

YANKTON COUNTY, SOUTH DAKOTA

HAZARD MITIGATION PLAN

AUGUST 2021



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CHAPTER I

PLANNING PROCESS

Background

This plan is an update of the Yankton County Pre-Disaster Mitigation Plan, which was approved by FEMA in November 2016. The purpose of the plan is to prevent or reduce losses to people and property that may result from future hazard events in Yankton County. The plan identifies and analyzes the hazards that the county is susceptible to, and proposes a mitigation strategy to minimize future damage that may be caused by those hazards. The document will serve as a strategic planning tool for use by Yankton County in its efforts to mitigate against future disaster events.

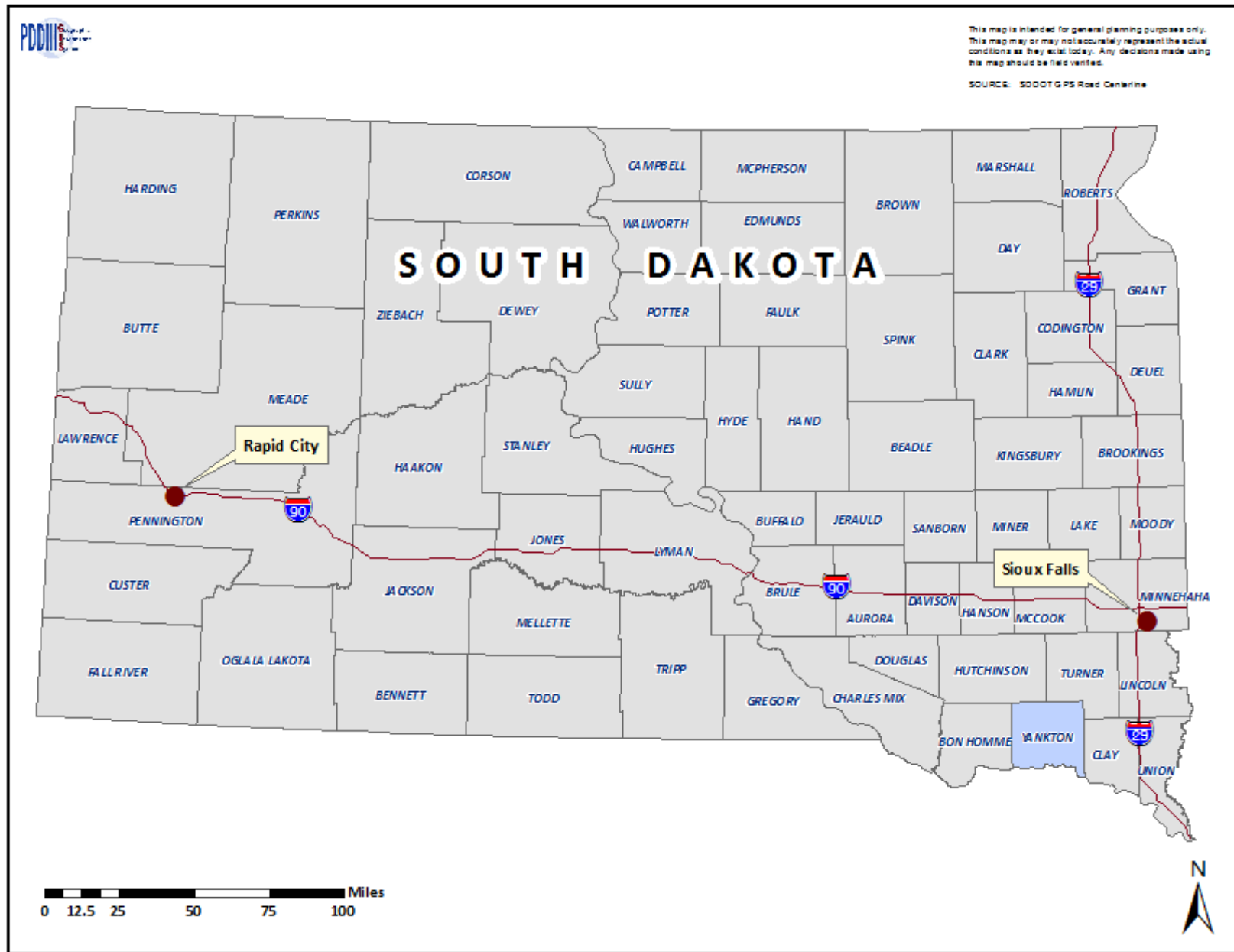
This is a multi-jurisdictional plan. All of the municipalities located within Yankton County were invited to participate in the plan's development, as they had when the current plan (that is, the plan now being updated) was being developed. Following is the list of jurisdictions that participated in the plan's development by having a representative attend the planning meetings and by providing input into the plan:

- Yankton County
- Town of Gayville
- Town of Lesterville
- City of Yankton

Production of the plan was the ultimate responsibility of the Yankton County Emergency Management Director, who served as the county's point of contact for all activities associated with this plan. Input was received from a disaster mitigation planning team that was put together by the Emergency Management Director and whose members are listed in **Table 1.1** on page 4.

The plan itself was written by an outside contractor, Planning & Development District III of Yankton, South Dakota, one of the state's six regional planning entities. The office has an extensive amount of experience in producing various kinds of planning documents, including municipal ordinances, land use plans, and zoning ordinances, and it is an acknowledged leader in geographic information systems (GIS) technology in South Dakota. Furthermore, its staff has written disaster mitigation plans for all sixteen of the counties in the District's planning area, including Yankton County's current plan.

Figure 1.1 – County Location



The following staff members of Planning & Development District III were involved in the production of the plan. John Clem, a Community Development Specialist, was the project manager and author of the plan. Assisting Mr. Clem was Harry Redman, a Geographic Information Systems Professional, who produced maps for the plan, directed the floodplain risk analysis (see **Chapter III**), and completed the county land cover analysis (see **Chapter II**).

Development of Planning Team

The initial planning stages for this plan update began in 2018 when an application was submitted to FEMA for Hazard Mitigation Grant Program (HMGP) funds to help pay for the update. The HMGP funds were awarded to the County in June 2020. Following this, John Clem and the Yankton County Emergency Management Director began to develop the methodology and strategy to be used to update the plan.

The first step was to organize the disaster mitigation planning team, the group of individuals representing the participating jurisdictions and other stakeholders at the planning team meetings. These individuals provided information and various documents that were used to produce the plan, reviewed drafts of the plan as it was being assembled, and reviewed and approved the final version of the plan. Personnel at the county and municipal level with the authority to regulate development were a priority for inclusion on the team. Invited to participate on the planning team were representatives from the following groups:

- Yankton County (county commissioners, auditor, planning/zoning officials, floodplain administrator, GIS staff, director of equalization, highway superintendent, etc.)
- Municipalities (city council members, finance officer, public works staff, etc.)
- Utility providers, including the Bon Homme-Yankton Electric Association and the Bon Homme-Yankton Rural Water System
- Health care providers, including Sacred Heart Hospital
- U.S. Army Corps of Engineers

Each individual on the planning team had at least one of the following attributes to contribute to the planning process:

- Significant understanding of how hazards affect the county and participating jurisdictions.
- Substantial knowledge of the county's infrastructure system.
- Resources at their disposal to assist in the planning effort, such as maps or data on past hazard events.
- The authority to help implement the mitigation strategy that was developed.

Table 1.1 lists the planning team members, including their attendance at the planning meetings that were held as the plan was being developed. Additional meetings took place in

each of the participating jurisdictions, which are not reflected in the table, but documentation is provided in Appendix B. It should be noted that additional communication with the City of Yankton occurred apart from the planning meetings, primarily with two members of the City's Community and Economic Development department, Director Dave Mingo and staff member Brad Bies, who is the City's floodplain administrator. Both of these individuals played a major role in identifying mitigation actions to include in the plan for the City of Yankton, and both reviewed drafts of the plan as it was being developed.

Table 1.1 – Participation in Plan Development

| Name | Representing | Position | Meeting Attendance | |
|-------------------|-----------------------|---------------------------|--------------------|-------------------|
| | | | Mtg 1 06/15/21 | Mtg 2 08/26/21 |
| John Clem | Planning District III | Plan Author | X | X |
| Harry Redman | Planning District III | GIS Specialist | X | X |
| Paul Scherschligt | Yankton County | Emergency Mgmt Director | X | X |
| Erin Hacecky | Yankton County | Emergency Mgmt Staff | X | X |
| Cherie Hoffman | Yankton County | Emergency Mgmt Staff | X | |
| Cheri Loest | Yankton County | County commission | X | X |
| Steve Hawkins | Yankton County | Emergency Medical Service | X | |
| Brad Moser | City of Yankton | Public Works Director | X | |
| Gregg Homstad | City of Yankton | Building inspector | X | |
| Tom Kurtenbach | City of Yankton | Fire Chief | X | |
| Nick Huber | Town of Gayville | City council | X | X |
| Daryl Bierle | Town of Lesterville | Mayor | X | |
| Ken Carda | B-Y Electric Coop | Operations Manager | X | |

Outreach Effort

Throughout the plan's development, efforts were made to obtain involvement in the plan beyond just the planning team. Emails were distributed, and a press release was printed in the Yankton newspaper and posted on the county website and social media prior to the first planning meeting. Outreach also was made to emergency management directors in nearby counties, as well as the South Dakota Office of Emergency Management. At the end of the process, a press release was printed in the newspaper and posted on the Yankton County website announcing that the plan was complete and available for public review and comment. See **Appendix A** for documentation of the public outreach effort.

