



4 MITIGATION STRATEGY

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 developed by the Hazard Mitigation Planning Committee (HMPC) based on the risk assessment. The mitigation strategy was developed through a collaborative group process and consists of goals, objectives, and mitigation actions. The following definitions are based upon those found in FEMA publication 386-3, *Developing a Mitigation Plan* (2002):

- **Goals** are general guidelines that explain what you want to achieve. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. They are usually long-term, broad, policy-type statements.
- **Objectives** define strategies or implementation steps to attain the identified goals and are specific and measurable.
- **Mitigation Actions** are specific actions that help achieve goals and objectives.

4.1 Goals and Objectives

The HMPC developed goals and objectives to provide direction for reducing hazard-related losses in Montgomery County. These were based upon the results of the risk assessment and a review of goals and objectives from other state and local plans, specifically, the Kansas Hazard Mitigation Plan, 2007, and the Montgomery County Basic Operations Plan. This review was to ensure that this plan's mitigation strategy was integrated with existing plans and policies.

Through a brainstorming process at their second meeting, the HMPC identified a variety of possible goals and then came to a consensus on four main goals. Following the development of goals, the HMPC identified specific objectives to achieve each goal. Goals and objectives are listed below, in no particular order:

Goal 1: Reduce risk to the people and property of Montgomery County from the impacts of natural hazards

- Manage growth and development in hazard-prone areas, including flood hazard areas
- Mitigate existing structures in identified flood hazard areas
- Identify and address community safe room and sheltering needs
- Strengthen emergency response capabilities

Goal 2: Protect critical facilities and other community assets from the impacts of hazards

- Assess vulnerability and prioritize projects to mitigate damage to critical facilities and infrastructure
- Protect transportation and access routes to all communities
- Protect and increase water supply in the short and long term
- Reduce damage to utility lines due to severe weather events

Goal 3: Improve education and awareness about hazards and risk

- Use existing outreach methods to educate public about risk and preparedness measures
- Coordinate new workshops, exercises, and public forums to provide education about hazard risk and mitigation activities
- Pursue partnerships with the business community

Goal 4: Strengthen communication between agencies and with the public

- Improve information dissemination to the public during and after emergency events
- Enhance sirens and warning systems
- Strengthen cooperation and mutual aid agreements
- Improve outreach and communication methods to all parts of Montgomery County

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.

Prior to the third meeting of the HMPC, the draft risk assessment was sent to the HMPC committee members along with a worksheet to facilitate the development of action ideas. This worksheet is provided in Appendix B (Item #10). The worksheet provided the list of key issues or problem statements that were identified through the risk assessment process organized by each hazard analyzed. In addition, AMEC provided the HMPC with information on types of mitigation actions. A handout was provided with the following list of types of mitigation actions, which originated from the National Flood Insurance Program's Community Rating System, as well as definitions and examples for each type of action:

- **Prevention:** Administrative or regulatory actions or processes that influence the way land and buildings are developed and built
- **Property protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area
- **Structural:** Actions that involve the construction of structures to reduce the impact of hazard

- **Natural resource protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems
- **Emergency services:** Actions that protect people and property during and immediately after a disaster or hazard event
- **Public education and awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

Committee members were asked to work with others in their jurisdiction prior to the third meeting of the HMPC to develop mitigation actions to eliminate or lessen the disaster impacts associated with each key issue. These actions were submitted to AMEC prior to the meeting and were organized in a spreadsheet that identified the proposed responsible jurisdiction. In addition, similar mitigation actions submitted by different jurisdictions were grouped into 26 general mitigation categories to provide structure to the prioritization exercise. The actions were grouped in this manner to avoid the perception of “competition” among the jurisdictions as actions were prioritized. During the meeting, all actions were reviewed and additional actions were brainstormed. For all actions submitted and added by the brainstorming session, the HMPC achieved consensus on those actions to include in the plan and the responsible jurisdictions made commitments to complete action implementation worksheets and STAPLEE worksheets for each action they wished to include in the plan for their jurisdiction.

The resulting spreadsheet of actions is included in Appendix B, Item #13 “HMPC Meeting #3 Minutes.

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.

After all actions had been reviewed and additional actions brainstormed, the HMPC prioritized the general mitigation categories that resulted when similar actions were grouped together. In total, there were 26 general mitigation categories that the HMPC considered for the prioritization exercise.

To prioritize the mitigation actions, the HMPC discussed the STAPLEE prioritization criteria recommended by FEMA. STAPLEE is a tool used to assess the costs and benefits, and overall feasibility of mitigation actions. STAPLEE stands for the following:

- **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
- **Technical:** Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
- **Administrative:** Are there adequate staffing, funding, and maintenance capabilities to implement the project?
- **Political:** Will there be adequate political and public support for the project?
- **Legal:** Does your jurisdiction have the legal authority to implement the action?
- **Economic:** Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

The STAPLEE criteria were discussed prior to the prioritization exercise and each jurisdiction agreed to complete the STAPLEE worksheets for the actions they would provide for inclusion in the plan. The STAPLEE scores are provided in Tables 4.2 through 4.14 and the original STAPLEE worksheets are provided in Appendix E. For the voting exercise, each member of the HMPC was given six red “voting dots” and was instructed to place their dots next to the general mitigation categories that they felt were most important to implement, keeping in mind the STAPLEE elements. After the meeting the number of dots next to each mitigation action category was totaled and high, moderate, and low priority levels were assigned.

The mitigation action categories that received 14 or more “voting dots” received a “HIGH” priority level. Those categories that received between two and 13 dots received a “MODERATE” priority level and those that received fewer than two dots received a “LOW” priority level. It was explained to the HMPC that this priority ranking does not impact whether

or not specific projects will receive funding, but rather provides information on the general types of projects that are considered most important. Of the 26 general categories, eight received a high priority level, nine received a moderate priority level, and nine received a low priority level as indicated in Table 4.1 below:

Table 4.1 Results of Prioritization Exercise

Mitigation Action Category	Priority	# of Votes
Back-up Generators for Critical/Special Needs Facilities	High	25
Community/Hospital Tornado Shelters	High	22
Expand/Improve Emergency Communications	High	21
Floodproof Wastewater Treatment Plants & Lift Stations	High	14
Floodproof Water Treatment Plants	High	30
Install/Expand Outdoor Warning Sirens	High	18
Reverse 911	High	18
Safe Rooms in Schools	High	23
Crop Disease Mitigation Research	Moderate	5
Floodproof Power Plants & Infrastructure	Moderate	6
Floodwater Erosion Control	Moderate	7
GIS Layers of Hazard Areas	Moderate	5
Levee Modifications	Moderate	5
Mosquito Control	Moderate	2
Perimeter Monitoring of Critical Facilities and Utilities	Moderate	4
Public Information/Emergency Procedures	Moderate	4
Stormwater Improvement Projects	Moderate	4
Continue/Join NFIP	Low	1
Floodprone Property Buyout	Low	0
Geographically Separate Power Grid	Low	0
Ice Storm Mitigation for Utility lines	Low	0
Landslide Mitigation	Low	0
Lightning Arresting Systems on buildings and power infrastructure	Low	1
Mitigate Peak Demand Outages	Low	1
Swift Water Rescue	Low	0
Wildfire Mitigation	Low	0

The same mitigation action categories were included in the public questionnaire that was available along with a plan summary at the “Disaster Planning Resource Fairs” that were held at public libraries in the planning area. See Appendix D for a comparison of the votes given to each mitigation category by both the HMPC and the general public.

This process of identification and analysis of mitigation options allowed the HMPC to come to consensus and to prioritize recommended mitigation actions. Emphasis was placed on the importance of a benefit-cost analysis in determining project priority; however, this was not a quantitative analysis. The Disaster Mitigation Act regulations state that benefit-cost review is the

primary method by which mitigation projects should be prioritized. Recognizing the federal regulatory requirement to prioritize by benefit-cost, and the need for any publicly funded project to be cost-effective, the HMPC decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and priorities identified in the Kansas Hazard Mitigation Plan. Cost-effectiveness will be considered in additional detail when seeking FEMA mitigation grant funding for eligible projects identified in this plan.

Following the HMPC meeting, the representative from each participating jurisdiction coordinated meetings with his or her jurisdictional planning team (where available) to discuss mitigation actions and to complete the mitigation action implementation worksheets and STAPLEE Worksheets. Through this process, jurisdictions also identified several new actions specific to the risks in their jurisdiction. Additional mitigation actions that were added after the prioritization exercise during meeting three were each organized under one of the 26 original mitigation categories and therefore, attributed the priority level achieved for that category.

Tables 4.2 through 4.14 summarize the resulting mitigation actions. There is a separate table for each participating jurisdiction; each table also provides information on the priority level received through the prioritization exercise, the STAPLEE score, plan goals addressed, and the hazards addressed. The mitigation action implementation worksheets follow the action table for each jurisdiction.

4.3.1 Actions Developed for the Unincorporated County

Table 4.2. Mitigation Action Matrix-Unincorporated County

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
County-1	Add telemetry to the existing NOAA Verdigris River Station at Coffeyville and Independence	Expand/Improve Emergency Communications	H	26	4	Flood
County-2	Promote NOAA All Hazard Radios	Public Information/Emergency Procedures	M	26	3	All Hazards
County-3	Promote Flood Insurance	Public Information/Emergency Procedures	M	27	1	Flood
County-4	Improve Fragmented Communications System in County	Expand/Improve Emergency Communications	H	23	3	All Hazards
County-5	Implement reverse call back system for severe weather warnings	Reverse 911	H	24	3	All Hazards
County-6	Distribute "Family Guide for Emergency Prepared Neighbourhoods"	Public Information/Emergency Procedures	M	22	2	All Hazards
County-7	Buyout Floodprone Property	Floodprone Property Buyout	L	26	1	Flood
County-8	Install back-up generators in critical/special needs facilities	Back-up Generators for Critical/Special Needs Facilities	H	23	4	Flood, Tornado, Winter Storm, Windstorm, Utility/Infrastructure Failure, Extreme Heat
County-9	Prepare Debris Removal Plan for FEMA Approval	Public Information/Emergency Procedures	M	24	4	Winter Storm, Windstorm
County-10	Work with park owners to develop emergency procedures for mobile home tenants	Public Information/Emergency Procedures	M	23	2	All Hazards
County-11	Identify and publish locations of existing shelter locations	Public Information/Emergency Procedures	M	23	2	Tornado, Flood, Extreme Heat
County-12	Continue to participate in the National Flood Insurance Program	Continue/Join NFIP	L	27	1	Flood

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
County-13	Mitigate landslide hazard on Table Mound Road	Landslide Mitigation	L	13	4	Landslide
County-14	Reinforce bridge footings for scour critical bridges	Floodwater Erosion Control	M	27	4	Flood
County-15	Work with K-State Research and Extension to monitor crop disease and continue research for damage prevention	Crop Disease Mitigation	M	19	1,3	Agricultural Infestation
County-16	Promote Availability of Crop Insurance	Public Information/Emergency Procedures	M	18	1,3	Agricultural Infestation, Drought, flood, Hail
County-17	Inform public through current and new technology over all media outlets	Public Information/Emergency Procedures	M	18	3	All Hazards
County-18	Develop GIS Layers of Soil types	GIS Layers of Hazard Areas	M	21	4	Expansive Soils
County-19	Develop GIS layers of pipeline locations	GIS Layers of Hazard Areas	M	18	4	Utility/Infrastructure Failure/Expansive Soils

Montgomery County-1	Add telemetry to the existing NOAA Verdigris River Station at Coffeyville and Independence
Issue/Background:	The Verdigris River runs through the county and presents a flood danger to the County and all private sectors in the county.
Plan for Implementation and Administration:	Hire an engineering firm to study and determine the cost estimate for adding telemetry to the existing NOAA Verdigris River Station at Coffeyville and Independence. Once cost is determined, seek funding to implement this action.
Lead Agency:	Montgomery County Emergency Management, Independence, and Coffeyville Floodplain Management Departments
Partners:	City and County Departments, private industry
Potential Funding Source:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Additional, more accurate information will speed response to flood disasters. This will primarily lead to actions to ensure life-safety of down-stream citizens.
Completion Date:	18 months

