

4 MITIGATION STRATEGY

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44 CFR Requirement §201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section presents the mitigation strategy updated by the Mitigation Planning Committee (MPC) based on the [updated] risk assessment. The mitigation strategy was developed through a collaborative group process. The process included review of [updated] general goal statements to guide the jurisdictions in lessening disaster impacts as well as specific mitigation actions to directly reduce vulnerability to hazards and losses. The following definitions are taken from FEMA’s *Local Hazard Mitigation Review Guide (October 1, 2012)*.

- **Mitigation Goals** are general guidelines that explain what you want to achieve. Goals are long-term policy statements and global visions that support the mitigation strategy. The goals address the risk of hazards identified in the plan.
- **Mitigation Actions** are specific actions, projects, activities, or processes taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. Implementing mitigation actions helps achieve the plan’s mission and goals.

4.1 Goals

44 CFR Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

This planning effort is an update to County A’s existing hazard mitigation plan approved by FEMA on May 24, 2017. Therefore, the goals from the [year of prior approval] County A Hazard Mitigation Plan were reviewed to see if they were still valid, feasible, practical, and applicable to the defined hazard impacts. The MPC conducted a discussion session during their second meeting to review and update the plan goals. To ensure that the goals developed for this update were comprehensive and supported State goals, the 2018 State Hazard Mitigation Plan goals were reviewed. The MPC also reviewed the goals from current surrounding county plans.

Goal 1: Protect the lives and livelihoods of all the citizens

Goal 2: Decrease the impact of natural hazards

Goal 3: Ensure continued operation of government and emergency function in a disaster

4.2 Identification and Analysis of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

During the MPC meeting, the results of the risk assessment update were provided to the MPC members for review and the key issues were identified for specific hazards. Changes in risk since adoption of the previously approved plan were discussed. Actions from the previous plan included completed actions, on-going actions, and actions upon which progress had not been made. The MPC discussed SEMA's identified funding priorities and the types of mitigation actions generally recognized by FEMA.

The MPC included problem statements in the plan update at the end of each hazard profile. The problem statements summarize the risk to the planning area presented by each hazard and include possible methods to reduce that risk. Use of the problem statements allowed the MPC to recognize new and innovative strategies for mitigate risks in the planning area.

The focus of the Planning Meeting was to update of the mitigation strategy. For a comprehensive range of mitigation actions to consider, the MPC reviewed the following information during the meeting:

- A list of actions proposed in the previous mitigation plan, the current State Plan, and approved plans in surrounding counties,
- Key issues from the risk assessments, including the problem statements concluding each hazard profile and vulnerability analysis,
- State priorities established for HMA grants, and
- Public input during meetings, responses to data collection questionnaires, and other efforts to involve the public in the plan development process.

For the Planning Meeting, individual jurisdictions, including school and special districts, developed final mitigation strategy for submission to the MPC. They were encouraged to review the details of the risk assessment vulnerability analysis specific to their jurisdiction. They were also provided a link to the FEMA's publication, *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*. This document was developed by FEMA as a resource for identification of a range of potential mitigation actions for reducing risk to natural hazards and disasters.

The MPC reviewed the actions from the previously approved plan for progress made since the plan had been adopted, using worksheets included in Appendix C of this plan. During the Planning Meeting, the list of actions for each jurisdiction was provided the jurisdiction's MPC representative along with the worksheets. Each jurisdiction was instructed to provide information regarding the "Action Status" with one of the following status choices:

- Completed, with a description of the progress;
- Ongoing, with a description of the progress made to date; or
- Not Yet Started, with a discussion of the reasons for lack of progress.

Additionally, the future inclusion of each mitigation action in the plan update was identified as either keep, delete, or modify. Based on the status updates, there were 0 completed actions, 10 continuing actions (either ongoing or modified), and 20 deleted actions.