Planning Meetings

Several meetings were held to develop the plan, as described in further detail below. The primary purpose of the first meeting was to inform the planning team members about the mitigation planning process and to begin development of the risk assessment. After this initial meeting, additional meetings were held in each participating jurisdiction to develop the mitigation strategy, including the specific mitigation actions to be included in the plan. A final

meeting reconvened the planning team members at the end of the process to review a first draft of the completed plan, refine the mitigation strategy, and to discuss how the plan will be implemented.

The planning process associated with the plan's development was relaxed and informal, and free-flowing discussion was always encouraged. No subcommittees were formed, no votes were taken or motions made, and decisions were made by mutual consensus of the planning team members. Everyone's opinion was respected, and nobody was discouraged from voicing his/her opinion. Leadership and guidance at the meetings was provided by Planning & Development District III staff and the Yankton County Emergency Management Director.

Planning Team Meeting 1 – Introduction and Risk Assessment

The first meeting of the planning team introduced the participants to the mitigation planning process. Discussion occurred about how the plan would be developed in the coming months, and about the basic goals to be achieved with the mitigation plan.

Following this, the county's current disaster mitigation plan was reviewed, particularly the risk assessment section. Discussion occurred about how various hazards impact the county, especially the most important community assets and critical facilities in the jurisdictions. The assets are shown on the hazard vulnerability maps included at the end of **Chapter III** and are listed in **Appendix D**. Discussion also occurred regarding the existing resources and capabilities to mitigate against the hazards, and whether other risks not analyzed in the current plan should be addressed.

A review of the progress toward implementing the proposed mitigation actions included in the current plan also was made. A list summarizing progress on the actions is included in **Chapter IV**.

Discussion also occurred about how to get broader public input into the planning process, and whether any other potential stakeholders not already present should be invited to participate in the planning process.

Jurisdictional Meetings – Develop Mitigation Strategy

After the initial planning team meeting, the risk assessment was completed by the Planning & Development District III office using various methods, as discussed in **Chapter III**. The next step in the process was development of the mitigation strategy. To assist the communities in developing the strategy, the results of the risk assessment, including a summary of the textual information presented in **Chapter III**, maps showing hazard-prone areas in each jurisdiction, and tables showing the value of property at risk, were distributed to the planning team members. A list of potential mitigation actions based on FEMA's guidance document *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* also was distributed.

Each jurisdiction was responsible for selecting the mitigation actions it wanted to include in the plan. The selection of the actions took place during city council meetings, which ensured

that a broad representation of people would be present, and that the process was open to public involvement. The jurisdictions were encouraged to consider a wide range of actions, whether or not they seemed likely to be achievable in the foreseeable future. Details about the actions, such as estimated cost, the party responsible for implementation, and priority level, were discussed. The final list of actions proposed by the participating jurisdictions is presented in **Chapter IV** (see **Table 4.2**).

Planning Team Meeting 2 – Plan Review and Plan Implementation

Following the jurisdictional meetings, the Planning & Development District III office completed a first draft of the plan. After this, the planning team was brought together again to review the draft and to discuss how the plan would be implemented. Discussion also occurred about how the plan will be incorporated into the existing planning mechanisms at the county and local levels. Maintenance of the plan was another topic of discussion, specifically how the plan will be monitored, evaluated, and updated in the coming years.

After the meeting, some additional information was added to the plan based on discussion at the meeting, and additional input was received from the City of Yankton Community and Economic Development department, since neither Director Dave Mingo nor Brad Bies was able to attend the review meeting. The plan was then completed and made available for public review. After a short comment period, the plan was submitted to the South Dakota Office of Emergency Management.

Acknowledgements

The Planning & Development District III office would like to thank the members of the Yankton County Disaster Mitigation Planning team for participating in the planning meetings that were held, and for supplying information that was used to develop the plan. We would particularly like to thank County Emergency Management Director Paul Scherschligt for arranging the planning team meetings and for coordinating with the participating jurisdictions.

Thanks also are extended to Heather Allemang, Jim Poppen, Kyle Kafka, and Marc Macy at the South Dakota Office of Emergency Management for information and guidance in developing the plan.

CHAPTER II

COMMUNITY PROFILE

Background

This chapter serves as a basic introduction of the county. Topics addressed in this chapter cover the county's physical conditions, its population and socio-economic characteristics, utilities and infrastructure, and services. Following chapters are devoted to assessing risks in the county, presenting the county's mitigation strategy, and discussing how the plan will be implemented.

General Description

Yankton County is located in southeast South Dakota, as shown in **Figure 1.1**. The county covers approximately 532 square miles in area, and its population according to the 2010 Census was 22,438. There are six incorporated municipalities located within the county - the county seat of Yankton (pop 14,454), Gayville (pop 407), Lesterville (pop 127), Mission Hill (pop 177), Utica (pop 65), and Volin (pop 161). Another populated place is the Jamesville Hutterite Colony, which has approximately 150 residents ¹. **Figure 2.1** shows the county's communities and highway network.

Physical Characteristics

The landscape in Yankton County is mostly open, and the terrain for the most part is fairly level to gently rolling. However, there are some steep draws along the Missouri and James Rivers, the two main bodies of water in Yankton County. The Missouri River forms the county's southern boundary, and the James flows northwest to southeast through the county, emptying into the Missouri River about five miles east of Yankton. Much of the land in the county is devoted to agricultural production, primarily row crops such as corn, soybeans, and wheat, and there is also a considerable amount of pastureland. Livestock production, especially cattle and hogs, is a very important part of the ag economy.

¹ Hutterite Colonies are rural, agriculturally-based communities occupied by descendants of German people who cling to many of their traditional ways. There are more than 400 Hutterite colonies located in the north-central United States and Canada.

Figure 2.1 – Political Map

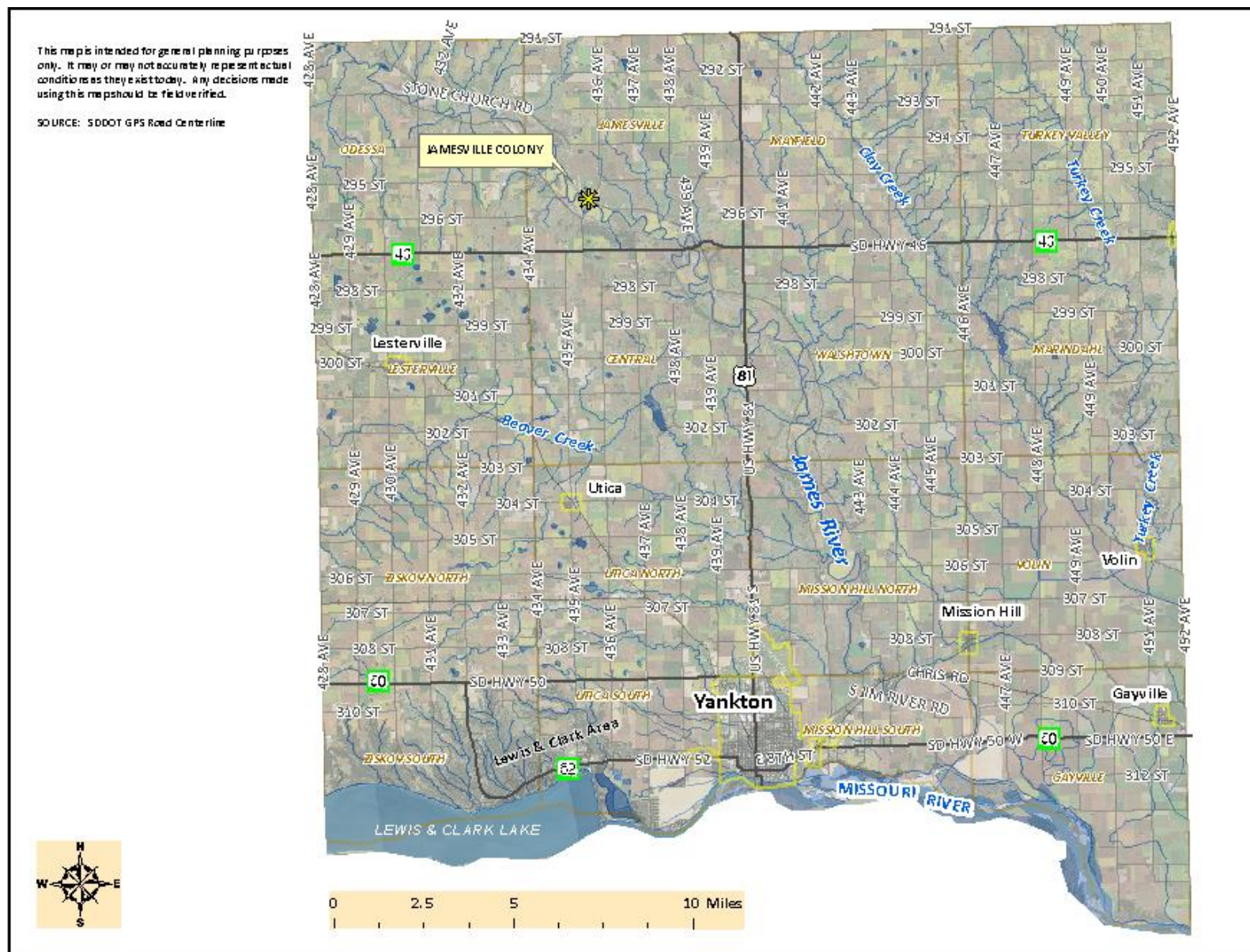


Table 2.1 provides a breakdown of the land cover in Yankton County, based off satellite imagery from the United States Geological Service's National Land Cover Database. The predominant land cover in the county is cultivated crops and pasture land, which together comprise over 75 percent of the county's area. Developed land makes up a small fraction of the land area. **Figure 2.2** is a graphic representation of the county's land cover.