Montgomery County-2	Promote NOAA All Hazard Radios
Issue/Background:	Weather radios are the best, most reliable source for indoor warning for all hazards. Not all citizens, public officials, school officials, and private businesses are aware of availability and effectiveness of these programmable warning devices.
Plan for Implementation and Administration:	Promote the "Family Guide for Emergency Prepared Neighbourhoods" which contains information about NOAA weather radios
Lead Agency:	Montgomery County Emergency Management
Partners:	All jurisdictions
Potential Funding Source:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Loss of life can potentially be avoided by providing early warning to alert residents of impending danger
Completion Date:	18 months

Montgomery County-3	Promote Flood Insurance
Issue/Background:	Management of construction in the floodplain is vital to ensuring additional community assets are not put in harms way. In addition, since homeowners insurance does not cover flood damages, all citizens in participating communities within the planning area should be encouraged to maintain flood insurance.
Plan for Implementation and Administration:	Public education campaign to promote flood insurance and buyout of floodprone property to ensure associated floodplain property is deed-restricted against future development.
Lead Agency:	Montgomery County Emergency Management
Partners:	Montgomery County communities participating in the NFIP
Potential Funding Source:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	By managing the floodplain, future losses to structures will be avoided
Completion Date:	Ongoing

Montgomery County-4	Improve fragmented communications system in the county
Issue/Background:	The current communications system in the county is 2 PSAP with a portion of the county not participating
Plan for Implementation and Administration:	Construct a centralized E911 with one PSAP with centralized dispatch
Lead Agency:	Montgomery County Emergency Management
Partners:	Multiple
Potential Funding Source:	HMGP
Total Cost:	\$1,000,000
Benefits (Losses Avoided):	Provide interoperability within the county
Completion Date:	18 months

Montgomery County-5	Implement reverse call back system for severe weather warnings (See also Coffeyville-3)
Issue/Background:	This system would provide the ability to automatically alert county residents of impending disasters
Plan for Implementation and Administration:	A grant request has been submitted to NOAA to implement Reverse call back (such as Reverse 911)
Lead Agency:	Montgomery County Emergency Management
Partners:	County-wide
Potential Funding Source:	NOAA, local budget
Total Cost:	\$30,000 per year
Benefits (Losses Avoided):	Citizens can take necessary actions to avoid loss of life by receiving early warning
Completion Date:	18 months

Montgomery County-6	Distribute "Family Guide for Emergency Prepared Neighborhoods"
Issue/Background:	The county Emergency Management Homeland Security has prepared this guidebook in conjunction with the Montgomery County Radio Amateur Civil Emergency Services (RACES). This project was sponsored by Coffeyville Resources.
Plan for Implementation and Administration:	Distribute booklets
Lead Agency:	Montgomery County Emergency Management
Partners:	All County Jurisdictions
Potential Funding Source:	N/A
Total Cost:	No further cost
Benefits (Losses Avoided):	Prepare families to be prepared for emergencies
Completion Date:	3 months

Montgomery County-7	Buyout Floodprone Property
Issue/Background:	The flood of 2007 substantially damaged 28 residences in Montgomery County
Plan for Implementation and Administration:	This project has already been submitted for FEMA approval. Once funding is provided, the County will hire a project manager to conduct the buyout.
Lead Agency:	Montgomery County Emergency Management
Partners:	Real Estate Agencies-County Appraiser
Potential Funding Source:	HMGP
Total Cost:	\$1.9 Million
Benefits (Losses Avoided):	These structures will be removed and therefore the residents and the real estate will be removed from harm's way
Completion Date:	18 months

Montgomery County-8	Install back-up generators in critical/special needs facilities
Issue/Background:	Past experience reveals that some critical/special needs facilities have no back-up power
Plan for Implementation and Administration:	Contact each facility in the county to ascertain needs—work with each facility to provide their own capabilities.
Lead Agency:	Montgomery County Emergency Management
Partners:	Facility owners
Potential Funding Source:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Ensure continuing electrical service to special needs facilities; reduce risk to life and property that could occur if power is out.
Completion Date:	18 months

Montgomery County-9	Prepare Debris Removal Plan for FEMA approval
Issue/Background:	There is a need to have a FEMA-approved Debris Removal Plan prior to a disaster when it is needed.
Plan for Implementation and Administration:	Prepare plan and submit to FEMA
Lead Agency:	Montgomery County Emergency Management
Partners:	Montgomery County Public Works
Potential Funding Source:	Can be accomplished with existing staff resources
Total Cost:	Unknown
Benefits (Losses Avoided):	Citizens, businesses, governments, schools, and other entities will be able to resume normal operations more quickly
Completion Date:	18 months

Montgomery County-10	Work with mobile home park owners to develop emergency procedures for tenants
Issue/Background:	Damages to mobile home parks in the county continue to present problems especially from wind and tornado hazards
Plan for Implementation and Administration:	Work with mobile home park owners individually to ensure they develop emergency procedures and plans.
Lead Agency:	Montgomery County Emergency Management
Partners:	Mobile Home Park Owners
Potential Funding Source:	
Total Cost:	Unknown
Benefits (Losses Avoided):	Mobile home park residents will be better prepared to take action to reduce potential injuries and/or loss of life.
Completion Date:	ongoing

Montgomery County-11	Identify and publish locations of existing shelter locations
Issue/Background:	An inventory of existing shelters is needed.
Plan for Implementation and Administration:	Provide and prepare a spreadsheet of existing shelters for inclusion in the County Emergency Operations Plan
Lead Agency:	Montgomery County Emergency Management
Partners:	American Red Cross-Local Jurisdictions
Potential Funding Source:	
Total Cost:	Unknown
Benefits (Losses Avoided):	Identify and locate all existing facilities in the County
Completion Date:	ongoing

Montgomery County-12	Continue to participate in the National Flood Insurance Program
Issue/Background:	Montgomery County currently participates in the National Flood Insurance Program
Plan for Implementation and Administration:	Continue to participate in the NFIP in good standing and manage floodplain in accordance with currently adopted Floodplain Management Ordinance
Lead Agency:	Montgomery County Emergency Management
Partners:	Montgomery County Board of County Commissioners
Potential Funding Source:	N/A
Total Cost:	N/A
Benefits (Losses Avoided):	Regulate future development in the floodplain
Completion Date:	Ongoing

Montgomery County-13	Mitigate landslide hazard on Table Mound Road
Issue/Background:	Continual road damage occurs on a poorly built subsurface along a large hill at the Elk City Lake
Plan for Implementation and Administration:	Stabilize the road base along the side of the hill area with large rock and compactable material for a base.
Lead Agency:	Montgomery County Public Works Department
Partners:	N/A
Potential Funding Source:	HMGP
Total Cost:	\$1,000,000
Benefits (Losses Avoided):	The county would not have to place asphalt over this area every year
Completion Date:	2 years

Montgomery County-14	Reinforce bridge footings for scour critical bridges
Issue/Background:	Several bridges built in the earlier 1900s are over 100 years old. Over time, erosion of soil from the footings and piers has left them exposed. These scour critical bridges are discussed in Chapter 3 Section 3.
Plan for Implementation and Administration:	Repair the area under the structures by excavating into bed rock and pouring concrete. Place rip-rap along the abutments and piers.
Lead Agency:	Montgomery County Public Works Department
Partners:	None
Potential Funding Source:	HMGP/local funding
Total Cost:	\$2,000,000
Benefits (Losses Avoided):	Future damages could be avoided and the roads would not be closed as a result of damage.
Completion Date:	2 years

Montgomery County-15	Work with K-State Research and Extension to monitor crop disease and continue research for damage prevention
Issue/Background:	Agricultural crop producers can reduce the risk of crop and economic losses from crop disease hazards such as Asian Soybean Rust, Wheat Leaf and Stripe Rust, Corn Gray Leaf Spot, etc.
Plan for Implementation and Administration:	K-State Research and Extension and the local County Extension Agent will monitor crop disease conditions and alert Montgomery County Emergency Management and local crop producers of disease development and possible preventative or curative treatments.
Lead Agency:	K-State Research and Extension –Montgomery County and Montgomery County Emergency Management
Partners:	K-State Research and Extension –Montgomery County and Montgomery County Emergency Management
Potential Funding Source:	USDA, State, and County Governments
Total Cost:	Minimal
Benefits (Losses Avoided):	Reduce the potential of severe economic losses to agricultural producers and the agribusinesses that support them
Completion Date:	Current and ongoing

Montgomery County-16	Promote Availability of crop insurance
Issue/Background:	Agricultural crop producers can reduce the risk of economic losses from crop production hazards such as weather, floods, drought, insects, and disease through the purchase of crop insurance.
Plan for Implementation and Administration:	Discuss crop insurance at various meetings that agricultural producers may attend
Lead Agency:	K-State Research and Extension – Montgomery County and Montgomery County Emergency Management
Partners:	K-State Research and Extension – Montgomery County and Montgomery County Emergency Management, Crop Insurance Providers
Potential Funding Source:	State, County and Crop Insurance Companies, Local Banks and Ag Lenders
Total Cost:	Minimal
Benefits (Losses Avoided):	Reduce the potential of severe economic losses to agricultural producers and the agribusinesses that support them.
Completion Date:	Current and ongoing

Montgomery County-17	Inform public through current and new technology over all media outlets
Issue/Background:	The lack of distribution of critical disaster relief data can hinder emergency aid.
Plan for Implementation and Administration:	Use current and new technology to make data available to the public and private sectors. Serve GIS data over the web, in printed form, and organize distribution centers for critical information. Integrate current GIS data with emergency alert systems. Establish a data portal that individuals can use to express their safety concerns.
Lead Agency:	Montgomery County GIS Department
Partners:	
Potential Funding Source:	Local agency funding
Total Cost:	To be determined
Benefits (Losses Avoided):	Public awareness, improved public safety
Completion Date:	2 years

Montgomery County-18	Develop GIS layers of soil types
Issue/Background:	During certain conditions, expansive soil can damage underground facilities.
Plan for Implementation and Administration:	GIS information on soil types could be used in planning for construction and expansion of underground utilities and infrastructure.
Lead Agency:	Montgomery County GIS Department, Montgomery County Appraisers Department
Partners:	Montgomery County GIS Department, Montgomery County Appraisers Department
Potential Funding Source:	Local funding
Total Cost:	\$20,000
Benefits (Losses Avoided):	Careful planning can prevent facilities from being installed in potentially hazardous areas.
Completion Date:	2 years

Montgomery County-19	Develop GIS layers of pipeline locations
Issue/Background:	Identify locations where pipelines traverse through possible problem areas.
Plan for Implementation and Administration:	Compile layers of all pipelines that are in the county from all available sources. Make the data available for research and planning to minimize the potential risk to life and property
Lead Agency:	Montgomery County GIS Department
Partners:	Local Utilities, State of Kansas
Potential Funding Source:	Local funds
Total Cost:	\$25,000
Benefits (Losses Avoided):	This data will quickly bring awareness to potential risks before and during emergency situations
Completion Date:	The data will be compiled as it is made available and distributed upon completion.