Table 4.1 provides a summary of the action statuses for each jurisdiction:

Table 4.1. Action Status Summary

Jurisdiction	Completed Actions	Continuing Actions (ongoing or modify)	Deleted Actions
Pike County	0	2	4
City of Bowling Green	0	2	12
City of Louisiana	0	3	2
City of Clarksville	0	1	2
Bowling Green R-I	0	0	0
Louisiana R-II	0	1	0
Pike County R-III	0	1	0

Table 4.2 provides a summary of the completed and deleted actions from the previous plan.

Table 4.2. Summary of Completed and Deleted Actions from the Previous Plan

Completed Actions	Completion Details (date, amount, funding source)
Deleted Actions	Reason for Deletion
Pike County	
Safe Room/Storm Shelter for School Districts	Schools implemented this as their action item.
Inspect and Maintain Levees	Action was determined to be an everyday item.
Surface Water Drainage	Action was determined to be an everyday item.
Promote NOAA Radio Use and Group Cast	Action was determined to be an everyday item.
City of Bowling Green	
Education	Action was determined to be an everyday item.
Transportation Infrastructure	Action was determined to be an everyday item.
Emergency Exercises	Action was determined to be an everyday item – Not measurable.
Mutual Aid	Action was determined to be an everyday item.
Emergency Warning	Action was determined to be an everyday item.
Knox Box	Action was determined to be an everyday item.
Tree and Debris Removal	Action was determined to be an everyday item.
Flooding	Action was determined to be an everyday item.
Snow and Ice	Action was determined to be an everyday item.
Code Enforcement	Action was determined to be an everyday item.
Drought Control	Action was determined to be an everyday item.
Wild Fires	Action was determined to be an everyday item.
Dam Failure	Action was determined to be an everyday item.
City of Louisiana	
Post Education Brochures (related to natural occurring disasters)	Action was determined to be an everyday item.
Local Business EOP	Action was determined to be an everyday item – Would not seek grant funding for action.
City of Clarksville	
Post Education Brochures (related to natural occurring disasters)	Action was determined to be an everyday item.
Promote NOAA Radio Use	Action was determined to be an everyday item.

Source: Previously approved County Hazard Mitigation Plan; Data Collection Questionnaires

4.3 Implementation of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include an action strategy describing how the actions identified in paragraph (c)(2)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefits review of the proposed projects and their associated costs.

Jurisdictional MPC members were encouraged to meet with others in their community to finalize the actions to be submitted for the updated mitigation strategy. Throughout the MPC consideration and discussion, emphasis was placed on the importance of a benefit-cost analysis in determining project priority. The Disaster Mitigation Act requires benefit-cost review as the primary method by which mitigation projects should be prioritized. The MPC decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and priorities identified in the 2018 Missouri State Hazard Mitigation Plan. The benefit/cost review at the planning stage primarily consisted of a qualitative analysis and was not the detailed process required grant funding application. For each action, the plan sets forth a narrative describing the types of benefits that could be realized from action implementation. The cost was estimated as closely as possible, with further refinement to be supplied as project development occurs.

FEMA's STAPLEE methodology was used to assess the costs and benefits, overall feasibility of mitigation actions, and other issues impacting project. During the prioritization process, the jurisdictions used worksheets to assign scores. The worksheets posed questions based on the STAPLEE elements as well as the potential mitigation effectiveness of each action. Scores were based on the responses to the questions as follows:

Definitely YES = 3 points
Maybe YES = 2 points
Probably NO = 1 points
Definitely NO = 0 points

The following questions were asked for each proposed action.

S: Is the action socially acceptable?
T: Is the action technically feasible and potentially successful?
A: Does the jurisdiction have the administrative capability to successfully implement this action?
P: Is the action politically acceptable?
L: Does the jurisdiction have the legal authority to implement the action?
E: Is the action economically beneficial?
E: Will the project have an environmental impact that is either beneficial or neutral? (score "3" if positive and "2" if neutral)

Will the implemented action result in lives saved?
Will the implanted action result in a reduction of disaster damage?