Table 2.1 - Vegetative Land Cover

| Cover Type | Sq Miles | % of Total Area |
|--|--------------|-----------------|
| Cultivated crops | 278.5 | 52.3 |
| Pasture land | 136.0 | 25.5 |
| Grassland and Shrub/Scrub | 43.6 | 8.2 |
| Developed land (open space) | 25.1 | 4.7 |
| Open water | 16.2 | 3.0 |
| Forested land | 13.3 | 2.5 |
| Wetlands | 12.2 | 2.3 |
| Developed land (low to high intensity) | 7.1 | 1.3 |
| Barren land | 0.5 | 0.1 |
| Total Area | 532.5 | |

Source: <http://www.mrlc.gov/index.php>

Most soil in the county is fertile and well-drained, and therefore conducive to agriculture, as long as there is sufficient soil moisture. Excessive slopes and rocky soils are rare. Drainage is generally good, but there are many wetlands in the county, some of which are now used as waterfowl or wildlife production areas, while others have been drained for farming.

Yankton County's climate is characterized as sub-humid and continental, meaning summers are often hot and winters can be very cold. There are no large bodies of water or mountain ranges to mitigate against these extremes. High temperatures in summer can exceed 100 degrees Fahrenheit ², while winter lows can drop below -20 degrees. Precipitation averages about 25 inches per year, much of it occurring during the spring and early summer; winter snow is not frequent, but snow cover on the ground is fairly constant during many winters. Blizzards and other types of winter storms are a definite hazard. Following is climate data in the county as reported from the Yankton weather station.

Table 2.2 - Monthly Climate Conditions in Yankton County (1948 – 2013)

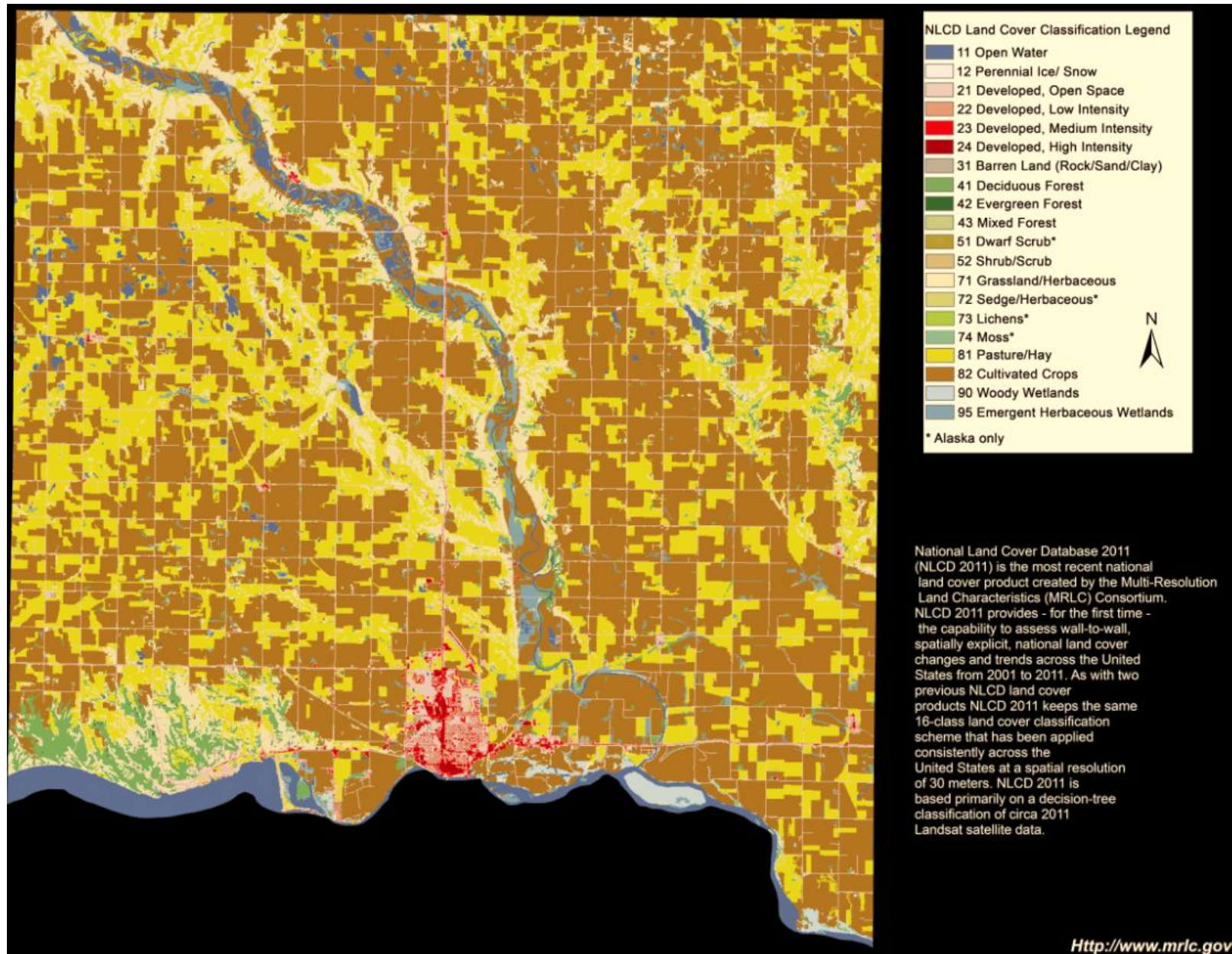
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Ave High | 28.0 | 33.7 | 44.4 | 60.3 | 72.1 | 81.7 | 87.2 | 85.3 | 76.3 | 64.1 | 46.4 | 32.9 | 59.4 |
| Ave Low | 6.4 | 11.7 | 22.1 | 35.1 | 47.0 | 57.4 | 62.4 | 59.9 | 49.5 | 37.5 | 24.0 | 12.3 | 35.4 |
| Ave Precipitation | 0.5 | 0.7 | 1.6 | 2.6 | 3.6 | 4.0 | 3.2 | 3.0 | 2.5 | 1.8 | 1.1 | 0.7 | 25.2 |
| Ave Snowfall | 5.2 | 5.6 | 6.0 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 4.0 | 6.2 | 29.2 |
| Ave Snow Depth | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0.8 |

Source: High Plains Regional Climate Center (www.hprcc.unl.edu/data/historical/)

The average high and low are in degrees Fahrenheit; the precipitation figures are in inches

² According to the National Weather Service, Sioux Falls, South Dakota has averaged about two days per year of 100 degree temperatures since records began to be kept in 1893.

Figure 2.2 - County Land Cover



The impact that climate change may have on the county is difficult to predict with any certainty. The South Dakota Hazard Mitigation Plan discusses climate change in some depth, analyzing its possible impacts for each of the hazards affecting the state. According to the plan, mean temperatures have been increasing in the northern Great Plains region where South Dakota is located, especially in the winter. This trend may lead to increased evaporation and drought frequency, which will compound water scarcity problems. Across South Dakota, there is a long-term trend of increasing annual precipitation, among the highest in the country. The majority of this increase is occurring in the spring and fall seasons, and there is high confidence that precipitation extremes will increase in frequency and intensity that could exacerbate flooding.

Communities that are already the most vulnerable to weather and climate extremes will be stressed even further by more frequent extreme events occurring within an already highly variable climate system. According to the plan, increased demand for water and energy will constrain development, stress natural resources, and increase competition for water. New agricultural practices will be needed to cope with changing conditions. Still, there is no consensus as of yet on climate change science, and therefore it is difficult to make any definitive plans for climate change at this time.

Socioeconomic Description

Yankton County is the ninth largest among South Dakota's 66 counties, with a 2010 Census population of 22,438. The population density is 42.2 people per square mile; in comparison, the State of South Dakota has a population density of 10.5 per square mile, and the national figure is 89.5.

The county has been experiencing slow but steady population growth for the last several decades, as **Table 2.3** shows. The county has increased in population by 17% since 1990, and the population is expected to continue increasing moderately. Most of the growth is expected to occur in Yankton and in the residential areas just west of the city, including the Lewis and Clark residential area and Riverside Acres. According to the 2010 Census, a total of 2,139 people live in the SD Hwy 52 corridor that runs along the lake.