4.3.2 Actions Developed for the City of Caney

Table 4.3. Mitigation Action Matrix-Caney

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Caney-1	Identify and publish location of existing shelter locations	Public Information/Emergency Procedures	M	23	1,2	Tornado, Flood, Extreme Heat
Caney-2	Continue to participate in the NFIP in good standing and manage floodplain in accordance with currently adopted Floodplain Management Ordinance	Continue/join NFIP	L	22	1,4	Flood
Caney-3	Upgrade Outdoor Warning Sirens	Install/Expand Outdoor Warning Sirens	H	23	1,4	Tornado

Caney-1	Identify and publish location of existing shelter locations
Issue/Background:	It has been a number of years since the locations of shelters have been made available to the public so that they know where to go in the event of an emergency.
Plan for Implementation and Administration:	The City will identify and publish the location of existing shelters and make it available to City residents through direct mailings, newspaper notices and brochures made available in public places such as City Hall and the City Library
Lead Agency:	City of Caney, City Administrator
Partners:	Caney Police Department and Caney Volunteer fire Department
Potential Funding Source:	HMGP
Total Cost:	\$5,000
Benefits (Losses Avoided):	Injury and/or loss of life could be avoided if residents know where to go to seek refuge/relief
Completion Date:	6 months

Caney-2	Continue to participate in the NFIP in good standing and manage floodplain in accordance with currently adopted Floodplain Management Ordinance
Issue/Background:	The Floodplain Management Ordinance needs to be updated to reflect recent FEMA changes.
Plan for Implementation and Administration:	The City will update its ordinance and continue to participate in the NFIP in good standing.
Lead Agency:	City of Caney, City Administrator
Partners:	Local Insurance Agents
Potential Funding Source:	Local funding
Total Cost:	\$2,000
Benefits (Losses Avoided):	Allows local residents to avail themselves of flood insurance
Completion Date:	6-9 months to update ordinance

Caney-3	Upgrade Outdoor Warning Sirens
Issue/Background:	The City's sirens are old and in constant need of repair. The system needs to be upgraded and new sirens added to account for newly added territory to the City of Caney
Plan for Implementation and Administration:	The City will work with a siren company to develop a timetable for the upgrade and installation of new and additional sirens.
Lead Agency:	City of Caney, City Administrator
Partners:	Caney Police Department and Caney Volunteer Fire Department
Potential Funding Source:	HMGP
Total Cost:	\$200,000
Benefits (Losses Avoided):	Saves lives by providing early warning of a tornado strike.
Completion Date:	6 months

4.3.3 Actions Developed for the City of Cherryvale

Table 4.4. Mitigation Action Matrix-Cherryvale

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Cherryvale-1	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance	Continue/join NFIP	L	26	1	Flood
Cherryvale-2	Upgrade outdoor warning sirens in Cherryvale	Install/Expand Outdoor Warning Sirens	H	23	1	Tornado
Cherryvale-3	Enhance Stormwater Drainage System	Stormwater Improvement Projects	M	26	1	Flood

Cherryvale-1	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Issue/Background:	The City of Cherryvale currently participates in the NFIP and should continue to participate in the NFIP and follow the current Floodplain Management Ordinance.
Plan for Implementation and Administration:	Continue participation by implementing the ordinance and periodically reviewing and updating it.
Lead Agency:	City of Cherryvale, City Administrator
Partners:	City of Cherryvale, FEMA
Potential Funding Source:	Local funds
Total Cost:	\$1,000 per year
Benefits (Losses Avoided):	Reduce loss due to floods
Completion Date:	Ongoing

Cherryvale-2	Upgrade outdoor warning sirens in Cherryvale
Issue/Background:	The current outdoor warning system in Cherryvale does not provide adequate protection for the entire city. In addition, for the current system to work, the city's phone system must be operable.
Plan for Implementation and Administration:	Cherryvale is proposing the addition of two sirens and a radio control operation unit that could be accessed by the incident commander in the field.
Lead Agency:	City of Cherryvale, City Administrator
Partners:	USD 447
Potential Funding Source:	City of Cherryvale Capital Improvement Fund
Total Cost:	\$45,000-\$60,000
Benefits (Losses Avoided):	The additional sirens would allow for the protection of additional lives by providing them a more audible warning prior to a tornado or other disaster.
Completion Date:	6 months

Cherryvale-3	Enhance Stormwater Drainage System
Issue/Background:	Cherryvale's current storm water management system fails during heavy rains, which results in the flooding of two city blocks. Depending on the severity of the flooding, damage is caused to three to five homes within the two block radius.
Plan for Implementation and Administration:	The City of Cherryvale is proposing the construction of an underground stormwater system that will divert water from the west-side of the city.
Lead Agency:	City of Cherryvale, City Administrator
Partners:	N/A
Potential Funding Source:	City of Cherryvale Capital Improvement Fund, HMGP
Total Cost:	\$175,000-\$250,000
Benefits (Losses Avoided):	The new storm water system would prevent flooding and allow for the construction of additional housing in Cherryvale.
Completion Date:	6 months

4.3.4 Actions Developed for the City of Coffeyville

Table 4.5. Mitigation Action Matrix-Coffeyville

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Coffeyville-1	Implement physical and electronic perimeter monitoring of critical facilities and utilities	Perimeter Monitoring of Critical Facilities and Utilities	M	26	4	Utility/Infrastructure Failure
Coffeyville-2	Expand/Improve Emergency Communications	Expand/Improve Emergency Communications	H	21	3	All Hazards
Coffeyville-3	Implement reverse call back system for severe weather warnings	Reverse 911	H	20	3	All Hazards
Coffeyville-4	Elevate or floodproof wastewater lift stations in Coffeyville	Floodproof Wastewater Treatment Plants and Lift Stations	H	26	4	Flood
Coffeyville-5	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance	Continue/Join NFIP	L	26	1	Flood
Coffeyville-6	Implement floodproofing measures such as elevation of electrical components at the Coffeyville Water Treatment Plant Intake Structure	Floodproof Water Treatment Plants	H	26	4	Flood
Coffeyville-7	Install back-up pumps and mobile piping system at the Coffeyville Water Treatment Plant	Floodproof Water Treatment Plants	H	26	4	Flood
Coffeyville-8	Increase the height of the Coffeyville levee	Levee Modifications	M	24	1,4	Flood
Coffeyville-9	Floodprone property buyout in Coffeyville	Floodprone Property Buyout	L	22	1	Flood
Coffeyville-10	Upgrade Outdoor Warning Sirens	Install/Expand Outdoor Warning Sirens	H	21	3	Tornado

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Coffeyville-11	Relocate electric transmission and distribution lines out of the floodplain	Floodproof Power Plants and Infrastructure	M	17	4	Flood
Coffeyville-12	Purchase/Install SCADA software to help reduce peak demand outages	Mitigate Peak Demand Outages	L	20	4	Extreme Heat Utility/Infrastructure Failure
Coffeyville-13	Add electric substation transformer switching devices for flexibility in controlling peak load and extreme heat outages	Mitigate Peak Demand Outages	L	20	4	Extreme Heat Utility/Infrastructure Failure
Coffeyville-14	Bury utility, phone, cable wires for new construction	Ice Storm Mitigation for Utility Lines	L	25	4	Winter Storm, Windstorm Utility/Infrastructure Failure
Coffeyville-15	Replace overhead utility phone, cable wires with buried wires in prioritized locations	Ice Storm Mitigation for Utility Lines	L	23	4	Winter Storm, Windstorm Utility/Infrastructure Failure
Coffeyville-16	Geographically separate electric supply lines and substations	Geographically Separate Power Grid	L	18	4	All Hazards
Coffeyville-17	Elevate electric transformers above the flood elevation	Floodproof Power Plants and Infrastructure	M	19	4	Flood Utility/Infrastructure Failure
Coffeyville-18	Install self-supporting concrete electric poles	Ice Storm Mitigation for Utility Lines	L	17	4	Winter Storm, Windstorm Utility/Infrastructure Failure
Coffeyville-19	Add disconnect switches on primary lines to allow for isolation areas	Floodproof Power Plants and Infrastructure	M	19	4	All Hazards Utility/Infrastructure Failure

Coffeyville-1	Implement physical and electronic perimeter monitoring of critical facilities and utilities
Issue/Background:	Critical utilities and facilities, including healthcare, education, and emergency services facilities, are vulnerable to damage from accidental and intentional damage, vandalism, terrorism, etc. Damage could result in loss of life, health and safety, release of pollutants, loss of electrical service, loss of water service, loss of wastewater service, loss of medical services, loss of emergency operations services, etc.
Plan for Implementation and Administration:	Evaluate, design, and install appropriate physical and electronic monitoring and protection for critical facilities and utilities.
Lead Agency:	City of Coffeyville Utilities Departments, other entities.
Partners:	City of Coffeyville, FEMA
Potential Funding Source:	Hazard Mitigation Grant Program
Total Cost:	\$750,000.00 (conditional, dependent upon facilities and utilities involved)
Benefits (Losses Avoided):	Prevent loss of critical facilities and utilities resulting in a reduction of the potential loss of life, health and safety, loss of fire protection, loss of electrical, water, and wastewater service to the hospital, nursing homes, residences, businesses, etc., loss of revenue to the City of Coffeyville, loss of revenue to businesses and industries which cannot operate without water, loss of revenue to their employees, etc.
Completion Date:	18 months

Coffeyville-2	Expand/Improve Emergency Communications
Issue/Background:	Coffeyville relies on a small single communication center with limited capabilities. While the center has emergency backup generator power and is on the first floor of a Brick and masonry building it can be vulnerable to tornados. The Communications center needs to be expanded to allow for more dispatchers and the communications need improvement. Currently they are not able to communicate with some surrounding counties and agencies and with the call volume should have two dispatchers. An alternate communications site should exist in the City for emergencies
Plan for Implementation and Administration:	<ul style="list-style-type: none"> • Add communications equipment to communicate with surrounding agencies and counties. • Enlarge the communications center to allow for more than one dispatcher. • Add restroom in communications center for dispatchers. • Designate alternate site for backup communications center.
Lead Agency:	Coffeyville Police Department
Partners:	Montgomery County, Coffeyville Fire Department, Coffeyville EMS
Potential Funding Source:	HMGP and other Grants, 911 monies
Total Cost:	\$175,000
Benefits (Losses Avoided):	Allow for interoperability and dispatching resources for larger incidents. Allows for alternate site if main center is compromised. Losses avoided are delays in dispatching critical resources during high call volumes. Communicating accurate information with surrounding counties or jurisdictions in a timely manner.
Completion Date:	One – Two years

Coffeyville-3	Implement reverse call back system for severe weather warnings (See also County-5)
Issue/Background:	Coffeyville's local industry includes a large railroad, refinery, two fertilizer plants, Linde Corporation that produces gasses, two welding supply businesses and agricultural industries. Being in Kansas severe weather is a very real threat especially from tornados and flooding. While we have severe weather sirens, a reverse call back system such as reverse 911 would allow users to target a specific geographical area in the event of a chemical release or many other types of emergencies. All Public Safety Agencies, Health Care Facilities, utilities, chemical companies and transportation companies could use this system whenever a disaster necessitates. This can help target the special needs population.
Plan for Implementation and Administration:	Ideally Montgomery County would have the system and jurisdictions like Coffeyville would be able to access it in an emergency. This would help with duplication of systems in the County. Cell phones, voice over IP systems, and TTY/TDD systems need to be added to the database. This makes it critical that the database be updated and maintained and should be done by a specific office. Since the County is working on a GIS system a reverse call back could integrate with these systems for enhanced effectiveness. The County should probably look this at with participation by the various public service entities and chemical and transportation facilities.
Lead Agency:	Montgomery County
Partners:	County, Cities, Chemical and transportation facilities
Potential Funding Source:	Grants, Private Sectors Companies that might benefit from the system
Total Cost:	Estimated \$60,000 to implement and \$5,000 to \$10,000 a year to maintain.
Benefits (Losses Avoided):	The benefit could be enormous in the event of a large chemical disaster where sheltering in place or evacuation is necessary. While a lot of citizens stay informed to natural disasters not all do and some unfortunately rely on the government to warn them.
Completion Date:	One to Three years.

