



1 INTRODUCTION AND PLANNING PROCESS

1.1 Purpose

Sumner County and thirteen other jurisdictions prepared this local hazard mitigation plan to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. This plan demonstrates the communities' commitments to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This plan was also developed to make Sumner County and participating jurisdictions eligible for certain federal disaster assistance, specifically, the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program, Pre-Disaster Mitigation program, and Flood Mitigation Assistance program.

1.2 Background and Scope

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.

Hazard mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of \$4 in avoided future losses in addition to saving lives and preventing injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005).

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies to lessen impacts are determined, prioritized, and implemented. This plan documents Sumner County's hazard mitigation planning process and identifies relevant hazards, vulnerabilities, and strategies the County and participating jurisdictions will use to decrease vulnerability and increase resiliency and sustainability in Sumner County.

The Sumner County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that geographically covers the participating jurisdictions within Sumner County's boundaries (hereinafter referred to as the planning area). The following fourteen jurisdictions participated in the planning process:

- Sumner County
- City of Argonia
- City of Belle Plaine
- City of Caldwell
- City of Conway Springs
- City of Geuda Springs
- City of Mulvane
- City of Oxford
- City of South Haven
- City of Wellington
- USD 356, Conway Springs
- USD 357, Belle Plaine
- USD 359, Argonia
- USD 509, South Haven

In addition to these jurisdictions that officially participated in the planning process, the following local organizations contributed to the planning effort:

- Belle Plaine Township
- Creek Township
- Gore Township
- London Township
- Palestine Township
- Wellington Township
- Caldwell Housing Authority
- Cowskin Drainage District
- Sumner County Hospital District #1
- USD 353, Wellington
- USD 360, Caldwell

This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the *Federal Register* on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007. (Hereafter, these requirements and regulations will be referred to collectively as the Disaster Mitigation Act.) While the act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the

requirements that local hazard mitigation plans must meet in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

Information in this plan will be used to help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The Sumner County planning area has been affected by hazards in the past and the participating jurisdictions are therefore committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.

1.3 Plan Organization

The Sumner County Multi-Hazard Mitigation Plan is organized as follows:

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

1.4 Planning Process

44 CFR Requirement 201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

In September 2008, Sumner County contracted with AMEC Earth and Environmental (AMEC) to facilitate the development of a multi-jurisdictional, multi-hazard mitigation plan. Sumner County Emergency Management took the lead in developing this plan with AMEC's assistance. AMEC's role was to:

- Assist in establishing the Hazard Mitigation Planning Committee (HMPC) as defined by the Disaster Mitigation Act (DMA),
- Ensure the developed plan meets the DMA requirements as established by federal regulations and following FEMA's planning guidance,
- Facilitate the entire planning process,
- Identify the data requirements that HMPC participants could provide and conduct the research and documentation necessary to augment that data,
- Assist in facilitating the public input process,
- Produce the draft and final plan documents, and
- Coordinate the Kansas Division of Emergency Management and FEMA Region VII plan reviews.

1.4.1 Multi-Jurisdictional Participation

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

Sumner County Emergency Management invited the following to participate in the multi-jurisdictional Sumner County Multi-Hazard Mitigation Plan:

- Incorporated cities
- Townships
- Unified School Districts
- Special districts
- Various county departments

In addition, AMEC provided meeting invitation notices to various state and federal agencies. The list of invited entities is included in Appendix B. The jurisdictions that elected to participate in this plan are listed above in section 1.2. The Disaster Mitigation Act requires that each jurisdiction participate in the planning process and officially adopt the multi-jurisdictional hazard mitigation plan. Each jurisdiction that chose to participate in the planning process and

development of the plan was required to meet plan participation requirements defined at the beginning of the process, which included the following:

- Designate a representative to serve on the HMPC
- Participate in at least one of three HMPC meetings by either direct representation or authorized representation
- Provide information to support the plan development by completing and returning the AMEC Data Collection Guide
- Identify mitigation actions for the plan (at least one)
- Review and comment on plan drafts
- Inform the public, local officials, and other interested parties about the planning process and provide an opportunity for them to comment on the plan
- Formally adopt the mitigation plan

All of the jurisdictions listed as official participants in this plan met all of these participation requirements.