Table 2.3 – Yankton County Population Change

| Pop 1950 | Pop 1960 | Pop 1970 | Pop 1980 | Pop 1990 | Pop 2000 | Pop 2010 | Pop 2019 Estimate | Pop 2030 Projected |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------------|-----------------------|
| 16,804 | 17,551 | 19,039 | 18,952 | 19,252 | 21,652 | 22,438 | 22,814 | 24,026 |

Sources: U.S. Census (factfinder.census.gov/faces/nav/jsf/pages/index.xhtml); University of South Dakota Governmental Research Bureau

Table 2.4 provides basic demographic information for the county. The table shows that the county is rather homogenous in terms of race. The median age of the county's population is slightly higher than the South Dakota figure, but is actually much lower than many other more

rural counties in the state. This is an indication that many of the young people are able to stay in the county for jobs, rather than going elsewhere to find opportunities.

Table 2.4 - Racial and Age Characteristics (2010)

| Entity | White Population | Black Population | American Indian Population | Asian Population | Other Racial Group | Population Under 20 | Population 65 and Over | Median Age |
|----------------------|------------------|------------------|----------------------------|------------------|--------------------|---------------------|------------------------|------------|
| Yankton Co | 92.8% | 1.9% | 2.5% | 0.7% | 2.1% | 23.9% | 16.1% | 41.1 |
| South Dakota | 85.3% | 1.5% | 8.8% | 1.1% | 3.3% | 27.6% | 14.6% | 36.8 |
| United States | 73.9% | 12.6% | 0.8% | 5.0% | 7.7% | 26.3% | 13.7% | 37.4 |

Source: U.S. Census (factfinder.census.gov/faces/nav/jsf/pages/index.xhtml)

Although agriculture is one of the major local economic drivers, Yankton County's economy is fairly diverse in comparison to most other counties in South Dakota. Manufacturing and health care services are especially important in Yankton. Tourism also is a substantial part of the local economy, especially in the summer when a large influx of people come to enjoy Lewis and Clark Lake. Annual visitation to this recreation area averages almost a million visitors per year. The table below shows income and education statistics in Yankton County compared to state and national figures. Because of the local availability of quality jobs, and other factors, economic prospects for Yankton County appear to be solid.

Table 2.5 – Socioeconomic Characteristics (2010)

| Entity | Median Family Income | Family Poverty Rate | High School Grad or Higher | Bachelor's Degree or Higher |
|----------------------|----------------------|---------------------|----------------------------|-----------------------------|
| Yankton Co. | \$68,347 | 5.0% | 90.2% | 26.0% |
| South Dakota | \$62,967 | 8.7% | 90.1% | 26.0% |
| United States | \$64,585 | 10.9% | 85.7% | 28.5% |

Source: U.S. Census (factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml)

Infrastructure and Utilities

Transportation

The City of Yankton is the commercial hub of southeast South Dakota, and a high volume of commercial traffic runs along the highways that pass through Yankton County, especially U.S. Highway 81 and South Dakota Highway 50. Other types of transportation also are available in Yankton County. A railroad line owned by the State of South Dakota and operated by the Burlington Northern Santa Fe (BNSF) Railroad runs through the county, connecting the communities of Gayville, Yankton, Utica, and Lesterville. It primarily carries grain and other agricultural products, but it also carries hazardous substances, including ethanol and petrochemicals. The Chan Gurney Airport, located on the northern edge of Yankton, provides a limited amount of air charter service.

Utilities

Water service is provided to most rural county residents by the Bon Homme-Yankton Rural Water System, which gets its water from the Missouri River. Some areas in the eastern section of the county, including Gayville, are served by the Clay-Union Rural Water System. The City of Yankton has its own water system.

Each municipality in the county has its own municipal sewage treatment system – Yankton has an advanced treatment system, while the other communities have simpler sewage treatment lagoons. Rural residences use individual septic tanks and drainfields. The density of septic systems and their potential to cause water contamination is an environmental concern. This is particularly relevant for the residential areas west of the City of Yankton, one of the fastest growing parts of Yankton County. There is no sewer service available in most of the area, although there has been discussion about establishing a sewer district there.

Solid waste service is provided by the Clay County Waste Management District, which operates a landfill located about 25 miles east of Yankton. Most of the household waste generated within Yankton County ends up at the landfill.

Electric power is provided to most rural residents of the county by the Bon Homme-Yankton Electric Association; the Clay-Union Electric Cooperative has approximately 100 miles of line serving residents in the southeast part of the county. Clay-Union also provides power to the towns of Gayville and Volin. Northwestern Public Service serves the City of Yankton, as well as Lesterville, Mission Hill, and Utica. Natural gas is available in Gayville and Yankton. Various telephone, cellular phone, and Internet providers serve the county.

Services

Medical Services

The primary medical facility in Yankton County is Avera Sacred Heart Hospital, which is a regional medical center with a fully operational emergency room. The hospital has a mass casualty plan in place, which has been integrated and tested with all other emergency response agencies. The Lewis and Clark Specialty Hospital in Yankton also has the capacity to perform some emergency medical procedures. Other important medical facilities in Yankton include the Yankton Medical Clinic.

Fire and Emergency Response

A fire department is based in each municipality within Yankton County, except for Mission Hill and Utica. The Yankton Volunteer Fire Department is a full service organization whose capabilities include structural fire response, wildfire response, medical assistance, and search and rescue capabilities. The other departments have more limited capabilities, including structural and wildland response. The rural area surrounding the City of Yankton is served by the Yankton Rural Fire Association. See **Table 3.5** for more information about the departments.

The Yankton Emergency Medical Services is an incorporated service with both basic and advanced life support capabilities. The service currently has four fully equipped road rescue coaches that provide full capability for EMS. The service responds to all emergency situations, including vehicular injury accidents.

Education

K-12 education is available in Gayville and Yankton. Post-secondary education is available in Yankton at Mount Marty College, a private, four-year college, and at the Regional Technical Education Center in Yankton, which trains people for technical and vocational careers.

CHAPTER III

RISK ASSESSMENT

Background

The risk assessment provides the foundation for the rest of the mitigation planning process. It sets the stage for identifying mitigation goals and actions to help Yankton County become disaster resilient and keep county residents safe, and it answers the following questions: What are the hazards that could affect Yankton County? What could happen as a result of those hazards? How likely are the possible outcomes? When the outcomes occur, what are the likely consequences and losses?

As outlined in the South Dakota Hazard Mitigation Plan, the Federal Emergency Management Agency defines risk assessment terminology as follows:

- **Hazard**—A hazard is an act or phenomenon that has the potential to produce harm or other undesirable consequences to a person or thing.
- **Vulnerability**—Vulnerability is susceptibility to physical injury, harm, damage, or economic loss. It depends on an asset's construction, contents, and economic value of its functions.
- **Exposure**—Exposure describes the people, property, systems, or functions that could be lost to a hazard. Generally, exposure includes what lies in the area the hazard could affect.
- **Risk**—Risk depends on hazards, vulnerability, and exposure. It is the estimated impact that a hazard would have on people, services, facilities, and structures in a community. It refers to the likelihood of a hazard event resulting in an adverse condition that causes injury or damage.
- **Risk Assessment**—Risk assessment is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from hazards.

According to FEMA's mitigation planning guidance, the basic components of the risk assessment are: 1) identifying hazards that affect the community, 2) profiling the hazards, 3) conducting an inventory of community assets, and 4) estimating losses. This process measures the potential loss of life, personal injury, economic injury, and property damage resulting from natural hazards by assessing the vulnerability of people, buildings and other property, and infrastructure to natural hazards.

After reviewing the risk assessment section of the current plan, the planning team decided that no major changes were needed to the risk assessment. However, many of the tables have been updated with more current information, including **Table C.2 in Appendix C**, which lists significant hazard events in the county. Also, it was felt that the flood risk analysis needed

to be updated, because the information in the current plan was becoming dated and because of the major flooding impacts that occurred in the county in 2019. This analysis was done under the direction of Harry Redman, GIS specialist with Planning & Development District III.

Identifying Hazards

The planning team began the risk assessment by reviewing the South Dakota Hazard Mitigation Plan, focusing on the hazards identified in that plan. The team also reviewed the risk assessment section of the county's current mitigation plan, and it was decided that all of the hazards discussed in that plan should be kept for this update, with no other hazards added or deleted.

Following this, the planning participants reviewed historical records of hazard events that have occurred in the county, relying on the National Climatic Data Center's Storm Events Database. See **Table C.2** in **Appendix C** for a list of the storm events.