The final scores are listed below in the analysis of each action. The STAPLEE final score for each action, absent other considerations, such as a localized need for a project, determined the priority. Low priority action items were those that had a total score of between 0 and 24. Moderate priority actions were those scoring between 25 and 29. High priority actions scored 30 or above. A blank STAPLEE worksheet is shown in Figure 4.1

Figure 4.1. Blank STAPLEE Worksheet

STAPLEE Worksheet		
Name of Jurisdiction:		
Action or Project		
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)	
Name of Action or Project:		
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		
T: Is it Technically feasible and potentially successful?		
A: Does the jurisdiction have the Administrative capacity to execute this action?		
P: Is it Politically acceptable?		
L: Is there Legal authority to implement?		
E: Is it Economically beneficial?		
E: Will the project have either a neutral or positive impact on the natural Environment ?		
Will historic structures be saved or protected?		
Could it be implemented quickly?		
STAPLEE SCORE		
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	
MITIGATION EFFECTIVENESS SCORE		
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		
<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by _____
(Name, Title, Phone Number)

ACTION WORKSHEET

Action Worksheet	
Name of Jurisdiction:	
Risk / Vulnerability	
Hazard(s) Addressed:	List the hazard or hazards that will be addressed by this action
Problem being Mitigated:	Provide a brief description of the problem that the action will address. Utilize the problem statement developed in the risk assessment.
Action or Project	
Applicable Goal Statement:	Choose the goal statement that applies to this action
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)
Name of Action or Project:	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services
Action or Project Description:	Describe the action or project.
Estimated Cost:	Provide an estimate of the cost to implement this action. This can be accomplished with a range of estimated costs.
Benefits:	Provide a narrative describing the losses that will be avoided by implementing this action. If dollar amounts of avoided losses are known, include them as well.
Plan for Implementation	
Responsible Organization/Department:	Which organization will be responsible for tracking this action? Be specific to include the specific department or position within a department.
Supporting Organization/Department:	Which organization/department will assist in implementation of this action?
Action/Project Priority:	Include the STAPLEE score and Priority (H, M, L)
Timeline for Completion:	How many months/years to complete.
Potential Fund Sources:	List specific funding sources that may be used to pay for the implementation of the action.
Local Planning Mechanisms to be Used in Implementation, if any:	
Progress Report	
Action Status:	Indicate status as New, Continuing Not Started, or Continuing in Progress)
Report of Progress:	For Continuing actions only, indicate the report on progress. If the action is not started, indicate any barriers encountered to initiate the action. If the action is in progress, indicate the activity that has occurred to date.