Table 1.1 shows the representation of each participating jurisdiction at the planning meetings; sign-in sheets are included in Appendix B: Planning Process Documentation. Please note that some members of the HMPC represented more than one jurisdiction.

Table 1.1. Jurisdictional Participation in Planning Process

Jurisdiction	Meeting #1	Meeting #2	Meeting #3	Signed Proxy	Data Collection	Action
City of Argonia				X	X	X
City of Belle Plaine				X	X	X
City of Caldwell	X	X			X	X
City of Conway Springs				X	X	X
City of Geuda Springs				X	X	X
City of Mulvane				X	X	X
City of Oxford	X				X	X
City of South Haven	X				X	X
City of Wellington	X	X			X	X
Sumner County	X	X	X		X	X
USD 356 Conway Springs			X		X	X
USD 357 Belle Plaine		X			X	X
USD 359 Argonia			X		X	X
USD 509 South Haven				X	X	X

1.4.2 The 12-Step Planning Process

AMEC and Sumner County Emergency Management worked together to establish the framework and process for this planning effort using FEMA's *Local Multi-Hazard Mitigation Planning Guidance* (2008) and the State and Local Mitigation Planning How-To Guides (2001),

which include *Multi-Jurisdictional Mitigation Planning* (2006). The plan is structured around a four-phase process:

- 1) Organize resources
- 2) Assess risks
- 3) Develop the mitigation plan
- 4) Implement the plan and monitor progress

Into this process, AMEC integrated a modified detailed 12-step planning process used for FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. Thus, the modified 12-step process used for this plan meets the funding eligibility requirements of the Hazard Mitigation Grant Program, Pre-Disaster Mitigation program, Community Rating System, and Flood Mitigation Assistance program. Table 1.2 shows how the modified 12-step process fits into FEMA’s four-phase process.

Table 1.2. Mitigation Planning Process Used to Develop the Sumner County Multi-Hazard Mitigation Plan

DMA Process	Modified CRS Process
1) Organize Resources	
201.6(c)(1)	1) Organize the Planning Effort
201.6(b)(1)	2) Involve the Public
201.6(b)(2) and (3)	3) Coordinate with Other Departments and Agencies
2) Assess Risks	
201.6(c)(2)(i), (iii)	4) Identify the Hazards
201.6(c)(2)(i), (iii)	5) Profile the Hazards
201.6(c)(2)(ii), (iii)	6) Identify Assets
201.6(c)(2)(ii), (iii)	7) Estimate Losses
3) Develop the Mitigation Plan	
201.6(c)(3)(i)	8) Set Goals
201.6(c)(3)(ii)	9) Review Possible Activities
201.6(c)(3)(iii)	10) Draft an Action Plan
4) Implement the Plan and Monitor Progress	
201.6(c)(5)	11) Adopt the Plan
201.6(c)(4)	12) Implement, Evaluate, and Revise the Plan

Phase I Organize Resources

Step 1: Organize the Planning Effort

The planning process resulting in the preparation of this plan document officially began with a kickoff meeting on August 21, 2008. Sumner County Emergency Management mailed letters of invitation to the kickoff meeting to organizations listed in section 1.4.1. In addition, AMEC notified state, federal and other potentially interested parties via e-mail. These invite lists are included in Appendix B.

A Hazard Mitigation Planning Committee (HMPC) was created that includes representatives from each participating jurisdiction, departments of the County, and supporting entities. Although various state and federal agencies were notified of the meeting dates, none attended the planning meetings. However, information was provided from the following agencies to contribute to the plan: Kansas Department of Agriculture, Division of Water Resources, Kansas Department of Agriculture, Kansas Forest Service, Kansas Division of Emergency Management, and FEMA. During the Kickoff meeting attendees discussed potential participants and made decisions about additional stakeholders to invite to participate on the HMPC.

The HMPC contributed to this planning process by:

- providing facilities for meetings,
- attending and participating in meetings,
- collecting data,
- managing administrative details,
- making decisions on plan process and content,
- submitting mitigation action implementation worksheets,
- reviewing drafts, and
- coordinating and assisting with public involvement and plan adoptions.

The HMPC communicated during the planning process with a combination of face-to-face meetings, phone interviews, and email correspondence. The meeting schedule and topics are listed in Table 1.3. The sign-in sheets, agendas, and meeting minutes for each of the meetings are included in Appendix B.