After reviewing these sources, the planning team settled on the hazards they wanted to address in this plan, those that they considered to pose a significant threat to the county. Following are the hazards addressed in this plan as selected by the team:

- **Winter storms (includes blizzards, heavy snow, icing, and high wind events)**
- **Summer storms (includes thunderstorms, tornados, hail, and high wind events)**
- **Flooding**
- **Drought**
- **Wildfire**

The planning team acknowledges that additional hazards could have been addressed in this plan. High wind events, for instance, are not considered separate from winter storms and summer storms. Following is a list of other hazards the team considered but chose not to include in this plan, with a justification for their omission:

- **Geologic Hazards** – these hazards, which include earthquakes and landslides, are given a limited level of planning analysis in the South Dakota Hazard Mitigation Plan, but the state is not particularly vulnerable to such events. For example, the plan states that earthquakes have never caused significant damage in South Dakota. A map generated through the U.S. Geological Service Earthquake Hazards Program website indicates that there is only about a one percent chance that a quake of at least magnitude 5 will occur in Yankton County in any 100 year period, and virtually no chance of a magnitude 6 or greater earthquake ³. Only one earthquake is shown for Yankton County on the map produced by the South Dakota Geological Survey showing all known earthquakes in South Dakota since

³ A magnitude 5 earthquake is considered moderate, potentially causing varying amounts of damage to poorly constructed buildings, but significant damage would be unlikely to occur. A magnitude 6 quake is strong, with the potential to cause damage to well-built structures.

1872. Regarding landslides, a review of the United States Geological Survey's Landslide Incidence and Susceptibility Map indicates the potential of a landslide occurring in Yankton County along the Missouri River, but any such event likely would be localized and minor in scale.

- Agricultural pests and diseases - this hazard is given a moderate level of planning analysis in the South Dakota Hazard Mitigation Plan. However, the planning team considered the subject matter to be outside the intended focus of this plan.
- Hazardous materials - this hazard is given a moderate level of planning analysis in the South Dakota Hazard Mitigation Plan. But again, the planning team considered the subject matter to be outside the scope of this plan, as they wanted to focus on natural hazards. This plan can serve as a complement to Yankton County's existing hazardous materials plan.

Hazard Profiles

In this section, each of the hazards the planning team chose to focus on is described in terms of the hazard's **location** within Yankton County, its **extent**, the **history** of the hazard's occurrence in the county, the **probability** of future events, and the local **resources and capabilities** available to mitigate against the hazard. In addition, a background description of each hazard is presented at the beginning of each hazard's profile.

- **Location** is the geographic areas within the county that are affected by each of the hazards. Some of the hazards, such as winter storms, summer storms, and drought, do not have a geographic definition at this level of analysis, since they occur in all areas of the county more or less with equal frequency. Flooding and wildfires, however, do impact specific areas of the county more than others. The maps presented at the end of this chapter show locations vulnerable to flooding within each jurisdiction. **Figure 3.1** shows an area of the county with a higher vulnerability to wildfire.
- **Extent** is the strength or magnitude of the hazard, which is described in a variety of ways depending on the type of hazard. For example, tornado strength is measured on the Fujita Scale, high wind events are measured by speed, fire is measured in terms of acres affected, and certain hazards are measured in terms of the duration of the event.
- A brief section on the **history** of each hazard's occurrence in the county is presented, with a description of some of the most notable events. More information about the hazard events that have impacted the county is presented in **Appendix C**. This includes a comprehensive list of weather-related hazard events recorded in the county since 1960, and records of hazard events that resulted in a major disaster declaration in the county.
- **Probability** of occurrence of a hazard impacting an area is the likelihood that such an event will occur. In this plan, a hazard with a "high" probability is one that is expected to occur at least five times over a ten year period, a "moderate" probability hazard is expected to occur from two to five times in any given ten year

period, and a “low” probability hazard would be expected to occur no more than twice per ten year period. Determination as to the probability of hazard events occurring in the future was based largely on an analysis of the frequency of past hazard events.

- Information about the existing **resources and capabilities** to mitigate against each hazard is included. This includes plans and regulatory mechanisms, administrative and technical resources, financial resources, and education and outreach.

Winter Storms

Description

Winter storms historically occur from late fall to the middle of spring, varying in intensity from mild to severe. There is a long warning time associated with most winter storms, giving people time to prepare, but they still have a major impact in South Dakota, regularly destroying property and killing livestock. Such storms are generally classified into four categories - freezing rain, sleet, snow, and blizzard - with some taking the characteristics of different categories during distinct phases of the storm.

Freezing rain coats objects with ice, creating dangerous conditions. Sleet does not generally cling to objects like freezing rain, but it does make the ground very slippery, increasing the number of traffic accidents and personal injuries due to falls. Heavy snow can make travel difficult, and can collapse roofs.

Blizzards occur when snow is combined with high wind, producing blowing snow that results in low visibility. When such conditions arise, blizzard warnings are issued. These warnings take effect when wind conditions are at least 35 mph and temperatures of 20 degrees Fahrenheit or less over an extended period of time are expected. Severe blizzard conditions exist when heavy snow is accompanied by winds of at least 45 mph and temperatures of 10 degrees Fahrenheit or lower. Early blizzards in South Dakota were so devastating that the state once had the dubious distinction of being called the Blizzard State.

Winter storms can have a big impact on the power lines operated by rural electric providers, especially when they are accompanied by high winds or freezing rain. They can knock down power lines, which tend to be the most vulnerable elements of the electrical grid, and can even snap the poles.

Location

The topography of South Dakota is such that no part of the state is immune from the effects of winter storms. Farmland and grassland, which covers most of the state (including Yankton County) offers little resistance to high winds and drifting snow, and there are no large bodies of water or mountain ranges to mitigate against temperature extremes. All areas of the county are equally likely to be impacted.

Extent

The extent of winter storms in Yankton County can be quite substantial. In terms of snowfall, many winter storms in the county have dropped more than 10 inches of snow. In terms of duration, some winter storms in the county have resulted in power outages of over a week in some locations, although typical outages last for no more than a few hours. Regarding wind speed, **Table C.2** in **Appendix C** shows numerous records of high wind events occurring during the winter months with wind speeds in excess of 50 miles per hour.

History

Table C.2 in **Appendix C** lists many significant winter storms that have impacted the county. As **Table C.1** in **Appendix C** shows, winter storms resulting in a major disaster declaration have occurred in Yankton County in 1997, 2005, 2010, and 2019.

One of the most serious winter storms to occur in the state happened between October 22 and 24, 1995, resulting in FEMA Disaster Declaration 1075, which was declared in January 1996. As the storm moved eastward across South Dakota, ice and five to 15 inches of wet snow formed on electric lines, poles, and trees. Winds associated with the storm caused lines to slap together and poles to snap, producing widespread power outages to large portions of rural South Dakota, including Yankton County. The damage included broken poles, broken wires, and substation failures due to transmission line damage. The storm also forced major transportation delays because of snow accumulation on roadways and poor visibility. The combination of power outages and travel difficulty resulted in numerous cancellations and delays in school openings. Total statewide damage from the event was estimated at over \$13 million, and approximately 30,290 households were affected by power outages. Crews from electric cooperatives in neighboring states assisted local cooperatives with line repairs.

Another very serious winter storm to impact Yankton County occurred in late November 2005 when heavy freezing rain coated roads and power lines with ice up to three inches thick throughout much of southeast South Dakota. The storm resulted in FEMA Disaster Declaration 1620. In the affected area, a total of 9,400 power poles were damaged, leaving approximately 56,000 people without electricity for varying amounts of time. Although Yankton County was not included in the disaster area (the brunt of the storm was felt to the north and west), the storm did impact the county. Schools and businesses were shut down, travel came to a near standstill, and some rural residents were without power for a short period of time. Public assistance to the Bon Homme-Yankton Electric Association for its infrastructure in Yankton County was approximately \$107,000.

A late-season winter storm combined with flooding struck South Dakota in March 2019, resulting in FEMA Disaster Declaration 4440. The storm resulted in almost \$10 million of public assistance funds allocated in Yankton County.

Probability

Table C.2 shows numerous records of significant winter storm events in Yankton County since the mid-1990s, an average of over four per year. Therefore, based on the historic evidence, the probability of a significant winter storm affecting Yankton County in a given year is high.

The probability of a winter storm causing substantial damage (e.g. power lines blown down) in any given year is at least moderate.

Resources and Capabilities

Following is a description of the local resources and capabilities available for dealing with winter storm events.

- The county and each of the towns has equipment for dealing with winter storms. A list of the equipment can be found in the Yankton County Local Emergency Operations Plan, which is updated regularly.
- Facilities are available in each community that can be used to provide shelter to people following a disaster event or other emergency situation. The table below shows the relief shelters that have been approved by the Red Cross.

Table 3.1 – Shelter Facilities

| Community | Facility | Capacity | Generator | Meals On Hand | Kitchen |
|-------------|---------------------------------|----------|-----------|---------------|---------|
| Lesterville | Fire Hall | 25 | Yes | 0 | Yes |
| Yankton | Mount Marty College Cimpl Arena | 100 | No | Few | Yes |
| Yankton | Senior Citizen Center | 45 | Yes | Few | Yes |
| Yankton | Trinity Lutheran Church | 70 | No | 0 | Yes |

- The Bon Homme-Yankton Electric Association maintains a list of priority projects in its work plan. The Association is a party to the South Dakota Electric Cooperatives Mutual Aid Plan, which commits participating cooperatives to come to the aid of other cooperatives in times of emergency.
- The Yankton County Local Emergency Planning Committee (LEPC) plans for winter operations annually.