Action Worksheet	
Name of Jurisdiction:	Pike County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	NFIP Participation Continuation
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Pike County 2021.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Emergency Services, Prevention, Structure and Infrastructure Projects, Education and Outreach
Action or Project Description:	Continue Pike County participation and good standing in the National Flood Insurance Program by adoption and enforcement of floodplain management requirements
Estimated Cost:	\$50,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	County Commission
Supporting Organization/Department:	Emergency Management Director
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	County Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	Pike County
Risk / Vulnerability	
Hazard(s) Addressed:	All Hazards
Problem being Mitigated:	Emergency Operations Center
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Pike County 2021.2
Name of Action or Project:	Emergency Operations Center
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Evaluate and update the emergency operations center with the installation of a generator.
Estimated Cost:	\$250,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	County Commission
Supporting Organization/Department:	Emergency Management Director
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	County Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Pike County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Flooding of residential structures located in floodplains
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Pike County 2021.3
Name of Action or Project:	House Raising in Floodplains
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Elevate homes below ord. 60.3 levels. Includes homes below 100 year level & 2 feet.
Estimated Cost:	\$300,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	County Commission
Supporting Organization/Department:	Emergency Management Director
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	County Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Bowling Green
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	NFIP Participation Continuation
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Bowling Green 2021.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Emergency Services, Prevention, Structure and Infrastructure Projects, Education and Outreach
Action or Project Description:	Continue the City's participation and good standing in the National Flood Insurance Program by adoption and enforcement of floodplain management requirements
Estimated Cost:	\$50,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	City Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	City of Bowling Green
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Tornadoes or Wind Storms
Problem being Mitigated:	Lack of shelter for residents
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Bowling Green 2021.2
Name of Action or Project:	Safe Room and Storm Shelter
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Build safe rooms and establish local ordinances requiring community storm shelters throughout the city.
Estimated Cost:	\$2M
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Action Worksheet	
Name of Jurisdiction:	Bowling Green R-I School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Tornadoes or Wind Storms
Problem being Mitigated:	Lack of shelter for students and staff
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Bowling Green R-I 2021.1
Name of Action or Project:	Safe Room and Storm Shelter
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Build safe rooms on school campus.
Estimated Cost:	\$2M
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Action Worksheet	
Name of Jurisdiction:	City of Louisiana
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	NFIP Participation Continuation
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Louisiana 2021.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Emergency Services, Prevention, Structure and Infrastructure Projects, Education and Outreach
Action or Project Description:	Continue the City's participation and good standing in the National Flood Insurance Program by adoption and enforcement of floodplain management requirements
Estimated Cost:	\$50,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	City Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	City of Louisiana
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Loss of electrical power to emergency shelters/critical facilities
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Louisiana 2021.2
Name of Action or Project:	Generator for Shelters/critical facilities
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Obtain a generator for shelters as funds become available.
Estimated Cost:	\$65,000
Benefits:	Generator will allow for continues use of shelters/critical facilities for service to citizens in the event of an outage, this would be beneficial during any hazard.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds/RHSOC
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Louisiana
Risk / Vulnerability	
Hazard(s) Addressed:	All Hazards
Problem being Mitigated:	Residents may not be aware of pending natural disasters or what to do/what resources are available after its occurrence.
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Louisiana 2021.3
Name of Action or Project:	Local Cable Channel
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Install local cable channel so all residents with a television can access.
Estimated Cost:	\$250,000
Benefits:	Keep residents informed on natural disasters with real time updates.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Louisiana
Risk / Vulnerability	
Hazard(s) Addressed:	All Hazards
Problem being Mitigated:	Provide early warning to residents
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Louisiana 2021.4
Name of Action or Project:	Warning Siren
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the County needing a siren or the siren upgraded.
Estimated Cost:	\$50,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 – 5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Louisiana R-II School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Tornadoes or Wind Storms
Problem being Mitigated:	Lack of shelter for students and staff
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Louisiana R-II 2021.1
Name of Action or Project:	Safe Room and Storm Shelter
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Build safe rooms on school campus.
Estimated Cost:	\$2M
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Action Worksheet	
Name of Jurisdiction:	City of Clarksville
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	NFIP Participation Continuation
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Clarksville 2021.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Emergency Services, Prevention, Structure and Infrastructure Projects, Education and Outreach
Action or Project Description:	Continue the City's participation and good standing in the National Flood Insurance Program by adoption and enforcement of floodplain management requirements
Estimated Cost:	\$50,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	City Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	City of Clarksville
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Loss of electrical power to emergency shelters/critical facilities
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Clarksville 2021.2
Name of Action or Project:	Generator for Shelters/critical facilities
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Obtain a generator for shelters as funds become available.
Estimated Cost:	\$65,000
Benefits:	Generator will allow for continues use of shelters/critical facilities for service to citizens in the event of an outage, this would be beneficial during any hazard.
Plan for Implementation	
Responsible Organization/Department:	Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds/RHSOC
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Clarksville
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	River Flooding throughout the City
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards.
Action/Project Number:	Clarksville 2021.3
Name of Action or Project:	Flood Protection System
Mitigation Category:	Prevention, Structure and Infrastructure, Emergency Services
Action or Project Description:	Implement flood mitigation activities to eliminate effects on City residents. Enhancement of existing floodwalls/dams/levees, and installation of new flood walls/dams/levees at necessary locations determined by past flooding events and floodplain maps.
Estimated Cost:	\$3,000,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the City.
Plan for Implementation	
Responsible Organization/Department:	City Administrator, Mayor
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Funds, EDA Disaster Funds, CDBG
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	Continue
Report of Progress:	Seeking Funding