Table 1.3. Schedule of HMPC Meetings

Meeting	Topic	Date
HMPC #1	Kickoff meeting: introduction to DMA, the planning process, and hazard identification. Distribution of data collection guide to jurisdictions. Preliminary hazard ranking results.	August 21, 2008
HMPC #2	Review of draft Risk Assessment, Development of plan goals and objectives; Discussed mitigation actions and prioritization	November 17, 2008
HMPC #3	School Districts Planning Meeting	February 11, 2009

During the kickoff meeting, AMEC presented information on the scope and purpose of the plan, participation requirements of HMPC members, and the proposed project work plan and schedule. Plans for public involvement (Step 2) and coordination with other agencies and departments (Step 3) were discussed. AMEC also introduced hazard identification requirements and data needs. The HMPC discussed past events and impacts and future probability for each of the hazards suggested by FEMA and the Kansas Division of Emergency Management for consideration in a local hazard mitigation plan. The HMPC refined the list of hazards to make it relevant to Sumner County.

Participants were given the AMEC Data Collection Guide to facilitate the collection of information needed to support the plan, such as data on historic hazard events, values at risk, and current capabilities. Each participating jurisdiction completed and returned the worksheets in the Data Collection Guide document to AMEC. AMEC integrated this information into the plan, supporting the development of Chapters 2 and 3.

Step 2: Plan for Public Involvement

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.

At the kickoff meeting, the HMPC discussed options for soliciting public input on the mitigation plan. The committee discussed holding a public meeting and determined from past experience that this would not be an effective way to reach out to the public. The committee determined that the most effective way to inform the public about the planning effort underway and achieve their input would be dissemination of a survey.

During the drafting stage, each committee member distributed a public survey to members of the public and key stakeholders in their own jurisdiction. This survey was developed specific to the Sumner County Mitigation Plan and provided a brief plan summary as well as a questionnaire to capture public and stakeholder input.

The survey, provided in Appendix B, asked the public to indicate which of the high-ranked hazards they had experienced damages/injuries or other bad effects. Table 1.4 provides the results from the 39 surveys completed.

Table 1.4 Public Perception of Hazard Impacts

Hazard	% Indicating damage, injury or bad effects
Utility Failure	82%
Hail	82%
Winter Storm	87%
Tornado	69%
Flood	21%

In the survey, the public was provided the HAZUS-generated estimated losses as a result of a 100-year flood. Then, participants were asked how important it is that their community participate or continue to participate in the National Flood Insurance Program. Of the respondents, 23% indicated that it is very important for their community to participate/continue to participate. Table 1.x provides the full results.

Table 1.5 Importance of Participation in the National Flood Insurance Program

Importance of Participation	% of Responses
Very Important	23%
Somewhat Important	49%
Not Important	18%
No Opinion	10%

The public was also asked to review the types of mitigation actions being considered by the Sumner County Hazard Mitigation Planning Committee for inclusion in the plan's mitigation strategy. The survey asked the public to place a check next to the types of mitigation actions that they felt should have the highest priority in the plan. Table 1.6 provides the compiled results of this question.

Table 1.6 Public Prioritization of Sumner County Mitigation Actions

Project Type	%Surveyed Indicated as a Priority Action
Acquisition/Demolition/Elevation of Flood-prone Properties	31%
Community Shelters, Shelters for Schools and Public Buildings	97%
Power Line Upgrades	72%
Protection of Critical Facilities	54%

The public was also given an opportunity to provide input on a draft of the complete plan prior to its submittal to the State and FEMA. From November 1-10, 2010, Sumner County provided the plan draft for review and comment on the Sumner County website at:

www.sumneremergencymanagement.com

In hard copy at the following locations:

Sumner County Emergency Management Office
219 W. 8th Street
Wellington, KS 67152
620.326.7376

Sumner County Clerk's Office
501 N. Washington
Wellington, KS 67152

Wellington Library
121 W. 7th St.
Wellington, KS 67152
620.326.2011

The jurisdictions announced the availability of the draft plan and the public comment period in the *Wellington News*. A copy of the article is provided in Appendix B.

The HMPC invited other targeted stakeholders to comment on the draft plan via e-mail, which is described in greater detail in Step 3: Coordinate with Other Departments and Agencies. Minor comments were received and incorporated.