Summer storms

Description

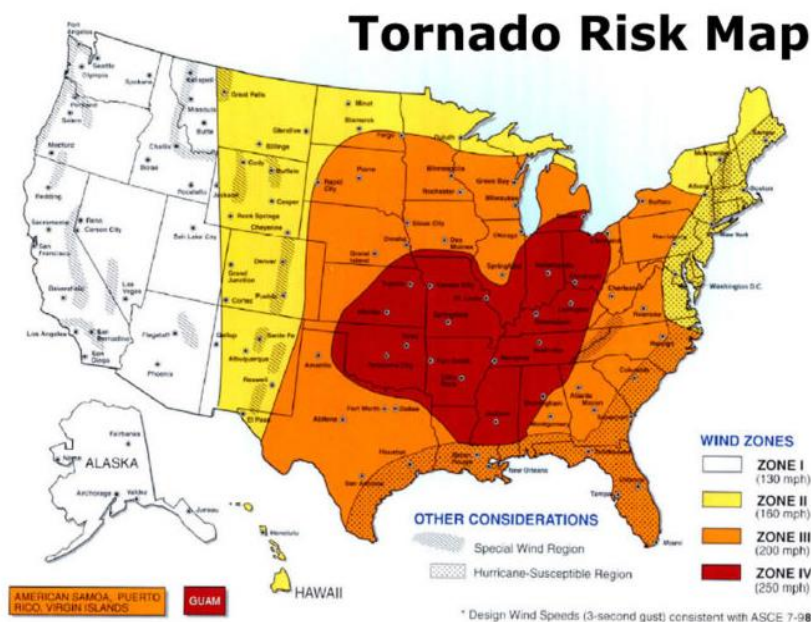
Summer storms can include heavy rainfall, hail, tornadoes, and thunderstorm activity. These events usually are associated with unstable weather conditions. In Yankton County, most damage from summer storms occurs because of high wind events and/or hail. Hail is always closely connected with thunderstorms. Hailstones can be up to the size of baseballs. Large hailstones are dangerous to people and animals, but most hail damage here is suffered by crops or structures. Almost every year someone in Yankton County reports some kind of hail damage to crops or property.

Tornadoes are the most dramatic type of summer storm experienced in Yankton County, and are a special source of concern. They are one of nature's most violent storms, capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be a mile wide and can extend for more than 50 miles. Tornadoes mostly occur in South Dakota in May, June, and July. The greatest period of tornado activity is between 4 PM and 6 PM. Tornadoes

present a difficult mitigation challenge, since few structures can withstand the violent winds of a twister.

South Dakota is located near the northwest edge of the core area of tornado activity in the United States, as shown in this image. Often referred to as “tornado alley”, this part of the

country is particularly susceptible to tornadoes in part because the terrain is relatively flat, which allows warm, humid air from the Gulf of Mexico and cool, dry air from Canada to crash into each other, creating large super cells. According to the National Oceanic and Atmospheric Administration’s Storm Prediction Center, South Dakota ranked eighth in the nation in the frequency of tornadoes from 1950 to 1994, with a total of 1,139 tornadoes reported in the state (an average of 25.3 per year). During this period, there were 11 deaths in the state attributed to tornadoes, and 243 injuries. South Dakota ranked 27th in the nation in tornado damage, with average annual losses of \$3.8 million.



Location

Summer storms are equally likely to occur in all parts of the county.

Extent

The extent of summer storms can be measured in many ways. In terms of wind speed, **Table C.2** in **Appendix C** shows numerous records of thunderstorms that produced wind speeds over 60 knots (about 69 miles per hour), including several over 70 knots, as well as several other summer high wind events with wind speeds over 50 knots. **Table C.2** also shows over 50 events with hail over one inch in diameter. In terms of onset, summer storms typically develop with a long warning time, although certain hazards associated with such storms, such as hail or tornadoes, can develop more suddenly.

Regarding tornadoes, **Table C.2** shows six records of a tornado with a magnitude greater than F1, including an F4 tornado that occurred in June 1965. The table on the following page shows the entire range of tornado strength according to the enhanced Fujita scale.

Table 3.2 – Enhanced Fujita Scale

| Scale | Wind Speed (MPH) | Potential Damage |
|-------|------------------|--|
| EFO | 65 to 85 | Minor damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. |
| EF1 | 86 to 110 | Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken. |
| EF2 | 111 to 135 | Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground. |
| EF3 | 136 to 165 | Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings; trains overturned; trees debarked; heavy cars lifted off ground and thrown; structures with weak foundations badly damaged. |
| EF4 | 166 to 200 | Devastating damage. Well-constructed and whole-frame houses completely leveled; some frame homes may be swept away; cars and other large objects thrown and small missiles generated. |
| EF5 | Over 200 | Incredible damage. Well-built frame houses destroyed with foundations swept clean of debris; steel-reinforced concrete structures critically damaged; tall buildings collapse or have severe structural deformations; cars, trucks, and trains can be thrown approximately 1 mile. |

https://en.wikipedia.org/wiki/Enhanced_Fujita_scale

History

As **Table C.1** in **Appendix C** shows, there have been several major disaster declarations involving a summer storm that have affected Yankton County. **Table C.2** in **Appendix C** lists many other significant summer storms that have impacted the county. Although there are no records of a truly devastating tornado event in Yankton County, many tornadoes have caused some amount of damage. An F2 tornado in May 2007 blew down 28 utility poles in Yankton County, causing over \$100,000 in damage to the Bon Homme Yankton Electric Association.

Probability

Table C.2 shows that numerous significant summer storm events have occurred in Yankton County, well over one per year on average. Therefore, based on the historical evidence, the probability of a summer storm occurring somewhere in the county in a given year is high. However, the probability of a storm causing significant damage (e.g. damaging hail or a tornado) in the county in a given year is low to moderate.

Regarding tornadoes, **Table C.2** shows 18 days in which a tornado was recorded in Yankton County since 1960, an average of almost one every three years. It is likely that other tornadoes occurred in the county during this period and were unnoticed or unreported.

Resources and Capabilities

Following is a description of the local resources and capabilities available for dealing with summer storms.

- National Building Code standards are enforced in Yankton. All new structures built in the city must be constructed with a minimum level of structural integrity to withstand high winds.
- Outdoor warning sirens are located in each community, as shown in the maps presented at the end of this chapter. Sirens also are located at the Lewis and Clark Recreation Area and at the Boy Scout Camp located west of Yankton. All sirens are tested regularly, and each has a backup source of power.
- The senior center in Yankton is a Red Cross-approved storm shelter, some private campgrounds in the Lewis and Clark Lake area have installed shelters, and two tornado shelters have been installed at the Boy Scout Camp west of Yankton.
- Weather spotters are in place throughout the county.
- The Yankton County Emergency Management office actively participates in severe weather public awareness campaigns in conjunction with the State Office of Emergency Management and the National Weather Service. The office communicates regularly with local officials regarding severe weather awareness and training opportunities.
- As described above under the Winter Storm profile section, the Bon Homme-Yankton Electric Association maintains a list of priority projects in its work plan, and it is a party to the South Dakota Electric Cooperatives Mutual Aid Plan.

Flooding

Description

Floods are among the most serious and costly disaster events. In South Dakota, there are two main climatologic causes of flooding: runoff from rainfall and runoff from melting snow. The water from rainfall or melting snow flows overland until it reaches a nearby river or lake. If the river or lake cannot hold all of the water that is entering it, some of the water will begin to overflow, causing flooding. The size of the flood is influenced by such factors as the intensity or length of the rainfall, melting rate of the snow, and the infiltration of the water into the ground.

Following is a description of the four types of flooding that have the potential of impacting Yankton County, based on information in the South Dakota Hazard Mitigation Plan:

- Flash flooding, which results from several inches or more of rain falling in a very short period of time. This high intensity rainfall is commonly caused by powerful thunderstorms that cover a small geographic area. The flood that occurs as a result of this runoff happens very rapidly, and is generally very destructive, although usually only a small area is affected.
- Long-rain flooding, which results after several days or even weeks of fairly low-intensity rainfall over a widespread area. This is the most common cause of major

flooding. The ground becomes "water logged," and the water can no longer infiltrate into the ground. The flooding that results is often widespread, covering hundreds of square miles, and can last for several days or many weeks.

- Flooding resulting from melting snow in the spring. This type has characteristics of both flash floods and long-rain floods. The area covered is generally not as large as that covered by the long-rain flood, but is typically larger than that covered by the flash flood. Generally, the flood lasts for several days, occurring when large amounts of snow melt rapidly due to warm temperatures. The flooding can be made worse if the ground remains frozen while the snow is melting, causing the melt water to run off to nearby rivers and lakes rather than infiltrating into the ground. Some of the largest floods in South Dakota have been the result of melting snow and ice.
- Dam failure, resulting from natural or man-made causes. Yankton County is vulnerable to this type of flood because of the presence of Gavins Point Dam, which impounds the Missouri River upstream from the City of Yankton, and Marindahl Dam. Both dams are designated as high hazard dams ⁴.

Location

The James River is probably the major factor concerning flooding in Yankton County. According to the South Dakota Multi-Hazard Mitigation Plan, the James is one of the most flood prone rivers in South Dakota. It drains a total of 12,609 square miles of land in South Dakota, representing 16.3 percent of the state's land area. The river lacks good drainage features (the slope of the river is only .28 feet per mile), and the river's valley varies in width from a few hundred feet to three miles. Consequently, the James overruns its banks frequently during the spring snow melt, much of the drainage remaining in small swales and basins. The river flows in a southeast direction through the county and enters the Missouri River a few miles east of Yankton.