Coffeyville-4	Elevate or floodproof wastewater lift stations in Coffeyville
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Issue/Background:	3 sanitary sewer lift stations in the City of Coffeyville flooded in July 2007, allowing release of raw sanitary wastewater in to the river, as well as the streets, yards, homes, and businesses in the city, within and outside of the flood area.
Plan for Implementation and Administration:	Change lift stations to submersible pump type stations and elevate controls and standby generators and any other vulnerable lift station components.
Lead Agency:	City of Coffeyville Wastewater Utility
Partners:	City of Coffeyville
Potential Funding Source:	Hazard Mitigation Grant Program
Total Cost:	\$400,000.00
Benefits (Losses Avoided):	Would improve assurance that insure that lift stations will not be damaged during high water and will remain in service preventing bypass of raw wastewater which will serve to reduce the potential loss of life, loss of sanitary sewer service to the hospital, nursing homes, etc., loss of revenue to the City of Coffeyville, loss of revenue to businesses and industries which cannot operate without sanitary sewer service, loss of revenue to their employees, etc.
Completion Date:	24 months

Coffeyville-5	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Issue/Background:	The City of Coffeyville currently participates in the NFIP. Should continue to participate in the NFIP and follow current Floodplain Management Ordinance.
Plan for Implementation and Administration:	Continue to participate in the National Flood Insurance Program in good standing and manage floodplain in accordance with currently adopted Floodplain Management Ordinance. Review and update the ordinance as needed.
Lead Agency:	City of Coffeyville Engineering Department
Partners:	City of Coffeyville, FEMA
Potential Funding Source:	City of Coffeyville,
Total Cost:	\$10,000.00 per year
Benefits (Losses Avoided):	Reduce loss due to flood.
Completion Date:	Ongoing

Coffeyville-6	Implement floodproofing measures such as elevation of electrical components at the Coffeyville Water Treatment Plant Intake Structure
Issue/Background:	Raw water pump station was flooded in July 2007. Without the pump station the City had no way to draw water from the river and pump it to the headworks of the plant to be treated. With no way to treat water, within a limited time period, the City of Coffeyville and surrounding Rural Water Districts and cities are left with no potable water and no water pressure
Plan for Implementation and Administration:	Reroute electrical conduits up and through the roof of the Raw Water Pump Station. Elevate any other vulnerable electrical components.
Lead Agency:	City of Coffeyville Water Utility
Partners:	City of Coffeyville
Potential Funding Source:	Hazard Mitigation Grant Program
Total Cost:	\$100,000.00
Benefits (Losses Avoided):	Would insure a potable water supply to the City of Coffeyville and the surrounding Rural Water Districts and cities, to reduce the potential loss of life, loss of fire protection, loss of water supply to the hospital, nursing homes, etc., loss of revenue to the City of Coffeyville, loss of revenue to businesses and industries which cannot operate without water, loss of revenue to their employees, etc.
Completion Date:	18 months

Coffeyville-7	Install back-up pumps and mobile piping system at the Coffeyville Water Treatment Plant
Issue/Background:	Raw water pump station was flooded in July 2007. Without the pumps station the City had no way to draw water from the river and pump it to the headworks of the plant to be treated. With no way to treat water, within a limited time period, the City of Coffeyville and surrounding Rural Water Districts and cities are left with no potable water and no water pressure.
Plan for Implementation and Administration:	Purchase a diesel powered portable pumps on a trailer that can be used to supply the water treatment plant with raw water to treat. Install piping and valves near pump station to connect portable pump for transport of water to the headworks of the plant.
Lead Agency:	City of Coffeyville Water Utility
Partners:	City of Coffeyville
Potential Funding Source:	Hazard Mitigation Grant Program
Total Cost:	\$125,000.00
Benefits (Losses Avoided):	Would insure a potable water supply to the City of Coffeyville and the surrounding Rural Water Districts and cities, to reduce the potential loss of life, loss of fire protection, loss of water supply to the hospital, nursing homes, etc., loss of revenue to the City of Coffeyville, loss of revenue to businesses and industries which cannot operate without water, loss of revenue to their employees, etc.
Completion Date:	18 months

Coffeyville-8	Increase the height of the Coffeyville levee
Issue/Background:	In July 2007 the Coffeyville levee system was overtopped by flood waters, inundating the east side of the city, causing extensive damage and one death.
Plan for Implementation and Administration:	Design, purchase right-of-way/easements, bid and construct levee project.
Lead Agency:	City of Coffeyville Engineering Department
Partners:	City of Coffeyville, FEMA
Potential Funding Source:	Hazard Mitigation Grant Program, US Army Corps of Engineers
Total Cost:	\$5,000,000.00 (conditional estimate, dependent upon final design details such as how high levee is raised, amount of additional right-of-way required, etc.)
Benefits (Losses Avoided):	Reduce loss due to flood.
Completion Date:	24 months

Coffeyville-9	Floodprone property buyout in Coffeyville
Issue/Background:	The City of Coffeyville currently participates in the NFIP. Coffeyville has many potential and past flood damaged properties, including several repetitive loss properties, within the city.
Plan for Implementation and Administration:	Continue to work with KDEM and FEMA to buy floodprone properties in Coffeyville, with a priority being repetitive loss properties.
Lead Agency:	City of Coffeyville Engineering Department
Partners:	City of Coffeyville, FEMA, KDEM
Potential Funding Source:	FEMA-HMGP, HMA, KDEM, KDOC, City
Total Cost:	\$4,000,000.00 (conditional estimate, dependent upon properties that participate)
Benefits (Losses Avoided):	Reduce loss due to flood.
Completion Date:	18 months

Coffeyville-10	Upgrade Outdoor Warning Sirens
Issue/Background:	The Tornado Warning system in Coffeyville is antiquated and repairs are frequent. Phone lines that can fail activate the system and the coverage of our City is not complete.
Plan for Implementation and Administration:	Do study of siren need placement. Install radio operated sirens with additional voice warning systems.
Lead Agency:	Coffeyville Fire Department
Partners:	Coffeyville Police and Electric Departments
Potential Funding Source:	HMGP and other Grants, Private Donations, 911 money, Chemical Companies, Railroad and other companies with vested interest in public warning system.
Total Cost:	\$175,000
Benefits (Losses Avoided):	Reliable system to alert residents to Severe Weather and CBRNE events
Completion Date:	One year

Coffeyville-11	Relocate electric transmission and distribution lines out of the floodplain
Issue/Background:	It is hard and sometimes impossible to get to these lines during a flood. With them out of the floodplain you can get to them to repair broken lines.

Plan for Implementation and Administration:	Move the lines out side the flood plain and then bury feeder lines from different directions to supply power to customers inside the flood plain.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$500,000.00
Benefits (Losses Avoided):	Better and safer for line workers; power restored sooner.
Completion Date:	2 years

Coffeyville-12	Purchase/Install SCADA software to help reduce peak demand outages
Issue/Background:	If the operators are unable to monitor the loads they will not know when to switch on any of the devices necessary to keep the power on at peak times.
Plan for Implementation and Administration:	Purchase and install SCADA software and hardware to enable the operators to monitor and control the electrical system during peak times.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$60,000.00
Benefits (Losses Avoided):	Much fewer electrical outages due to peak conditions.
Completion Date:	1 year

Coffeyville-13	Add electric substation transformer switching devices for flexibility in controlling peak load and extreme heat outages
Issue/Background:	Extreme heat during peak load times can cause outages to occur.
Plan for Implementation and Administration:	Install capacitor banks at the load side of transformers to be switched on or off as needed, and switches to allow for loading relief.

Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$350,000.00
Benefits (Losses Avoided):	Keeping all customers power on.
Completion Date:	1-2 years

Coffeyville-14	Bury utility, phone, cable wires for new construction
Issue/Background:	Burying the wires reduces the risk of outages due to wind or ice damage.
Plan for Implementation and Administration:	Change the codes to require all new electric utility, phone and cable wires for new construction be buried.
Lead Agency:	Electric Department
Partners:	City of Coffeyville, Phone Company and Cable Company
Potential Funding Source:	HMGP
Total Cost:	Cost to change code would be minimal. However, the increased cost over standard overhead lines would be approximately \$200,000.00 more per year
Benefits (Losses Avoided):	Keeping the power on as much as possible during storms.
Completion Date:	1 year

Coffeyville-15	Replace overhead utility phone, cable wires with buried wires in prioritized locations
Issue/Background:	This would allow for safer shelters during emergency situations.
Plan for Implementation and Administration:	Replace overhead utility wires with buried wires in locations such as schools, hospitals and any other designated shelter locations.
Lead Agency:	Electric Department
Partners:	Coffeyville, Phone Company and Cable Company

Potential Funding Source:	HMGP, HMA
Total Cost:	\$350,000.00
Benefits (Losses Avoided):	Safer and more comfortable shelter areas. Reduced risk of power outages, fires.
Completion Date:	1 year

Coffeyville-16	Geographically separate electric supply lines and substations
Issue/Background:	With more than one supply line or substations in the same geographical location one major storm or disaster could put more customers out of power; these customers could be hospitals, schools and assisted living residents, etc.
Plan for Implementation and Administration:	Separate all electric supply lines and bring them from different directions so they can not be damaged as easily by the same disaster.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$1,000,000.00
Benefits (Losses Avoided):	Easier and cheaper to replace or repair one line than two or more.
Completion Date:	2 years

Coffeyville-17	Elevate electric transformers above the flood elevation
Issue/Background:	Keeping the transformers above the flood elevation will aid in shortening the recovery time it takes to restore power after the flood waters have receded.
Plan for Implementation and Administration:	Raise all the transformers that are in the flood plain to ensure they will not be under water during a flood either by building up the ground under them or mounting them on electric poles.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP

Total Cost:	\$250,000.00
Benefits (Losses Avoided):	The ability to get customers power back on quicker after the waters recedes; reduced damages to transformers.
Completion Date:	2 years

Coffeyville-18	Install self-supporting concrete electric poles
Issue/Background:	Wooden poles rot over time and are more susceptible to high winds; concrete poles are stronger and a lot less likely to be blown over in high winds.
Plan for Implementation and Administration:	Replace the most important poles in the line, such as corner poles, dead end poles and any poles bearing switches and or capacitor banks. The part of the line that is the most critical to the electric system should be replaced with a concrete pole. This should be done over the entire system.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$300,000.00
Benefits (Losses Avoided):	To ensure the fewest number of outages due to high wind or ice storms. Reduces potential for injury or death as a result of downed power lines.
Completion Date:	2 years

Coffeyville-19	Add disconnect switches on primary lines to allow for isolation areas
Issue/Background:	With no isolation switches, during an outage you have more customers out longer than necessary, by being able to isolate the problem with switches you reduce the amount of customers out of power.
Plan for Implementation and Administration:	Start by adding disconnect switches in the largest areas first until you get them down to a manageable sized area and work your way down until you have the best isolation scheme possible.
Lead Agency:	Electric Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$450,000.00

Benefits (Losses Avoided):	Keeping as many customers with power as possible.
Completion Date:	2 years

4.3.5 Actions Developed for the City of Dearing

Table 4.6. Mitigation Action Matrix-Dearing

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Dearing-1	Implement physical and electronic perimeter monitoring of critical facilities and utilities-water pumping station, wastewater lift station, and city lagoons	Perimeter Monitoring of Critical Facilities and Utilities	M	21	4	Utility/Infrastructure Failure
Dearing-2	Install back-up generator for city hall	Back-up Generators for Critical/Special Needs Facilities	H	19	4	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
Dearing-3	Install back-up generator for waste water lift station	Back-up Generators for Critical/Special Needs Facilities	H	22	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
Dearing-4	Install back-up generator for water system pumping station	Back-up Generators for Critical/Special Needs Facilities	H	22	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
Dearing-5	Continue process to join National Flood Insurance Program	Continue/Join NFIP	L	21	1	Flood
Dearing-6	Culvert Enlargement for Storm Drainage	Stormwater Improvement Projects	M	18	1	Flood
Dearing-7	Stream Erosion and Sediment Control Project	Floodwater Erosion Control	M	22	1	Flood
Dearing-8	Construct a tornado shelter, cooling center, city hall	Community/Hospital Tornado Shelters	H	23	1	Tornado, Extreme Heat

Dearing-1	Implement physical perimeter monitoring of water pumping station, wastewater lift station, and City lagoons
Issue/Background:	There are currently no fences around these critical facilities
Plan for Implementation and Administration:	Install fencing for security
Lead Agency:	City of Dearing
Partners:	
Potential Funding Source:	HMGP
Total Cost:	
Benefits (Losses Avoided):	Reduce potential for utility loss/infrastructure failure; avoid vandalism
Completion Date:	2 years