Action Worksheet	
Name of Jurisdiction:	Pike County R-III School District
Risk / Vulnerability	
Hazard(s) Addressed:	Severe Thunderstorms, Tornadoes or Wind Storms
Problem being Mitigated:	Lack of shelter for students and staff
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Pike County R-III 2021.1
Name of Action or Project:	Safe Room and Storm Shelter
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Build safe rooms on the main and west school campuses.
Estimated Cost:	\$2M
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Action Worksheet	
Name of Jurisdiction:	Pike County R-III School District
Risk / Vulnerability	
Hazard(s) Addressed:	All Hazards
Problem being Mitigated:	Provide early warning to students and staff
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Pike County R-III 2021.2
Name of Action or Project:	Warning Alarm System
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Installation or the upgrade of warning/alarm systems for the main and west school campuses.
Estimated Cost:	\$50,000
Benefits:	With adequate time for warning of storms, students and staff are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	1 – 5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	Pike County R-III School District
Risk / Vulnerability	
Hazard(s) Addressed:	All Hazards
Problem being Mitigated:	Wildfire
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens.
Action/Project Number:	Pike County R-III 2021.3
Name of Action or Project:	Fire Alarm/Suppression System
Mitigation Category:	Emergency Services, Prevention, Structure and Infrastructure Projects
Action or Project Description:	Installation or the upgrade of fire alarm/suppression systems for Clopton Elementary, Middle and High Schools, and the west and main Pike County R-III school campuses
Estimated Cost:	\$50,000
Benefits:	With adequate time for warning of fires, students and staff are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	1 – 5 years
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	Pike County R-III School District
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Parking lots and access roads in poor shape
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Pike County R-III 2021.4
Name of Action or Project:	Campus Improvements
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Improve parking lots and access roads at all campus locations to better allow for safe travel around school campus for students, staff, visitors, emergency personnel, etc.
Estimated Cost:	\$250,000
Benefits:	Correcting structural damages and issues is vital in mitigating damages from disasters
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Master Plan
Progress Report	
Action Status:	New
Report of Progress:	New

Action Worksheet	
Name of Jurisdiction:	Mudlick Prairie Levee District
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Levee Failure
Problem being Mitigated:	If conditions of the Mudlick Prairie Levee District are not maintained, the structural integrity of the levee will be threatened. A breach of the levee results in devastating losses for the levee protected area.
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Mudlick Prairie 2021.1
Name of Action or Project:	Flood and Levee Mitigation
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Implement flood mitigation activities to eliminate effects on levee district residents by working with the Army Corps of Engineers to inspect levees annually, obtain the inspection report, and implement suggestions/repair deficiencies provided in the inspection report.
Estimated Cost:	\$200,000 – \$1,000,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the levee district.
Plan for Implementation	
Responsible Organization/Department:	Levee District Commission
Supporting Organization/Department:	US Army Corps of Engineers, Emergency Management Director
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds, Drainage District Assessment, Special Assessment, Tax Warrants, Bonds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Action Worksheet	
Name of Jurisdiction:	Pike Grain Drainage District
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Levee Failure
Problem being Mitigated:	If conditions of the Pike Grain Drainage District are not maintained, the structural integrity of the levee will be threatened. A breach of the levee results in devastating loses for the levee protected area.
Action or Project	
Applicable Goal Statement:	Goal 1: Protect the lives and livelihoods of all the citizens. Goal 2: Decrease the impact of natural hazards. Goal 3: Ensure continued operation of government and emergency function in a disaster.
Action/Project Number:	Pike Grain 2021.1
Name of Action or Project:	Flood and Levee Mitigation
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Implement flood mitigation activities to eliminate effects on levee district residents by working with the Army Corps of Engineers to inspect levees annually, obtain the inspection report, and implement suggestions/repair deficiencies provided in the inspection report.
Estimated Cost:	\$200,000 – \$1,000,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the levee district.
Plan for Implementation	
Responsible Organization/Department:	Drainage District Commission
Supporting Organization/Department:	US Army Corps of Engineers, Emergency Management Director
Action/Project Priority:	High
Timeline for Completion:	1 year
Potential Fund Sources:	Hazard Mitigation Grant Funds, Drainage District Assessment, Special Assessment, Tax Warrants, Bonds
Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Progress Report	
Action Status:	New
Report of Progress:	New Project