In the past, the greatest flooding threat in Yankton County was along the Missouri River, which flows south/southeastward across South Dakota in a deep, wide channel, draining almost the entire state. Flooding along the river used to be an annual threat until a series of huge dams along the river was constructed in the 1950s. Now, most of the Missouri River within South Dakota consists of a chain of reservoirs impounded by the dams. From north to south, these dams are Oahe, Big Bend, Fort Randall, and Gavins Point, which were built for flood control, to provide water for irrigation, and for the generation of hydroelectricity.

Because of the dams, the threat of flooding from the Missouri River has been greatly reduced, although it has not been entirely eliminated. In 2011, significant flooding along the river did occur, and Yankton County was impacted. The primary cause of the flooding was very heavy snowmelt at the river's source in the Rocky Mountains, along with extremely high spring rains throughout much of the river's drainage basin. The complicated politics concerning river management also played a role in the disaster that unfolded over the next few months.

⁴ A high hazard dam is one whose loss would cause major economic loss, and in which there are anywhere from a few to hundreds of inhabited structures located in the predicted area of inundation.

Flooding also is possible elsewhere in the county. Designated flood hazard zones are located along many of the county's drainages, and in Mission Hill and Yankton, but the flooding that occurs in these areas usually is fairly minor and temporary. Typical causes are snow melt followed by heavy spring rain, or flash flooding after very heavy rain.

Extent

Major flooding in Yankton County generally is associated with the James River overflowing its banks during the spring. Given the river's large drainage basin and the fact that it moves so slowly, excess water from snowmelt and heavy spring rains simply has nowhere to go. During really serious floods, considerable damage occurs to farmland along the river, ruining crops that have already been planted, or in some years making planting impossible. James River flooding also can impact county roads, which often remain closed for long periods of time. During the worst years of flooding along the river, the river rises so high that some bridges over the river have to be closed.

During the epic Missouri River flood of 2011, the Missouri reached a record high level of 6.1 feet above flood stage at Yankton in June, and finally began receding in late July. See **Table C.2 in Appendix C** for a description of this event.

History

As shown in **Table C.1 in Appendix C**, several flood events have resulted in a major disaster declaration in Yankton County. **Table C.2 in Appendix C** shows many other flooding events that have impacted the county. Following is a summary of some of the more significant floods the county has experienced.

Serious flooding in 1984 resulted in FEMA Disaster Declaration 717, which caused almost \$4.5 million of damage in the affected counties.

Flooding in 1993 resulted in FEMA Disaster Declaration 999, which impacted 39 counties in South Dakota. The flood caused \$53,427,320 in damage throughout the state, and \$11,024,621 of damage to public infrastructure. At the time, the disaster was considered one of the top ten natural disasters ranked by FEMA relief costs. In Yankton County, the James River inundated thousands of acres of farmland.

Flooding in 1995 resulted in FEMA Disaster Declaration 1052. All of South Dakota had above normal precipitation from January through May, with many weather stations in the central and eastern portions of the state experiencing their all-time wettest Spring. Damage was caused by ground saturation and flooding due to very high residual groundwater tables from 1994, heavy winter snow and spring rain, and rapid snowmelt. Many roads were under water due to high groundwater saturation, causing interruption of emergency services. Damage also included power transmission and distribution facilities owned by rural electric cooperatives. In the area impacted by the flood, surveys identified over 3,000 homes with some type of damage, the majority caused by groundwater seepage of one to three inches into basements. In many areas the water table rose almost to the surface, saturating septic

drain fields and preventing proper treatment of wastewater. The total damage estimate in the affected counties was over \$35 million, which included \$9.3 million in damage to public infrastructure.

Flooding in 1997 resulted in FEMA Disaster Declaration 1173, which was declared for all counties in South Dakota. At the time, the event was considered one of the top ten natural disasters ranked by FEMA relief costs. From November 1996 through February 1997, the weather across the eastern part of the state was cold and very wet, with record setting snowfall in many places. The persistent cold greatly limited snowmelt between storms, which caused snow to pile up from 10 to 24 inches deep. An early April blizzard added to the snow pack, and heavy rain later in the month combined to further saturate the ground. Prairie potholes turned into lakes, causing many people to be evacuated from their homes and farms, and preventing farmers from planting thousands of acres of land. The flood caused over \$87 million in damage statewide, and took the lives of two people. The James River Water Development District estimated that five years of flooding had destroyed or severely damaged approximately 75 percent of the forested areas in the James River valley.

Flooding in 2004 resulted in FEMA Disaster Declaration 1531, which caused over \$2 million in damage in the affected counties. Public assistance costs in Yankton County were over \$45,000.

Flooding in 2010 in eastern South Dakota was the worst in several years. The James River set records for highest ever flood stage at several locations. Farmland and low-lying areas along the river were inundated, and some of the bridges over the river had to be closed until floodwaters subsided. In Yankton County, 431st Avenue (also known as the Stone Church Road) and 436th Avenue were both closed for an extended period. Public assistance costs in Yankton County were almost \$60,000.

The Missouri River flood of 2011 may have been the most notable flooding event ever to occur in the recorded history of South Dakota, resulting in FEMA Disaster Declaration 1984. The flood began to develop in May and increased throughout the month as runoff from excessive upstream snowmelt and rain reached the area, necessitating record high dam releases all along the Missouri (the front cover shows Gavins Point Dam in June 2011). The unprecedented releases flooded numerous homes below Gavins Point Dam, including most of the homes at Larsen's Landing. Without an intensive sandbagging effort at Larsen's Landing and elsewhere below the dam, many more homes would have been flooded. Total public assistance costs in Yankton County were over \$320,000.

Flooding in 2019 had a major impact throughout the year in Yankton County, starting in March when heavy rainfall fell on frozen ground, which led to considerable overland flooding of agricultural lands and inundation of numerous roads. Yankton County suffered as much damage as any county in the state, with flooding of city streets occurring in Yankton on March 13. This event resulted in FEMA Disaster Declaration 4440. Flooding continued during the summer, and became even more severe in September when very heavy rainfall flooded many roads, and over 50 residential properties in the county. Five of the six bridges crossing the

James River in Yankton County were closed, including U.S. Highway 81 north of Yankton, the first time that had happened since the road grade there was raised in 1999. The highway was reopened a few days later. Currently, two roads within the county remain closed due to the flooding that occurred in 2019 (see **Figure 3.1**). The September flooding resulted in FEMA Disaster Declaration 4469.

Probability

Based on the historic evidence, the probability of minor flooding occurring somewhere in Yankton County in a given year is moderate, but the probability of flooding resulting in significant damage is low. Major flood damage in the county is most likely along the James River. It is a certainty that flooding will continue to impact the county to some degree, no matter what mitigation actions are pursued.

Resources and Capabilities

Yankton County and each municipality within the county, except for the Town of Volin, participate in the National Flood Insurance Program (NFIP). Each of the participating communities is in good standing with the program, and each has a flood ordinance designed to reduce flood risk. The following table provides information on NFIP participation in the county.

Table 3.3 – National Flood Insurance Program Information

| Jurisdiction | NFIP Participation Status | Current Effective Map Date | Insurance Policies in Force | Amount of Coverage | Number of Claims | Total Claims Paid | Repetitive Loss Properties | Repetitive Loss Payments |
|--------------|---------------------------|----------------------------|-----------------------------|--------------------|------------------|-------------------|----------------------------|--------------------------|
| Yankton Co | Yes | 07/06/10 | 51 | \$10,089,600 | 44 | \$976,649 | 2 | \$25,123 |
| Gayville | Yes | (NSFHA) | | | | | | |
| Lesterville | Yes | (NSFHA) | | | | | | |
| Mission Hill | Yes | 07/06/10 | 2 | \$443,000 | | | | |
| Utica | Yes | 07/06/10 | | | | | | |
| Volin | Sanctioned | | | | | | | |
| Yankton | Yes | 07/06/10 | 33 | \$8,641,300 | 20 | \$626,896 | 5 | \$594,844 |

Sources: www.fema.gov/policy-claim-statistics-flood-insurance; Marc Macy, SD NFIP Coordinator

Following is a description of other local resources and capabilities available for mitigating damage from flooding.

- Yankton County has a drainage ordinance that provides a framework for landowners in the county to help them plan and execute drainage activities that could affect their land and neighboring land. The ordinance is enforced by a Drainage Administrator, working under the direction of a drainage subcommittee of the Yankton County Commission.
- Yankton County is a member of the James River Water Development District. The Yankton County Commission works with the water development district regarding management issues involving the James River. Actions in the county that have

been partially funded by the district include removal of downed trees along the river, which has improved water flow.