Dearing-2	Install back-up generator for city hall
Issue/Background:	It is important for City Hall to have power during emergencies as it is the Central Action Center for residents and operational personnel
Plan for Implementation and Administration:	Purchase generator
Lead Agency:	City of Dearing
Partners:	Electrical Engineer
Potential Funding Source:	HMGP
Total Cost:	
Benefits (Losses Avoided):	City Hall will remain operable during hazard events, power outages
Completion Date:	2 years

Dearing-3	Install back-up generator for waste water lift station
Issue/Background:	It is important to keep the wastewater system operational during hazard events that may affect the power supply
Plan for Implementation and Administration:	Purchase generator
Lead Agency:	City of Dearing
Partners:	Electrical Engineer
Potential Funding Source:	HMGP
Total Cost:	
Benefits (Losses Avoided):	The lift station would remain operational during power outages
Completion Date:	1 year

Dearing-4	Install back-up generator for water system pumping station
Issue/Background:	It is important to keep the water supply working for residents during power outage events
Plan for Implementation and Administration:	Purchase generator
Lead Agency:	City of Dearing
Partners:	Electrical Engineer
Potential Funding Source:	HMGP
Total Cost:	
Benefits (Losses Avoided):	Water supply would be available to residents during power outages
Completion Date:	1 year

Dearing-5	Continue process to join National Flood Insurance Program
Issue/Background:	The Floodplain Management ordinance (Ordinance #118) was adopted by resolution #126 on June 5, 2008

Plan for Implementation and Administration:	Continue steps necessary to join
Lead Agency:	City of Dearing
Partners:	City of Dearing, Kansas Division of Water Resources, FEMA
Potential Funding Source:	N/A
Total Cost:	N/A
Benefits (Losses Avoided):	Homeowners will be able to purchase flood insurance
Completion Date:	This action was completed during the drafting stage of the plan. Official participation in the NFIP was effective October 28, 2008

Dearing-6	Culvert Enlargement for Storm Drainage
Issue/Background:	Undersized culverts cause floodwaters to back up
Plan for Implementation and Administration:	Install larger culverts or new culverts in areas needed to hold stormwater
Lead Agency:	City of Dearing
Partners:	Engineer
Potential Funding Source:	HMGP ; potential soft match from Engineer
Total Cost:	
Benefits (Losses Avoided):	Improved drainage and reduced flood damage
Completion Date:	3 years

Dearing-7	Stream Erosion and Sediment Control Project
Issue/Background:	Floodwater erosion impacts sewer service lines

Plan for Implementation and Administration:	Riprap sides of stream to stop erosion
Lead Agency:	City of Dearing
Partners:	Engineer
Potential Funding Source:	HMGP potential soft match from Engineer
Total Cost:	
Benefits (Losses Avoided):	Damages from continued erosion will be avoided
Completion Date:	2 years

Dearing-8	Construct a tornado shelter, cooling center, city hall
Issue/Background:	Dearing School was sold and is no longer available as a shelter to the residents of Dearing for a cooling center. The city does not have a tornado shelter for residents.
Plan for Implementation and Administration:	Construct a new City Hall with a tornado shelter that can also serve as a cooling center
Lead Agency:	City of Dearing
Partners:	Architect
Potential Funding Source:	HMGP potential soft match from Architect
Total Cost:	\$200,000
Benefits (Losses Avoided):	Safety for residents during tornado and extreme heat events.
Completion Date:	4 years

4.3.6 Actions Developed for the City of Elk City

Table 4.7. Mitigation Action Matrix-Elk City

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Elk City-1	Improve dike protecting Elk City Water Plant	Floodproof Water Treatment Plants	H	25	1,4	Flood
Elk City-2	Mitigate Elk City water pumps against flood damage	Floodproof Water Treatment Plants	H	27	1,3,4	Flood
Elk City-3	Construct community tornado shelter	Community/Hospital Tornado Shelters	H	22	1,2,3,4	Tornado
Elk City-4	Install Tornado Sirens	Install/Expand Outdoor Warning Sirens	H	24	1,2,3,4	Tornado
Elk City-5	Elevate electrical equipment at water plant	Floodproof Water Treatment Plants	H	23	1,4	Flood
Elk City-6	Install Flood Gate at Elk City water plant on east side at culvert	Floodproof Water Treatment Plants	H	24	1,4	Flood
Elk City-7	Purchase automatic pump and generator for water plant	Floodproof Water Treatment Plants	H	24	4	Flood
Elk City-8	Elk City Dike drainage improvement and maintenance	Levee Modifications	M	24	1,3,4	Flood
Elk City-9	Continue to participate in the National Flood Insurance Program	Continue/Join NFIP	L	26	1.4	Flood

Elk City-1	Improve dike protecting Elk City Water Plant
Issue/Background:	Water comes in to town from the river
Plan for Implementation and Administration:	Improvements to the dike need to be made to ensure a minimum of 100 year flood protection, 500 year preferred.
Lead Agency:	Elk City Council, Corps of Engineers
Partners:	Corps of Engineers
Potential Funding Source:	HMGP, HMA
Total Cost:	To be determined

Benefits (Losses Avoided):	Keep floodwaters out of the city water plant, avoid damages to plant
Completion Date:	3 years

Elk City-2	Mitigate Elk City water pumps against flood damage
Issue/Background:	The current pumps are not large enough to handle the volume of floodwater that the city has experienced in the past. The City has had to borrow pumps from the Corps of Engineers in the past.
Plan for Implementation and Administration:	Purchase pumps that can handle adequate volumes of water
Lead Agency:	Elk City Council
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$9,000
Benefits (Losses Avoided):	It will be possible to continue to provide clean water to citizens during flooding events.
Completion Date:	1 year

Elk City-3	Construct community tornado shelter
Issue/Background:	Elk City does not have a storm shelter for the citizens to go. Very few citizens have basements or other storm shelter.
Plan for Implementation and Administration:	Construct community tornado shelter

Lead Agency:	Elk City Council
Partners:	Pride of Elk City
Potential Funding Source:	HMGP, HMA
Total Cost:	\$200,000-300,000
Benefits (Losses Avoided):	Lives can be saved
Completion Date:	Funding dependent

Elk City-4	Install Tornado Sirens
Issue/Background:	Elk City does not have warning devices to notify citizens of impending hazard events
Plan for Implementation and Administration:	Utilize old sirens from the City of Independence that they plan on removing.
Lead Agency:	Elk City Council
Partners:	Independence Police Department
Potential Funding Source:	
Total Cost:	Minimal cost for wiring
Benefits (Losses Avoided):	Life safety as a result of early warning
Completion Date:	4 months

Elk City-5	Elevate electrical equipment at water plant
Issue/Background:	The electrical equipment at the water plant is in the basement and has been damaged during flooding when the water plant has been under water.
Plan for Implementation and Administration:	Elevate electrical equipment
Lead Agency:	Elk City Council
Partners:	

Potential Funding Source:	HMGP
Total Cost:	\$18,000
Benefits (Losses Avoided):	Equipment will remain operable and city employees will not be endangered
Completion Date:	1 year

Elk City-6	Install Flood Gate at Elk City water plant on east side at culvert
Issue/Background:	Floodwaters have gotten in to water plant in the past.
Plan for Implementation and Administration:	Install flood gate to provide protection from the 100 year flood event, at a minimum
Lead Agency:	Elk City Council
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$20,000
Benefits (Losses Avoided):	Water plant will remain operable during flooding conditions
Completion Date:	2 years

Elk City-7	Purchase automatic pump and generator for water plant
Issue/Background:	During previous flood events and power outages due to ice storms, the City has lost all power to water plant
Plan for Implementation and Administration:	Purchase automatic pump and generator for water plant
Lead Agency:	Elk City Council
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$20,000

Benefits (Losses Avoided):	Reliable water service to residents
Completion Date:	1 year

Elk City-8	Elk City Dike drainage improvement and maintenance
Issue/Background:	The existing dike needs draining improvement and maintenance
Plan for Implementation and Administration:	
Lead Agency:	Elk City Council
Partners:	Corps of Engineers
Potential Funding Source:	
Total Cost:	
Benefits (Losses Avoided):	Keep city from flooding
Completion Date:	1 year

Elk City-9	Continue to Participate in the National Flood Insurance Program
Issue/Background:	Elk City currently participates in the National Flood Insurance Program and has houses in flood hazard areas that are able to purchase flood insurance as a result.
Plan for Implementation and Administration:	Maintain participation status in good standing and enforce the adopted Floodplain Management Ordinance
Lead Agency:	Elk City Council
Partners:	
Potential Funding Source:	N/A
Total Cost:	N/A

Benefits (Losses Avoided):	Enables the purchase of flood insurance and regulates development in flood hazard areas.
Completion Date:	Ongoing

4.3.7 Actions Developed for the City of Havana

Table 4.8. Mitigation Action Matrix-Havana

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Havana-1	Purchase and install outdoor warning sirens	Install/Expand Outdoor Warning Sirens	H	27	1,2,3,4	Tornado
Havana-2	Install back-up generator for shelter	Back-up Generators for Critical/Special Needs Facilities	H	26	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
Havana-3	Construct storm shelter	Community/Hospital Tornado Shelters	H	27	1	Tornado

Havana-1	Purchase and install outdoor warning sirens
Issue/Background:	Warning sirens are needed for high winds and tornados for the residents of Havana.
Plan for Implementation and Administration:	Purchase and install sirens in strategic locations
Lead Agency:	City of Havana
Partners:	N/A
Potential Funding Source:	HMGP
Total Cost:	To Be Determined
Benefits (Losses Avoided):	Life Safety

Completion Date:	2 years
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Havana-2	Install back-up generator for shelter
Issue/Background:	If a tornado shelter is constructed, a back-up generator will be needed to ensure continuity of power
Plan for Implementation and Administration:	Purchase and install
Lead Agency:	City of Havana
Partners:	
Potential Funding Source:	HMGP
Total Cost:	To Be Determined
Benefits (Losses Avoided):	Life Safety
Completion Date:	Following shelter construction

Havana-3	Construct storm shelter
Issue/Background:	A storm shelter is needed for the protection of the residents of Havana
Plan for Implementation and Administration:	Construct storm shelter
Lead Agency:	City of Havana
Partners:	
Potential Funding Source:	HMGP
Total Cost:	To Be Determined
Benefits (Losses Avoided):	Live Safety
Completion Date:	2 years

4.3.8 Actions Developed for the City of Independence

Table 4.9. Mitigation Action Matrix-Independence

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Independence -1	Replace and increase storm warning public address system	Install/Expand Outdoor Warning Sirens	H	20	3	Tornado
Independence -2	Construct flood gate and pumps at the end of the levee adjoining pine street	Levee Modifications	M	26	1	Flood
Independence -3	Install emergency generator at Water Treatment Plant	Back-up Generators for Critical/Special Needs Facilities	H	25	4	Flood
Independence -4	Develop project to mitigate flood damage of Independence high service pump station at the Water Treatment Plant--elevate high service pump building and clear wells	Floodproof Water Treatment Plants	H	25	4	Flood
Independence -5	Relocate the main electrical panel at Water Treatment Plant outside the floodplain	Floodproof Water Treatment Plants	H	25	4	Flood
Independence -6	Purchase and install standby pumps at lift stations for discharge of wastewater in the event lift stations are inoperable	Floodproof Water Treatment Plants	H	26	4	Flood
Independence -7	Replace pumps with submersible pumps, elevate electrical control panels and elevate emergency generators at Wald Ave. and Southeast Pump Stations (sanitary sewer)	Floodproof Wastewater Treatment Plants and Lift Stations	H	26	4	Flood
Independence -8	Construct flood levee to protect buildings, equipment and treatment facilities at the wastewater treatment	Floodproof Wastewater Treatment Plants and Lift Stations	H	23	4	Flood

Action ID	Action	Action Category	Priority	Score	STAPLEE	Goals	Hazards Addressed
	plant						
Independence-9	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance	Continue/Join NFIP	L	24		1	Flood
Independence-10	Purchase floodprone property in the 100-year floodplain	Floodprone Property Buyout				1	

Independence-1	Replace and increase storm warning public address system
Issue/Background:	System is used as a city wide public address system and storm warning system. There are areas that the current system can not be heard.
Plan for Implementation and Administration:	Need to replace 2 old sirens with new siren IPA systems and increase system by 3 siren IPA's.
Lead Agency:	Independence Police Dept.
Partners:	
Potential Funding Source:	Grants or capital out levy.
Total Cost:	\$150,000.00
Benefits (Losses Avoided):	Improve warning of residents of weather or other disasters.
Completion Date:	Within next 5 years.