Table 4.3. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
	Prevention Public Education							
Bowling Green 2021.2	Storm Shelter/Safe Room	Bowling Green	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Bowling Green R-I 2021.1	Storm Shelter/Safe Room	Bowling Green R-I	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Louisiana R-II 2021.1	Storm Shelter/Safe Room	Louisiana R-II	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Pike County R-III 2021.1	Storm Shelter/Safe Room	Pike County R-III	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Clarksville 2021.2	Generator for Shelters/Critical Facilities	Clarksville	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clarksville 2021.3	Flood Protection System	Clarksville	High	1, 2	Flooding	✓	✓	
Louisiana 2021.2	Generator for Shelters/Critical Facilities	Louisiana	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Louisiana 2021.3	Local Cable Channel	Louisiana	High	1	All Hazards	✓		
Louisiana 2021.4	Installation/Upgrade Sirens	Louisiana	High	1	All Hazards	✓		
Pike County R-III 2021.2	Warning/Alarm System	Pike County R-III	High	1	All Hazards	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Pike County R-III 2021.3	Fire Alarm/Suppression System	Pike County R-III	High	1	Wildfire	✓		
Pike County R-III 2021.4	Campus Improvements	Pike County R-III	High	1, 2, 3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornadoes	✓		
Mudlick Prairie 2021.1	Flood and Levee Mitigation	Mudlick Prairie Levee District	High	1, 2, 3	Flooding, Levee Failure	✓		
Pike Grain 2021.1	Flood and Levee Mitigation	Pike Grain Drainage District	High	1, 2, 3	Flooding, Levee Failure	✓		
	Structure and Infrastructure Projects							
Pike County 2021.1	NFIP Participation	Pike County	High	1, 2	Flooding	✓		✓
Bowling Green 2021.1	NFIP Participation	Bowling Green	High	1, 2	Flooding	✓		✓
Louisiana 2021.1	NFIP Participation	Louisiana	High	1, 2	Flooding	✓		✓
Clarksville 2021.1	NFIP Participation	Clarksville	High	1, 2	Flooding	✓		✓
Pike County 2021.2	Emergency Operations Center	Pike County	High	1	All Hazards	✓		
Pike County 2021.3	Housing Raising	Pike County	High	1	Flooding	✓		
Bowling Green 2021.2	Storm Shelter/Safe Room	Bowling Green	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Bowling Green R-I 2021.1	Storm Shelter/Safe Room	Bowling Green R-I	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Louisiana R-II 2021.1	Storm Shelter/Safe Room	Louisiana R-II	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Pike County R-III 2021.1	Storm Shelter/Safe Room	Pike County R-III	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Clarksville 2021.2	Generator for Shelters/Critical Facilities	Clarksville	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clarksville 2021.3	Flood Protection System	Clarksville	High	1, 2	Flooding	✓	✓	
Louisiana 2021.2	Generator for Shelters/Critical Facilities	Louisiana	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Louisiana 2021.3	Local Cable Channel	Louisiana	High	1	All Hazards	✓		
Louisiana 2021.4	Installation/Upgrade Sirens	Louisiana	High	1	All Hazards	✓		
Pike County R-III 2021.2	Warning/Alarm System	Pike County R-III	High	1	All Hazards	✓		