Step 3: Coordinate with Other Departments and Agencies

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process. (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

There are numerous organizations whose goals and interests interface with hazard mitigation in Sumner County. Coordination with these organizations and other community planning efforts is vital to the success of this plan. Sumner County Emergency Management invited other local, state, and federal departments and agencies to the kickoff meeting to learn about the hazard

mitigation planning initiative. In addition, AMEC provided notification to additional state and federal agencies. Although other state and federal agencies were not able to attend the planning meetings, coordination occurred to obtain data to complete the risk assessment. For example, the Kansas Department of Agriculture, Division of Water Resources provided information from the NFIP Community Information System on NFIP participation, policies, and historical losses. In addition, the Kansas Department of Agriculture, Dam Safety Program provided information on dams and the Kansas Department of Agriculture, Forest Service provided wildfire assessments. The Kansas Division of Emergency Management provided information on past impacts of declared disasters in the County.

To facilitate coordination with neighboring communities and local and regional agencies involved in hazard mitigation activities, a list was compiled and an e-mail was disseminated to solicit review and comment on the draft of the Sumner County Multi-Hazard Mitigation Plan prior to submittal to the state and FEMA. The entities contacted include emergency management officials of adjacent counties, members of academic organizations, and state and federal agencies. The address list of those entities notified is provided in Appendix B. Due to the large planning area included in this effort and the vast number of other potential stakeholders in the business community, private non-profit organizations, and the general public, the news article and surveys distributed by each jurisdiction were utilized to ensure notification, inclusion, and opportunity for involvement from these sectors.

As part of the coordination with other agencies, the HMPC collected and reviewed existing technical data, reports, and plans. These included the Kansas State Hazard Mitigation Plan, Sumner County Basic Operations Plan, reports from the National Flood Insurance Program's Community Information System, Sumner County Flood Insurance Study (2009), Sumner County Digital Flood Insurance Rate Map, Dam Inundation Maps and Emergency Action Plans for state-regulated dams in the county, as well as other data from state and federal agencies. This information was used in the development of the hazard identification, vulnerability assessment, and capability assessment and in the formation of goals, objectives, and mitigation actions. These sources are documented throughout the plan and in Appendix A: References.

Phase 2 Assess Risk

Step 4: Identify the Hazards

AMEC assisted the HMPC in a process to identify the natural hazards that have impacted or could impact communities in Sumner County. At the kickoff meeting, the HMPC examined the history of disaster declarations in Sumner County, the list of hazards suggested by FEMA for consideration, and additional hazards included in the Kansas State Plan. The committee then worked through this list of all potential hazards that could affect the planning area. They discussed past hazard events, types of damage, and where additional information might be found. There were several hazards that the committee chose to exclude from further review. Justification is provided for each hazard removed from further review in Section 3.1.

Step 5: Profile the Hazards

During the kick-off meeting, the HMPC refined the list of hazards to make the analysis relevant to Sumner County, discussed past events and impacts and came to consensus on the probability, magnitude, warning time, and duration level for each hazard. Prior to the meeting, a profile of each of these hazards had been developed. Web resources, existing reports and plans, and existing geographic information systems (GIS) layers were used to compile information about past hazard events. After this meeting, the preliminary research and supplementary information and results of discussion by the HMPC, was compiled to develop complete hazard profiles detailing the location, previous occurrences, probability of future occurrences, and magnitude/severity of each hazard. The data collection guide distributed at the kickoff meeting was returned to AMEC by each participating jurisdiction and also provided supplemental jurisdictional-specific information to identify hazards and vulnerabilities. More information on the methodology and resources used to identify and profile the hazards can be found in Sections 3.1 and 3.2.

Step 6: Identify Assets

After profiling the hazards that could affect Sumner County, the HMPC collected information to describe the likely impacts of future hazard events on the participating jurisdictions. This step included two parts: a vulnerability assessment and a capability assessment.

Vulnerability Assessment—Participating jurisdictions inventoried their assets at risk to natural hazards—overall and in identified hazard areas. These assets included total number and value of structures; critical facilities and infrastructure; natural, historic, and cultural assets; economic assets; and vulnerable populations. The HMPC also considered development trends in known hazard areas. FEMA’s loss estimation computer software, HAZUS-MH, was utilized to provide information on populations at risk as well as estimated numbers and values of buildings at risk. The assets at risk were discussed for the planning area as a whole for those hazards that do not vary geographically. Additionally, utilizing the HAZUS-MH tool, assets at risk to a 100-year flood in Sumner County were discussed separately as this hazard varies across the planning area.