Independence-2	Construct flood gate and pumps at the end of the levee adjoining pine street
Issue/Background:	The purpose of this action is to provide a flood gate at the elevation of the adjoining levee to eliminate flood waters from entering the City from the Verdigris River and to install pumps to discharge water from the City when the floodgate is closed. Currently there exists a flap gate at the end of the levee which is below the top of the levee and does not seal, letting water seek its own level within the City. Furthermore, there are no pumps to discharge rain water from behind the current levee.
Plan for Implementation and Administration:	Install a flood gate at the proper elevation that will restrict water from entering the City during flooding events and allow us to pump water from behind the levee back into the river.
Lead Agency:	City of Independence – Street Department
Partners:	
Potential Funding Source:	
Total Cost:	Cost estimate is being prepared by the Office of Emergency Management.
Benefits (Losses Avoided):	Installation of a new flood gate and pumps will provide protection to existing public and private properties which have experienced flood damage in 1986 and 2007 as well as periodic flooding from heavy rainfalls and high river elevations
Completion Date:	

Independence-3	Install emergency generator at Water Treatment Plant
Issue/Background:	Currently there is no emergency generator to provide power to the treatment plant from either a flooding event that eliminates power to the City or other catastrophic events. With loss of power we are not able to provide treated water for public health or fire protection
Plan for Implementation and Administration:	Locate an emergency generator above the flood plain adjoining the treatment plant.
Lead Agency:	City of Independence – Water and Sewer Department
Partners:	
Potential Funding Source:	
Total Cost:	\$750,000
Benefits (Losses Avoided):	Assure a source of power to operate the plant to provide potable water during flooding or other catastrophic events.
Completion Date:	

Independence-4	Develop project to mitigate flood damage of Independence high service pump station at the Water Treatment Plant--elevate high service pump building and clear wells
Issue/Background:	The high service pump station at the water treatment plant is located in the flood plain. This pump station allows us to pump treated water into the distribution system. During 2007 flood water entered this structure and damaged the control systems and electric motors required to operate the pumps. This eliminated the possibility of providing treated water within the City which affected not only public health, but fire protection.
Plan for Implementation and Administration:	Elevate the high service pump building and possible replacement of clear wells to accommodate new location of high service pump building.
Lead Agency:	City of Independence – Water and Sewer Department
Partners:	
Potential Funding Source:	HMGP, HMA
Total Cost:	\$5,000,000
Benefits (Losses Avoided):	To ensure potable water for public health and fire protection during flooding events.
Completion Date:	3 years

Independence-5	Relocate the main electrical panel at Water Treatment Plant outside the floodplain
Issue/Background:	The electrical panel that provides power to the water treatment plant is located in the flood plain. During the 2007 flood event water entered the panel affecting our ability to operate the water treatment plant.
Plan for Implementation and Administration:	Relocate electrical panel that provides power to the treatment plant out of the flood plain.
Lead Agency:	City of Independence – Director of Utilities
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$500,000
Benefits (Losses Avoided):	The benefit is that it would allow us to have power to operate the water treatment plant during flooding event thus providing a secure source of treated water.
Completion Date:	3 years

Independence-6	Purchase and install standby pumps at lift stations for discharge of wastewater in the event lift stations are inoperable
Issue/Background:	When the lift stations become inoperable during and after flooding events it requires use of backup pumps to discharge the wastewater from the sanitary sewer collection system.
Plan for Implementation and Administration:	These pumps will be permanently mounted at each lift station.
Lead Agency:	City of Independence – Water and Sewer Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$250,000
Benefits (Losses Avoided):	Provides backup capability to eliminate health problems with wastewater bypasses within the City during floods and other catastrophic events.
Completion Date:	3 years

Independence-7	Replace pumps with submersible pumps, elevate electrical control panels and elevate emergency generators at Wald Ave. and Southeast Pump Stations (sanitary sewer)
Issue/Background:	The City’s sanitary sewer collection system is dependent upon these two lift stations to take the wastewater from the City to the treatment plant. These lift stations have been flooded in 1986 and 2007 and were taken out of service for extended periods of time. During the time these lift stations are out of service we are not able to pump the wastewater to the treatment plant which requires bypassing of the treatment process and results in direct discharges into the Verdigris River and surcharging of the collection system at various manholes throughout the City.
Plan for Implementation and Administration:	Replace existing centrifugal pumps located below grade in dry wells with new submersible pumps, elevate the electrical panels and elevate emergency generators so that they are not affected by flood waters.
Lead Agency:	City of Independence - Water and Sewer Department
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$10,000,000
Benefits (Losses Avoided):	Allow the City to continue to pump wastewater from the City to the treatment plant and eliminate bypassing and surcharging. This improvement will positively impact public health.
Completion Date:	4 years

Independence-8	Construct flood levee to protect buildings, equipment and treatment facilities at the wastewater treatment plant
Issue/Background:	The Wastewater Treatment Plant is located in the flood plain and was taken out of service due to flooding in 1986 and 2007. Due to the 2007 flood event the treatment plant was taken out of service for over 1 year for which we could not meet permit requirements. The cost to repair the plant totaled over \$5.6 million.
Plan for Implementation and Administration:	Build a levee that protects all plant structures and equipment and install pumps to pump out catch water.
Lead Agency:	City of Independence – Water and Sewer Department
Partners:	KDEM, Army Corp of Engineers
Potential Funding Source:	HMGP, Army Corp of Engineers
Total Cost:	Cost estimate being prepared by Emergency Management
Benefits (Losses Avoided):	Protect the Wastewater Treatment Plant from flooding to allow us to maintain plant operation during and after the flooding event. This would allow us to discharge wastewater in compliance with our permit to protect public health.
Completion Date:	

Independence-9	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Issue/Background:	The City participates in the National Flood Insurance Program and has adopted appropriate ordinances concerning use and development within the flood plain. We have participated in the program since 1978.
Plan for Implementation and Administration:	The City will continually review and update its ordinances.
Lead Agency:	City of Independence
Partners:	City of Independence, Kansas Division of Water Resources, FEMA
Potential Funding Source:	N/A
Total Cost:	N/A
Benefits (Losses Avoided):	Participating in the flood insurance program provides protection to property owners through the availability of insurance and eligibility to participate in federal and state flood programs during a disaster.
Completion Date:	Ongoing

Independence-10	Purchase floodprone property in the 100-year floodplain
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Issue/Background:	The City proposes to purchase land and structures located in the 100 year flood plain that were inundated with flood water during the 2007 and 1986 floods.
Plan for Implementation and Administration:	Purchase of the property and remove all structures.
Lead Agency:	City of Independence
Partners:	
Potential Funding Source:	FEMA-HMGP KDEM City of Independence
Total Cost:	\$3,292,020
Benefits (Losses Avoided):	Avoid property damage and displacement of residents in this portion of the 100 year flood plain.
Completion Date:	Approved HMGP Project is current ongoing

4.3.9 Actions Developed for the City of Liberty

Table 4.10. Mitigation Action Matrix-Liberty

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Liberty-1	Provide flood protection to Liberty Wastewater Treatment Plant	Floodproof Wastewater Treatment Plants and Lift Stations	H	22	4	Flood

Liberty-1	Provide flood protection to Liberty Wastewater Treatment Plant
Issue/Background:	The dividing dam at the wastewater treatment plant was washed out during the heavy rains of 2007. In addition, the fence was

	damaged during this event. The concrete on the inlet structure is cracked due to ground shifting from saturation during flood event.
Plan for Implementation and Administration:	Rebuild sledge ponds, rip-rap rock slopes to prevent erosion of dividing dams, replace inlet structure wall, and replace security fence
Lead Agency:	City of Liberty
Partners:	
Potential Funding Source:	HMGP
Total Cost:	\$320,000
Benefits (Losses Avoided):	Reduced direct flood damages and indirect damages/loss of service
Completion Date:	2 years

4.3.10 Actions Developed for the Unified School Districts

Table 4.11. Mitigation Action Matrix-Unified School Districts

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
USD 436-1	Evaluate existing tornado shelter locations in all USD 436 schools	Safe Rooms in Schools	H	22	1,2	Tornado
USD 436-2	Construct safe rooms in new and existing schools in USD 436	Safe Rooms in Schools	H	22	1,2	Tornado
USD 445-1	Evaluate existing school shelter locations in all schools in USD 445	Safe Rooms in Schools	H	26	1	Tornado
USD 445-2	Construct safe rooms in new and existing schools in USD 455	Safe Rooms in Schools	H	26	1	Tornado
USD 446-1	Evaluate existing tornado shelter locations in all USD 446 schools	Safe Rooms in Schools	H	24	1	Tornado
USD446-2	Construct safe rooms in new and existing schools in USD 446	Safe Rooms in Schools	H	24	1	Tornado
USD 447-1	Evaluate existing tornado shelter	Safe Rooms in Schools	H	23	1	Tornado

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
	locations in all USD 447 schools					
USD 447-2	Construct safe rooms in new and existing schools in USD 447	Safe Rooms in Schools	H	23	1	Tornado

USD 436-1	Evaluate existing tornado shelter locations in all USD 436 schools
Issue/Background:	Are tornado shelters in all USD 436 schools adequate or safe?
Plan for Implementation and Administration:	Determine vulnerabilities to tornado events – resistance to high wind forces and greatest need of retrofitting solutions.
Lead Agency:	Unified School District USD 436
Partners:	Kansas Dept. Of Education; PBA Architects of Wichita; City of Caney; and Montgomery Co. Hazard Mitigation Planning Committee
Potential Funding Source:	USD 436 – Contingency Reserve Fund; USD 436 – Supplemental General Fund.
Total Cost:	\$6,000
Benefits (Losses Avoided):	Prevent bodily injury or death to students and faculty
Completion Date:	6 months

USD 436-2	Construct safe rooms in new and existing schools in USD 436
Issue/Background:	Concerns that current tornado shelters in all 436 schools are not adequate to provide the needed protection needed.
Plan for Implementation and Administration:	Make or retrofit existing facilities structurally resistant to high wind forces New construction that would include Safe Rooms in all Schools in USD 436
Lead Agency:	Unified School District USD 436
Partners:	Kansas Dept. Of Education, PBA Architects of Wichita, City of Caney, Montgomery Co. Hazard Mitigation Planning Committee, and the Community
Potential Funding Source:	USD 436 – Contingency Reserve Fund; USD 436 – Supplemental General Fund; USD 436 – Capital Outlay Fund; Federal Grants; State Grants; also state aide for new facilities.
Total Cost:	\$2.5 to \$5 Million
Benefits (Losses Avoided):	Prevent bodily injury or death to students and adults
Completion Date:	6 years

USD 445-1	Construct Safe Rooms in new & existing Schools in USD 445 Schools
Issue/Background:	Safety Precautions needed for protection of students and staff
Plan for Implementation and Administration:	Construct Safe Rooms in new and existing schools in USD 445 School
Lead Agency:	Coffeyville USD 445
Partners:	
Potential Funding Source:	HMPG
Total Cost:	Unknown
Benefits (Losses Avoided):	Protection to life and injury
Completion Date:	As funds are available

USD 445-2	Evaluate existing school shelter locations in all schools in USD 445 schools
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Issue/Background:	Safety Precautions are needed to review and update protection of students and staff during severe weather
Plan for Implementation and Administration:	Hiring professionals to evaluate existing school shelter and plan for future construction of school shelter.
Lead Agency:	Coffeyville USD 445
Partners:	
Potential Funding Source:	HMPG
Total Cost:	Unknown
Benefits (Losses Avoided):	Protection to life and injury of students and staff
Completion Date:	As funds are available

USD 446-1	Evaluate existing tornado shelter locations in all USD 446 schools
Issue/Background:	The District wants the best shelter locations identified for Eisenhower Elementary, Lincoln Elementary, Washington Elementary, Independence Middle School, and Independence High School
Plan for Implementation and Administration:	Professional evaluation completed by licensed professional or a self evaluation as requested by the Kansas State Department of Education.
Lead Agency:	USD 446 District Office
Partners:	DLR Group (architects/engineers), USD 446
Potential Funding Source:	HMGP
Total Cost:	\$10,000 to \$20,000
Benefits (Losses Avoided):	Life safety
Completion Date:	3 months

USD 446-2	Construct safe rooms in new and existing schools in USD 446
Issue/Background:	Safe rooms are not currently available to students and staff in the facilities in USD 446.

