsville*
- *Village of Mill Spring*
- *Clearwater R-I School District*
- *Greenville R-II School District*

COUNTY OF WAYNE, MISSOURI

RESOLUTION NO. 2024-01

A RESOLUTION OF WAYNE COUNTY, MISSOURI ADOPTING THE *2024 WAYNE COUNTY HAZARD MITIGATION PLAN*.

WHEREAS WAYNE COUNTY recognizes the threat that natural hazards pose to people and property within the school district's service area; and

WHEREAS WAYNE COUNTY has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the *2024 Wayne County Hazard Mitigation Plan*, hereafter referred to as the *Plan*, in accordance with the *Disaster Mitigation Act of 2000*; and

WHEREAS the *Plan* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in WAYNE COUNTY's service area from the impacts of future hazards and disasters; and

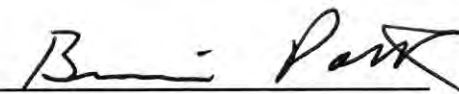
WHEREAS WAYNE COUNTY recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the WAYNE COUNTY will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by WAYNE COUNTY demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE COUNTY OF WAYNE, in the State of Missouri, THAT:

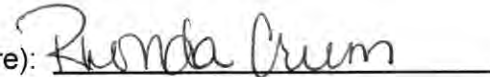
WAYNE COUNTY adopts the final *FEMA-approved Plan*.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 19th day of March, 2024.

By (Signature): 

Print name: Brian Polk

ATTEST:

By (Signature): 

Print name: Rhonda Creum

City of Greenville, Missouri

RESOLUTION NO. 2024

A RESOLUTION OF THE City of Greenville ADOPTING THE 2024 WAYNE COUNTY HAZARD MITIGATION PLAN.

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

WHEREAS the City of Greenville has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the *2024 Wayne County Hazard Mitigation Plan*, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the *Plan* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Greenville from the impacts of future hazards and disasters; and

WHEREAS the City of Greenville (local governing body/school district) recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the (local governing body/school district) will endeavor to integrate the *Plan* into the comprehensive planning process; and

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

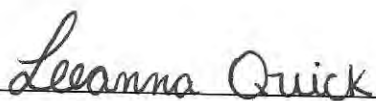
NOW THEREFORE, BE IT RESOLVED BY THE City of Greenville in the State of Missouri, THAT:

The City of Greenville (local governing body/school district) adopts the final *FEMA-approved Plan*.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 5th day of March, 2024.

By (Signature): 
Print name: Jason C. Hill

ATTEST:

By (Signature): 
Print name: Leeanna Quick

A RESOLUTION OF THE CITY OF PIEDMONT ADOPTING THE *2024 WAYNE COUNTY HAZARD MITIGATION PLAN*.

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

WHEREAS the City of Piedmont has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the *2024 Wayne County Hazard Mitigation Plan*, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the *Plan* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Piedmont from the impacts of future hazards and disasters; and

WHEREAS the Board of Aldermen of the City of Piedmont recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the *local governing body* will endeavor to integrate the *Plan* into the comprehensive planning process; and

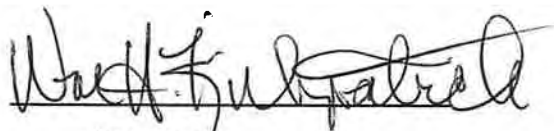
WHEREAS adoption by the Board of Aldermen of the City of Piedmont demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE CITY OF PIEDMONT, in the State of Missouri, THAT:

The City of Piedmont Board of Aldermen adopts the final *FEMA-approved Plan*.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this _____ day of March 12, 2024.

By (Signature):



Print name: William H. Kirkpatrick, Mayor

ATTEST:

By (Signature):



Print name: Tammy Thurman, City Clerk

City of Williamsville, Missouri

RESOLUTION NO. 01

A RESOLUTION OF THE CITY OF WILLIAMSVILLE, MISSOURI ADOPTING THE 2024 WAYNE COUNTY HAZARD MITIGATION PLAN.

WHEREAS the City of Williamsville recognizes the threat that natural hazards pose to people and property within the City of Williamsville; and

WHEREAS the City of Williamsville has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the 2024 Wayne County Hazard Mitigation Plan, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the *Plan* identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Williamsville from the impacts of future hazards and disasters; and

WHEREAS the City of Williamsville recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the City of Williamsville will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the City of Williamsville demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF WILLIAMSVILLE, in the State of Missouri, THAT:

The City of Williamsville adopts the final FEMA-approved *Plan*.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 12th day of March, 2024.

By (Signature): Sandy Jay, Mayor
Print name: Sandy Jay

ATTEST:
By (Signature): Melissa Lulay
Print name: Melissa Lulay



A RESOLUTION OF THE CLEARWATER R-I SCHOOL DISTRICT ADOPTING THE 2024 WAYNE COUNTY HAZARD MITIGATION PLAN.

WHEREAS the Clearwater R-I School District recognizes the threat that natural hazards pose to people and property within the school district's service area; and

WHEREAS the Clearwater R-I School District has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the 2024 Wayne County Hazard Mitigation Plan, hereafter referred to as the Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Clearwater R-I School District's service area from the impacts of future hazards and disasters; and

WHEREAS the Clearwater R-I School District recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the Clearwater R-I School District will endeavor to integrate the Plan into the comprehensive planning process; and

WHEREAS adoption by the Clearwater R-I School District demonstrates their commitment to hazard mitigation and achieving the goals outlined in the Plan.

NOW THEREFORE, BE IT RESOLVED BY THE CLEARWATER R-I SCHOOL DISTRICT, in the State of Missouri, THAT:

The Clearwater R-I School District adopts the final FEMA-approved Plan.

ADOPTED by a vote of 7 in favor and 0 against, and 0 abstaining, this 12 day of March, 2024.

By (Signature): [Handwritten Signature]

Print name: Matt Graham

ATTEST:

By (Signature): [Handwritten Signature]

Print name: Michelle Cowin

A RESOLUTION OF THE GREENVILLE R-II SCHOOL DISTRICT ADOPTING THE 2024 WAYNE COUNTY HAZARD MITIGATION PLAN.

WHEREAS the Greenville R-II School District recognizes the threat that natural hazards pose to people and property within the school district's service area; and

WHEREAS the Greenville R-II School District has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the 2024 Wayne County Hazard Mitigation Plan, hereafter referred to as the Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the Greenville R-II School District's service area from the impacts of future hazards and disasters; and

WHEREAS the Greenville R-II School District recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the Greenville R-II School District will endeavor to integrate the Plan into the comprehensive planning process; and

WHEREAS adoption by the Greenville R-II School District demonstrates their commitment to hazard mitigation and achieving the goals outlined in the Plan.

NOW THEREFORE, BE IT RESOLVED BY THE GREENVILLE R-II SCHOOL DISTRICT, in the State of Missouri, THAT:

The Greenville R-II School District adopts the final FEMA-approved Plan.

ADOPTED by a vote of 7 in favor and 0 against, and 0 abstaining, this 21st day of March, 2024.

By (Signature): [Handwritten Signature]
Print name: Steve Porter

ATTEST:
By (Signature): [Handwritten Signature]
Print name: Brian Allen