Capability Assessment—This assessment consisted of identifying the existing mitigation capabilities of participating jurisdictions. This involved collecting information about existing government programs, policies, regulations, ordinances, and plans that mitigate or could be used to mitigate risk from hazards. Participating jurisdictions collected information on their regulatory, personnel, fiscal, and technical capabilities, as well as previous and ongoing mitigation initiatives. This information is included in Chapter 2 Planning Area Profile and Capabilities.

Step 7: Estimate Losses

Where sufficient information was available, a variety of methods was used to estimate losses for each profiled hazard that received a moderate or high planning significance level. For the flood hazard, FEMA’s loss estimation computer software, HAZUS-MH was utilized to estimate losses

in the planning area as a result of a 100-year flood event. The methodology is described in detail for each hazard analysis that included a loss estimate. This information can be found in Section 3.3.3

Results of the preliminary risk assessment were presented and comments discussed during the second meeting. AMEC provided the draft risk assessment to the HMPC in May of 2010. Several comments, corrections, and suggestions were provided to AMEC and incorporated into the risk assessment as appropriate.

Phase 3 Develop the Mitigation Plan

Step 8: Set Goals

AMEC facilitated a brainstorming and discussion session with the HMPC during their second and final meeting to identify goals for the overall multi-jurisdictional mitigation plan. To focus the committee on the issues brought out by the risk assessment, key issues were summarized for each hazard profiled. Then the HMPC discussed the definition and purpose of goal statements and reviewed examples of goals from the State Mitigation Plan and other local plans. The committee also discussed the purposes and goals of other plans already in use in Sumner County such as the local emergency operations plan. Then, as a group, the HMPC achieved consensus on the final goals for the multi-jurisdictional plan, which are described in Chapter 4.

Step 9: Review Possible Activities

At the second meeting, the HMPC discussed mitigation actions that could benefit the planning area. The HMPC reviewed a handout summarizing the Kansas Division of Emergency Management HMGP funding priorities as well as a handout describing the types of mitigation projects generally recognized by FEMA. The group discussed the types of mitigation actions/projects that could be done by the jurisdictions in Sumner County. Consideration was given to the identified key issues that were developed from the risk assessment and the anticipated success for each project type. This opportunity to discuss a broad range of mitigation alternatives allowed the jurisdictions wishing to complete projects to understand the overall priorities of the committee and to allow for discussion of the types of project most beneficial to each jurisdiction. Projects were discussed within the context of the priorities and likelihood of success/failure for each was determined. As part of this discussion, consideration was given to the potential cost of each project in relation to the anticipated future cost savings. Following the project/action discussion, action forms were distributed to all committee members along with a modified form of the STAPLEE process to evaluate each action.

Follow-up e-mails and telephone conversations occurred to ensure each jurisdiction contributed to the mitigation strategy by completing the action worksheets and STAPLEE worksheets. Utilizing the results of the STAPLEE worksheets as well as background information regarding community support each participating jurisdiction prioritized the projects they submitted by indicating high, moderate, or low local priority on their action worksheets. The results are provided in Chapter 4.

Step 10: Draft the Plan

A complete draft of the plan was made available online and in hard copy for review and comment by the public and other agencies and interested stakeholders. This review period was from November 3-10, 2010. Methods for inviting interested parties and the public to review and comment on the plan were discussed in Steps 2 and 3, and materials are provided in Appendix B. Comments were integrated into a final draft for submittal to the Kansas Division of Emergency Management and FEMA Region VII.

Phase 4 Implement the Plan and Monitor Progress

Step 11: Adopt the Plan

To secure buy-in and officially implement the plan, the governing bodies of each participating jurisdiction adopted the plan. Scanned copies of resolutions of adoption are included in Appendix E of this plan.

Step 12: Implement, Evaluate, and Revise the Plan

The HMPC developed and agreed upon an overall strategy for plan implementation and for monitoring and maintaining the plan over time during Meeting #2. This strategy is described in Chapter 5 Plan Maintenance Process.