Plan for Implementation and Administration:	Integrate safe rooms into any new construction or remodelling of existing facilities in USD 446
Lead Agency:	USD 446 District Office
Partners:	FEMA, State of Kansas, USD 446, Community Strategic Planning Committee, DLR Group (architects)
Potential Funding Source:	HMGP
Total Cost:	\$400,000 at \$140/ square foot
Benefits (Losses Avoided):	Life safety
Completion Date:	6 months - year

USD 447-1	Evaluate existing tornado shelter locations in all USD 447 schools
Issue/Background:	A recent state law requires a tornado refuge evaluation performed by each school. Refuge areas are reviewed frequently for their suitability and safety. An evaluation will be conducted to determine needs annually per law and logic.
Plan for Implementation and Administration:	evaluate current status of refuge areas consider needed or potential upgrades plan for implementation as funds are available fund and implement upgrades as appropriate
Lead Agency:	USD 447 Board of Education and Superintendent of Schools
Partners:	Community, emergency departments, city government
Potential Funding Source:	Local district funds, private donations, state/federal dollars
Total Cost:	\$2,500 - \$7,500 per facility identified
Benefits (Losses Avoided):	Save lives and prevent/reduce injury
Completion Date:	18 months

USD 447-2	Construct safe rooms in new and existing schools in USD 447
Issue/Background:	Tornado Safe Rooms are becoming increasingly discussed due to the incident at Greensburg. We do not, at this point, plan new construction that would provide an opportunity to include safe rooms but there is potential.

Plan for Implementation and Administration:	evaluate current status of refuge areas consider the potential for safe rooms plan for implementation as funds and plan are available fund and implement safe rooms as appropriate
Lead Agency:	USD 447 Board of Education and Superintendent of Schools
Partners:	Community, emergency departments, city government
Potential Funding Source:	Local district funds, private donations, state/federal dollars
Total Cost:	\$55,000 - \$75,000 per facility as identified
Benefits (Losses Avoided):	Save lives and prevent/reduce injury
Completion Date:	3-5 years

4.3.11 Actions Developed for the Community Colleges

Table 4.12. Mitigation Action Matrix-Community Colleges

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Coffeyville Community College-1	Construct saferoom on college campus	Safe Rooms in Schools	H	19	1	Tornado
Independence Community College-1	Provide training services and resource materials for train-the-trainer training sessions to assist with implementation of area mitigation action projects	Public Information/Emergency Procedures	M	25	2	All Hazards

Coffeyville Community College-1	Construct saferoom on college campus
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Issue/Background:	Limited space currently available in the event of a tornado or severe weather.
Plan for Implementation and Administration:	Construction of a saferoom in a new or remodelled facility. Saferoom will be able to house up to 600 people.
Lead Agency:	Planning and Operations
Partners:	
Potential Funding Source:	Grant funding and private donations, HMGP, HMA
Total Cost:	\$450,000.00
Benefits (Losses Avoided):	Safety for on campus students. Could save lives in the event of severe weather including a tornado.
Completion Date:	5 years

Independence Community College-1	Provide training services and resource materials for train-the-trainer training sessions to assist with implementation of area mitigation action projects.
Issue/Background:	Approximately 92 Mitigation Action Projects have been submitted by participants in the Montgomery County Multi-Jurisdictional Hazard Mitigation Plan. Participants have reviewed and prioritized plans and combined similar projects where appropriate. While several agencies have been identified as responsible for oversight and implementation of mitigation actions, many of the plan descriptions have not included a training component to help prepare agency employees and volunteers for awareness and implementation. A coordinated effort between training developers and faculty at Independence Community College and the end-user agency personnel to produce training programs and procedures for implementation of mitigation action projects will help to ensure agency personnel are best prepared and ready to implement a mitigation action project in the event of an emergency. With a train-the-trainer development program in place, area agency personnel will be in possession of a systematic approach to readily train more workers and volunteers should an emergency warrant the need for large numbers of trained personnel to help mitigate an emergency situation.
Plan for Implementation and Administration:	<ul style="list-style-type: none"> • Meet with leaders of Mitigation Action Projects to identify needs for training. • Identify opportunities for train-the-trainer initiatives. • Develop curriculum with Mitigation Action Project content expert leaders. • Develop self mediated training sessions. • Develop instructor led training sessions. • Develop train-the-trainer sessions for deployment of training sessions. • Develop training materials.
Lead Agency:	Office of Instruction, Independence Community College
Partners:	Mitigation Action Project leaders and team members
Potential Funding Source:	FEMA
Total Cost:	An estimate of \$30 to \$65 dollars per hour for curriculum development.

	An estimate of \$25 to \$70 dollars per hour for instruction.
	Costs for hardware and software to house self-mediated instruction to be determined.
Benefits (Losses Avoided):	The development of training programs to ready workers and volunteers as trained and knowledgeable responders in the event of an emergency will help to better mobilize action quickly. In critical situations found in emergency situations, trained and ready workers can result in the prevention of loss of life, quicker restoration of infrastructure, and help to avoid panic among citizens.
Completion Date:	Ongoing if funded

4.3.12 Actions Developed for Other Special Districts

Table 4.13. Mitigation Action Matrix-Other Special Districts

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
RFD #1-1	Reduce hazardous fuels in prioritized wildfire risk areas	Wildfire Mitigation	L	23	1	Wildfire
RFD #1-2	Increase public and fire department training on wildland urban interface fires	Wildfire Mitigation	L	23	2	Wildfire
RFD #1-3	Provide homeowner education on wildfire mitigation in wildland-urban interface	Wildfire Mitigation	L	22	2	Wildfire
PWWSD #4-1	Install back-up generator at pump house	Back-up Generators for Critical/Special Needs Facilities	H	19	1,4	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
RWD #6-1	Map Pipelines	GIS Layers of Hazard Areas	M	23	1,2	Utility/Infrastructure Failure
RWD #6-2	Install back-up generators for pumps	Back-up Generators for Critical/Special Needs Facilities	H	22	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
RWD #6-3	Perimeter monitoring	Perimeter Monitoring of Critical Facilities and Utilities	M	21	4	Utility/Infrastructure Failure
RWD #7-1	Install back-up generators for pumps	Back-up Generators for Critical/Special Needs Facilities	H	21	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
RWD #7-2	Map Pipelines	GIS Layers of Hazard Areas	M	19	1,2	Utility/Infrastructure Failure
RWD #7-3	Perimeter monitoring	Perimeter Monitoring of Critical Facilities and Utilities	M	21	4	Utility/Infrastructure Failure
RWD #8-1	Connect water supply systems of RWD #8 and RWD #13	Floodproof Water Treatment Plants	H	18	4	Flood
RWD #10-1	Install back-up generators for pumps	Back-up Generators for Critical/Special Needs Facilities	H	18	1	Winter Storm, Windstorm, Flood, Lightning, Utility/Infrastructure Failure
RWD #10-2	Map Water Pipelines	GIS Layers of Hazard Areas	M	18	1,2	Utility/Infrastructure Failure
RWD #10-3	Perimeter monitoring	Perimeter Monitoring of Critical Facilities and Utilities	M	18	4	Utility/Infrastructure Failure
RWD #12-1	Reinforce water tower to withstand high winds and peripheral winds from tornadoes	"Added after voting exercise"	n/a	18	1,4	Tornado, Windstorm
RWD #13-1	Connect water supply systems of RWD #8 and RWD #13	Floodproof Water Treatment Plants	H	18	4	Flood
RFD #1-1	Reduce hazardous fuels in prioritized wildfire risk areas	Wildfire Mitigation	L	23	1	Wildfire

RFD #1-1	Reduce hazardous fuels in prioritized wildfire risk areas
Issue/Background:	Past experience has shown that there is a threat of having wildland/urban interface fire problems in this area. The Wildland Urban Interface (WUI) is any location where a fire can spread from vegetation (wildland fuels) to man-made (urban fuels). As part of the planning process a wildfire hazard assessment has been conducted to begin to identify those locations that might be in need of some hazard fuel reduction work.
Plan for Implementation and Administration:	In those areas that have been prioritized as posing a threat for wildland/urban interface fires, fuel reduction will be used to create fuel breaks between the wildland fuels and the urban environment. Methods used will be mechanical removal of fuel, mechanical thinning of fuel, and/or prescribed fire.
Lead Agency:	Kansas Forest Service and the Local Fire Departments and Rural Fire Districts
Partners:	Home Owners Associations and Rural Communities
Potential Funding Source:	The Kansas Forest Service will assist qualifying communities with pursuing federal WUI grant dollars for hazardous fuel reduction projects.
Total Cost:	Approximately \$85/ac for hazardous fuel reduction projects.
Benefits (Losses Avoided):	Hazardous fuel reduction will enable local fire departments to more safely engage and suppress wild fires without the added concern of those fires impacting the wildland/urban interface.
Completion Date:	On-going

RFD #1-2	Increase public and fire department training on wildland urban interface fires
Issue/Background:	Wildfires in the Wildland Urban Interface (WUI), or any location where a fire can spread from vegetation (wildland fuels) to man-made (urban fuels) presents a unique and potentially very dangerous set of hazards to the firefighters that respond to them as well as the public that lives in areas where such fires occur.
Plan for Implementation and Administration:	Several trainings can be implemented to increase the general, tactical, and safety knowledge of anyone living in or responding to fires in the WUI. Topics from tactical decision making to assistance with pre-incident assessments of properties that may be impacted should be covered in these training sessions.
Lead Agency:	Kansas Forest Service
Partners:	Local Fire Departments/Districts, and Communities
Potential Funding Source:	The Kansas Forest Service along with its state and federal partners can assist with providing such training opportunities.
Total Cost:	\$30 per student per training session
Benefits (Losses Avoided):	Additional training on the specific tactics and strategies to use in the WUI will increase public and emergency responder safety.
Completion Date:	On-Going

RFD #1-3	Provide homeowner education on wildfire mitigation in wildland-urban interface
Issue/Background:	Before times and conditions of wildfire danger occur homeowners living in the wildland/urban interface need to have the knowledge to prepare their homes and property to be as safe and defensible as possible.
Plan for Implementation and Administration:	Educational workshops to be put on for homeowners associations and/or in rural communities to provide homeowners with property in the wildland/urban interface information on steps that they can take on their own to defend their property from wildfire. Existing programs such as the FIREWISE Communities USA program could be used to supplement local knowledge and expertise provided by the local fire departments and the Kansas Forest Service in providing the needed information at these workshops.
Lead Agency:	Kansas Forest Service and local Fire Departments
Partners:	Home owners associations, rural communities
Potential Funding Source:	Kansas Forest Service and federal grants
Total Cost:	Materials and presenter time per workshop is estimated to be approximately \$500.
Benefits (Losses Avoided):	Losses avoided would be lessening the chances for a fire to spread from vegetation (wildland fuels) to man-made (urban fuels).
Completion Date:	On-going

PWWSO #4-1	Install back-up generator at pump house
Issue/Background:	A generator is needed at the pump house to maintain water supply to districts during power outages
Plan for Implementation and Administration:	Install generator and transfer switch for pump house
Lead Agency:	Public Wholesale Water Supply District #4
Partners:	All wholesale members
Potential Funding Source:	Reserves or HMGP
Total Cost:	\$25,000
Benefits (Losses Avoided):	Maintain water supply
Completion Date:	5 years