Pike County R-III 2021.3	Fire Alarm/Suppression System	Pike County R-III	High	1	Wildfire	✓		
Pike County R-III 2021.4	Campus Improvements	Pike County R-III	High	1, 2, 3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornadoes	✓		
Mudlick Prairie 2021.1	Flood and Levee Mitigation	Mudlick Prairie Levee District	High	1, 2, 3	Flooding, Levee Failure	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Pike Grain 2021.1	Flood and Levee Mitigation	Pike Grain Drainage District	High	1, 2, 3	Flooding, Levee Failure	✓		
Natural Systems Protection								
Pike County 2021.1	NFIP Participation	Pike County	High	1, 2	Flooding	✓		✓
Bowling Green 2021.1	NFIP Participation	Bowling Green	High	1, 2	Flooding	✓		✓
Louisiana 2021.1	NFIP Participation	Louisiana	High	1, 2	Flooding	✓		✓
Clarksville 2021.1	NFIP Participation	Clarksville	High	1, 2	Flooding	✓		✓
Emergency Services								
Pike County 2021.1	NFIP Participation	Pike County	High	1, 2	Flooding	✓		✓
Bowling Green 2021.1	NFIP Participation	Bowling Green	High	1, 2	Flooding	✓		✓
Louisiana 2021.1	NFIP Participation	Louisiana	High	1, 2	Flooding	✓		✓
Clarksville 2021.1	NFIP Participation	Clarksville	High	1, 2	Flooding	✓		✓
Pike County 2021.2	Emergency Operations Center	Pike County	High	1	All Hazards	✓		
Pike County 2021.3	Housing Raising	Pike County	High	1	Flooding	✓		
Bowling Green 2021.2	Storm Shelter/Safe Room	Bowling Green	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Bowling Green R-I 2021.1	Storm Shelter/Safe Room	Bowling Green R-I	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Louisiana R-II 2021.1	Storm Shelter/Safe Room	Louisiana R-II	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Pike County R-III 2021.1	Storm Shelter/Safe Room	Pike County R-III	High	1, 2, 3	Severe Thunderstorms, Tornadoes, Wind Storms	✓		
Clarksville 2021.2	Generator for Shelters/Critical Facilities	Clarksville	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Clarksville 2021.3	Flood Protection System	Clarksville	High	1, 2	Flooding	✓	✓	
Louisiana 2021.2	Generator for Shelters/Critical Facilities	Louisiana	High	1, 2	Extreme Temperature, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Louisiana 2021.3	Local Cable Channel	Louisiana	High	1	All Hazards	✓		
Louisiana 2021.4	Installation/Upgrade Sirens	Louisiana	High	1	All Hazards	✓		
Mudlick Prairie 2021.1	Flood and Levee Mitigation	Mudlick Prairie Levee District	High	1, 2, 3	Flooding, Levee Failure	✓		
Pike Grain 2021.1	Flood and Levee Mitigation	Pike Grain Drainage District	High	1, 2, 3	Flooding, Levee Failure	✓		
Pike County R-III 2021.2	Warning/Alarm System	Pike County R-III	High	1	All Hazards	✓		
Pike County R-III 2021.3	Fire Alarm/Suppression System	Pike County R-III	High	1	Wildfire	✓		
Pike County R-III 2021.4	Campus Improvements	Pike County R-III	High	1, 2, 3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Education and Outreach								
Pike County 2021.1	NFIP Participation	Pike County	High	1, 2	Flooding	✓		✓
Bowling Green 2021.1	NFIP Participation	Bowling Green	High	1, 2	Flooding	✓		✓
Louisiana 2021.1	NFIP Participation	Louisiana	High	1, 2	Flooding	✓		✓
Clarksville 2021.1	NFIP Participation	Clarksville	High	1, 2	Flooding	✓		✓