RWD #6-1 RWD #7-2 RWD #10-2	Map Pipelines
Issue/Background:	This would allow anyone in need of locating line to find them

Plan for Implementation and Administration:	Work with Kansas Rural Water Association mapping to complete the locating and plotting lines
Lead Agency:	Rural Water Districts
Partners:	Rural Water Districts Kansas Rural Water Association
Potential Funding Source:	
Total Cost:	\$10,000
Benefits (Losses Avoided):	This would help to locate lines for construction and would avoid accidental water line breaks
Completion Date:	Ongoing

RWD #6-2 RWD #7-1 RWD #10-1	Install back-up generators for pumps
Issue/Background:	When power goes out, the supply pumps go off. This stops flow of water to homes
Plan for Implementation and Administration:	Work with Kansas Rural Water Districts to design system
Lead Agency:	Rural Water Districts
Partners:	Rural Water Districts, Kansas Rural Water Association
Potential Funding Source:	
Total Cost:	\$25,000 for each pump
Benefits (Losses Avoided):	Maintain supply of water to customers
Completion Date:	9 months

RWD #6-3 RWD #7-3 RWD #10-3	Perimeter monitoring
Issue/Background:	Vandalism could jeopardize water supply

Plan for Implementation and Administration:	Monitoring cameras, fencing
Lead Agency:	Rural Water Districts
Partners:	Rural Water Districts, Kansas Rural Water Association
Potential Funding Source:	
Total Cost:	\$10,000 to \$25,000 per site
Benefits (Losses Avoided):	Safe water supply
Completion Date:	N/A

RWD #8-1 RWD #13-1	Connect Water Supply Systems of RWD #8 and RWD #13
Issue/Background:	KDHE requires that each RWD has an emergency water supply. In case the districts' water supply is interrupted for any reason, (flood, bad water, etc.), safe water could still be supplied.
Plan for Implementation and Administration:	RWD #8 and RWD #13 has water lines running within 2 ½ miles of each other. By installing 2 ½ miles of 4" water line, two pumps, two meters and a timer each district would be able to comply with KDHE's requirement for an emergency water supply. RWD #8 could supply RWD #13 – RWD #13 could supply RWD #8.
Lead Agency:	RWD #8
Partners:	RWD #8 and RWD #13
Potential Funding Source:	Neither district has any excess funds. The action will have to be funded by grants from FEMA and Kansas Rural Water Association.
Total Cost:	+/- \$50,000
Benefits (Losses Avoided):	This venture would connect 2 water districts serving approximately 190 customers if an emergency happens.
Completion Date:	ASAP

RWD #12-1	Reinforce water tower to withstand high winds and peripheral winds from tornadoes
Issue/Background:	Water tower is vulnerable to destruction by tornado, high winds
Plan for Implementation and Administration:	Determine if wind retrofits are feasible and implement

Lead Agency:	Rural Water District #12 Board of Directors
Partners:	All members and PWWSD #4
Potential Funding Source:	HMGP or Kansas SRF Loan
Total Cost:	To be determined
Benefits (Losses Avoided):	Tower would cost \$250,000 to replace
Completion Date:	To be determined

4.3.13 Actions Developed for the Private Non-profit Entities

Table 4.14. Mitigation Action Matrix-Private Non-profit Entities

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Radiant Electric Cooperative-1	Installation of lightning arrestors on distribution power line structures	Lightning Arresting Systems on Buildings and Power Infrastructure	L	19	4	Lightning
Radiant Electric Cooperative-2	Replace copper weld wire and pole line spans to current codes and standards	Ice Storm Mitigation for Utility Lines	L	20	4	Winter Storm
Radiant Electric Cooperative-3	Relocation/elevation of power line and related infrastructure facilities out of floodplain	Floodproof Power Plants and Infrastructure	M	20	4	Flood
Coffeyville Regional Medical Center-1	Construct Safe room at Coffeyville Regional Medical Center	Community/Hospital Tornado Shelters	H	24	1	Tornado
American Red Cross-1	Promote private insurance	Public Information/Emergency Procedures	M	20	2	All Hazards
Mercy Hospital-1	Construct safe room at Mercy Hospital	Community/Hospital Tornado Shelters	H	19	1	Tornado

Action ID	Action	Action Category	Priority	Score	Goals	Hazards Addressed
Private Non-profit Schools-1	Construct safe rooms in private schools	Safe Rooms in Schools	H	STAPLEE	1	Tornado
Private Non-profit Schools-2	Evaluate safe rooms in private schools	Safe Rooms in Schools	H		1	Tornado

Radiant Electric Cooperative-1	Installation of lightning arrestors on distribution power line structures
Issue/Background:	Service areas are prone to lightning strikes and damage. Potentially resulting in service outage and loss of equipment.
Plan for Implementation and Administration:	Rural Utilities Service distribution line construction standards recommend 4 arrestors per mile installed on single phase lines, and 12 arrestors per mile for multiple phase lines. The cost of installation and arrestors is approximately \$250 per arrestor. We routinely install arrestors as a part of our on going maintenance and construction work plans. We estimate approximately a total of 600 miles of distribution line in Montgomery county-serving the rural areas around Cherryvale, Coffeyville, Caney and Independence
Lead Agency:	Radiant Electric Cooperative, Inc. , 9346 Jewell Road, Fredonia KS 66736
Partners:	Private Non- Profit Organization
Potential Funding Source:	Rural Utilities Service, U.S. Department of Agriculture; General Funds for maintenance; FEMA/ SEMA Mitigation
Total Cost:	Areas remaining not currently with arrestors: Estimate approximately 200 miles of single phase line @ 4 arrestors per mile @ \$250 per arrestor = \$200,000; and Estimate approximately 25 miles of multiple phase line @ 12 arrestors per mile @ \$250 per arrestor = \$75,000
Benefits (Losses Avoided):	Reduction of power outages including service to homes, businesses, rural water districts and pipeline infrastructure. Approximate plant value \$525,000
Completion Date:	One year or more

Radiant Electric Cooperative-2	Replace copper weld wire and pole line spans to current codes and standards
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Issue/Background:	During the 2002 ice storm, the areas most adversely affected were those with the copper weld wire. We continually upgrade and replace known areas with the wire throughout our service territory.
Plan for Implementation and Administration:	Conduct a survey of remaining areas served by the copper weld wire. Infrastructure analysed to determine service areas remaining served by the copper weld wire. Then a defined work plan could be developed.
Lead Agency:	Radiant Electric Cooperative, Inc., 9346 Jewell Road, Fredonia KS 66736
Partners:	Private Non- Profit Organization
Potential Funding Source:	Rural Utilities Service, U.S. Department of Agriculture; FEMA/ KDEM Mitigation
Total Cost:	Depends on miles to be replaced: estimate cost of \$50,000 per mile- estimate miles in Montgomery County rural service area: 50 miles = \$2,500,000
Benefits (Losses Avoided):	Estimate 100 miles total @ \$5,000,000
Completion Date:	Twelve months

Radiant Electric Cooperative-3	Relocation/elevation of power line and related infrastructure facilities out of floodplain
Issue/Background:	Radiant Electric Cooperative Provides service to approximately 230 meters from a metering point currently served by the Westar substation located behind the Coffeyville Resources Refinery. The distribution lines serve meters across the Verdigris River- north of the refinery into the Liberty area, and crossing the river west for service into the Montgomery County State Lake area.
Plan for Implementation and Administration:	Rebuild the areas of line crossing the river to withstand the flood waters and flood debris. Elevating Poles and line structures and reinforcement of those structures.
Lead Agency:	Radiant Electric Cooperative Inc., 9346 Jewell Rd, Fredonia KS 66736
Partners:	Private Non- Profit Organization
Potential Funding Source:	Rural Utilities Service, U.S. Department of Agriculture; FEMA/ KDEM Mitigation
Total Cost:	2 miles of single phase and ½ mile of dual phase distribution line for a total estimate cost of \$200,000
Benefits (Losses Avoided):	Benefits- service maintained to 230 meters serving homes and business, as well as rural water districts. Estimated existing plant value of \$500,000
Completion Date:	Project could be completed from design to construction completion in 60 days.

Coffeyville Regional Medical Center-1	Construct Safe room at Coffeyville Regional Medical Center
Issue/Background:	Coffeyville Regional Medical Center does not currently have an area equipped to shelter patients and staff in the event of a tornado
Plan for Implementation and Administration:	Coffeyville Regional Medical Center's intention is to use the mitigation funds to assist in construction of a saferoom addition underneath the proposed radiation oncology building. The area would be used as a disaster care site as well as a tornado safe room. This safe room would be used for housing patient population during times of disasters or during times of inclement weather that has the possibility to spawn tornados that could devastate the above ground floors. The safe room would be built specifically to handle medical and special needs patients. This alternate care site would be fitted with the capability to provide additional medical services to include oxygen ports, generator power to run medical equipment to include intravenous administration pumps, cardiac and vital sign monitors.
Lead Agency:	Coffeyville Regional Medical Administration
Partners:	Coffeyville Regional Medical Center Foundation
Potential Funding Source:	HMGP, Coffeyville Regional Medical Center
Total Cost:	\$1.6 Million
Benefits (Losses Avoided):	Life safety
Completion Date:	2 years

American Red Cross-1	Promote private insurance
Issue/Background:	Lack of insurance coverage for hail, lightning, and fire by the residents of the county
Plan for Implementation and Administration:	Public education, presentations, meetings, etc.
Lead Agency:	American Red Cross Disaster Services
Partners:	Insurance Agencies
Potential Funding Source:	N/A
Total Cost:	N/A
Benefits (Losses Avoided):	Decrease the amount of losses suffered by residents of Montgomery County
Completion Date:	1 year

Mercy Hospital-1	Construct safe room at Mercy Hospital
Issue/Background:	Current saferoom, which is the hospital cafeteria, is very old and will be torn down in the next two years.
Plan for Implementation and Administration:	A new cafeteria will be built to replace the old one. A saferoom could be incorporated into the construction design.
Lead Agency:	Mercy Hospital
Partners:	Fund raising
Potential Funding Source:	HMGP, Sisters of Mercy
Total Cost:	\$4,000,000
Benefits (Losses Avoided):	Life safety
Completion Date:	18 months

Private Non-profit Schools-1	Construct safe rooms in private schools
Issue/Background:	Not all private schools have adequate tornado shelters
Plan for Implementation and Administration:	Construct safe rooms
Lead Agency:	Individual private school councils or boards
Partners:	St. Andrew School Zion Lutheran School Independence Bible School
Potential Funding Source:	HMGP
Total Cost:	Varies based upon project.
Benefits (Losses Avoided):	Life Safety
Completion Date:	Various

4.4 Mitigation Actions in Support of the National Flood Insurance Program

Montgomery County and the cities of Caney, Cherryvale, Coffeyville, Elk City and Independence are committed to continued participation and compliance with the National Flood Insurance Program (NFIP). In addition, Dearing is in the process of completing the steps necessary to join the NFIP. Specific actions that were identified in support of the National Flood Insurance Program are summarized in Table 4.15 below:

Table 4.15 Specific Actions in Support of the NFIP

Action ID	Action
County-3	Promote Flood Insurance
County-7	Buyout Floodprone Property
County-12	Continue to participate in the National Flood Insurance Program
Caney-2	Continue to participate in the NFIP in good standing and manage floodplain in accordance with currently adopted Floodplain Management Ordinance
Cherryvale-1	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Coffeyville-5	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Coffeyville-9	Floodprone property buyout in Coffeyville
Dearing-7	Continue process to join National Flood Insurance Program-- *Note-this action was completed during the drafting stage of this plan. Effective NFIP participation date was October 28, 2008.
Elk City-9	Continue to participate in the National Flood Insurance

Program	
Independence-9	Continue to participate in the National Flood Insurance Program in good standing and manage the floodplain in accordance with the currently adopted Floodplain Management Ordinance
Independence-10	Purchase floodprone property in the 100-year floodplain

Specifics on implementation of each of the above actions can be found in Section 4.3 in the tables following each jurisdiction's complete list of identified actions.