- The City of Yankton has been proactive in dealing with flood prevention, including acquisition of a considerable amount of land located in the flood hazard zone, and stringently enforcing flood regulations, such as requiring construction above flood elevations. In the early 2000s, in response to provisions of the Clean Water Act administered by the U.S. Environmental Protection Agency, the City adopted stormwater management regulations to address the quality of storm water discharged from the community.
- A monitoring gauge was installed in June 2010 on the James River at the 303rd Street river crossing. Until then, the closest gauge on the river was just north of the Yankton County line. The new gauge has improved the ability of emergency management officials to plan for flooding events along the James River.
- Inspection and maintenance of dams, culverts, and other drainage structures is performed regularly in the county.
- The bridge on 431st Avenue over the James River in the northwest part of the county has gates so that the road can be closed if water gets too high.
- The U.S. Army Corps of Engineers has a comprehensive safety program in place at all of the dams under its control, including Gavins Point Dam. This includes regular maintenance checks, evaluation of instrumentation data throughout the year, and protocols and procedures to limit public access to the dam. More comprehensive Periodic Inspections are performed every five years.

Drought

Description

Drought is a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. It is a normal, recurrent feature of climate that occurs in virtually all climate zones. Human factors, such as water demand and water management, can exacerbate the impact that drought has on a region.

Droughts can occur at any time of the year, but the consequences are worse during the summer growing season. A small departure in normal precipitation during the months of June through August can have a significantly negative impact on crop production. The demand for water for multiple uses also impacts water availability. Rural water systems that were originally designed to supply water for people are now also being used for cattle and to fight wildfires, taxing the limits of the systems.

Drought in South Dakota is often accompanied by periods of extreme heat. According to the National Weather Service, among natural hazards, only the cold of winter—not lightning, hurricanes, tornadoes, floods, or earthquakes—takes a greater toll on human life. Between 1936 and 1975, nearly 20,000 people were killed in the United States by the effects of heat and solar radiation, and in the heat wave of 1980, more than 1,250 people died. Elderly

people, small children, those with chronic illnesses, and those on certain medications are particularly susceptible to heat stress.

Location

All areas of the county are equally likely to be impacted by drought.

Extent

Drought severity, the most commonly used term for measuring drought, is a combination of the magnitude and duration of the drought. In terms of magnitude, Yankton County has experienced five years of annual precipitation less than two thirds its average amount since 1960. Those years were 1967, 1974, 1976, 1980, and 2012. In terms of duration, it is not unusual for Yankton County to experience periods of below normal precipitation that last for several months. During the 1930s, drought conditions persisted for multiple years. In an area that is so highly dependent on agriculture, the impact of a major drought can be significant. Although most agricultural producers now have crop insurance and agricultural practices today are more advanced, the impacts of drought can still be serious.

History

Yankton County has experienced many significant droughts. The drought of 1976 was one of the most severe in recent years, resulting in South Dakota's only drought emergency declaration to date. Just over 16 inches of rain was recorded for the year at the Yankton weather station. Drought in 1980 and 1981 affected the entire state of South Dakota, and was rated as a 10 to 25 year event. A drought in 2012 also was severe; it was so devastating that the State of South Dakota activated a Drought Task Force.

The most significant drought in Yankton County's history occurred in the 1930s, the so called dust bowl years. The drought came in three waves, 1934, 1936, and 1939-1940, but some parts of the Great Plains experienced drought conditions for as many as eight consecutive years. The soil, depleted of moisture, was lifted by the wind into great clouds of dust and sand which were so thick they concealed the sun for several days at a time. The "black blizzards" were caused by sustained drought conditions, compounded by years of land management practices that left topsoil susceptible to the forces of the wind.

Probability

Table C.2 in Appendix C shows at least one drought record in Yankton County in five of the years since 1999. Based on this, the probability of a significant drought occurring in the county in any given year is moderate. The probability of a truly severe drought impacting the county, such as occurred in 2012, is low, expected to occur no more than twice per ten years.

At the statewide level, the developers of the South Dakota Hazard Mitigation Plan cite tree ring research spanning a period of about 400 years indicating that multi-year droughts as significant as the 1930s drought occur on average every 57 years in South Dakota. Based on historical records, notable droughts have occurred somewhere in the state on average about every 12 years.

Resources and Capabilities

Resources at the local level in Yankton County to mitigate the impacts of drought are available. The Bon Homme-Yankton Rural Water System has restrictions on the amount of water that it will distribute to the communities it serves, and could take such action during extreme drought conditions. Likewise, the communities served by the water system could enact regulations restricting non-essential water use, such as for watering lawns and washing cars.

In the agricultural sector, most farmers in Yankton County have crop insurance, which helps lessen the financial impact of drought. Furthermore, modern agricultural practices are more advanced (such as no-till farming and the development of more drought-tolerant crops), so farmers can better withstand years of below average rainfall.

Resources available at the state or regional level include the State Drought Task Force, which was activated during the severe drought of 2012. The goal of the task force is to monitor drought conditions by gathering the most current data available and to make sure that South Dakotans have access to that information as quickly as possible. The group coordinates the exchange of drought information among government agencies and agriculture groups, fire managers, and water-supply organizations. Another resource is the Natural Resource Conservation Service, which has information available about how to deal with droughts.

Wildfire

Description

Wildfires are uncontrolled conflagrations that spread freely through the environment. Such fires that occur near populated areas pose threats not only to natural resources, but also to human life and personal property. Wildfires are not as serious a concern in Yankton County as they are in other more forested parts of the country, but the opinion of the planning team is that the hazard does warrant some attention in this plan.

Location

Wildfires in Yankton County are most likely to occur in large areas of extensive brush or unmanaged vegetation, including pastures and other types of grassland, dried out wetlands, and wildlife production areas. This includes the hills and draws along the Missouri River west of Yankton, which contain a significant amount of cedar trees and thick brush. As discussed further in the Vulnerability and Loss Potential section of this chapter, ongoing residential development in this area has created a wildfire interface zone (see **Figure 3.1**).

Extent

Each of the fire departments in the county submits reports to the South Dakota Division of Wildland Fire about the fires they fight. The division compiles the reports and produces a comprehensive database of all the records, which the planning team was able to obtain for fires occurring in the county from 2000 through 2019. The following table summarizes this

information in terms of the size of the fires that have been fought. It shows that most of the fires have been fairly small, most impacting no more than a few acres.

Table 3.4 – Wildfires in Yankton County (2000 - 2019)

| 1 to 10 Acres | 10 to 49 Acres | 50 to 99 Acres | 100 to 249 Acres | 250 + Acres |
|------------------|-------------------|-------------------|---------------------|----------------|
| 125 | 58 | 14 | 3 | 1 |

Source: South Dakota Division of Wildland Fire (based on reports from the local fire departments)

According to the database, the most common specific causes of wildfires in Yankton County are from debris catching fire, equipment usage, and open burning, although it should be noted that the cause for many of the fires is not known. Information is not available on the dollar amount of damage caused by any of the wildfires, or whether any injuries or deaths occurred.

History

Some notable wildfires have occurred in Yankton County, but nothing on a truly destructive scale. The largest fire in recent years burned approximately 550 acres in March 2009 near Lesterville.

Probability

Wildfires affecting less than ten acres are likely to occur somewhere in Yankton County most years, but large scale wildfires are much less common. **Table 3.4** shows only one wildfire of at least 250 acres in size between 2000 and 2019. Based on this period of analysis, the probability of a significant wildfire can be considered low. The probability of a wildfire causing serious damage also is low.

Resources and Capabilities

Several fire departments are based in the county. Each department has volunteer firefighters who have had training in fighting wildfires; the level of training varies from basic to advanced. The departments also have adequate equipment and protective gear for their volunteers to handle most of the wildfires they are likely to encounter. Various mutual aid agreements also are in place which helps ensure that assistance is available during particularly serious wildfires and other emergency events. A summary of the capabilities of each fire department is presented in the following table.

Table 3.5 - Fire Department Resources and Capabilities

| Department | Members | Vehicles | HazMat Capability |
|-------------|---------|----------|----------------------|
| Gayville | 29 | 6 | Awareness |
| Lesterville | 24 | 7 | Awareness |
| Yankton | 49 | 16 | Awareness/Operations |

To minimize the possibility of wildfire occurrences, Yankton County has adopted an open burning ordinance, which prohibits open burning during very dry periods. The bans are issued

by the Yankton County Emergency Management Office on the authority of the Yankton County Commission. Also, a requirement is in place that those wanting to start controlled burns must first contact the Yankton dispatch center.

Vulnerability and Loss Potential

This section assesses the vulnerability of Yankton County and the participating jurisdictions to each of the hazards just profiled. Vulnerability is defined as the extent to which people and property are exposed to harm or damages created by a hazard. The method of determining vulnerability varies by the type of hazard and the availability of data, but each methodology is based on either potential for loss or actual losses. Following is a description of each specific methodology used.

Potential Loss Methodologies

- FEMA digital Flood Insurance Rate Maps were used to identify 100-year flood zones. Using GIS, these flood zones were overlaid on parcel layer data to provide estimates of loss potential at the community level.
- FEMA's HAZUS loss estimation software was used to estimate potential losses from flooding. HAZUS produces a flood polygon and flood-depth grid that represents the 100-year floodplain, with losses calculated using national baseline inventories (buildings and population) at the census block level. The maps generated by HAZUS are not as accurate as FEMA's Flood Insurance Rate Maps, nor is the resulting data, but HAZUS is still a helpful planning tool for communities that have not been mapped by the National Flood Insurance Program ⁵.
- Data on the population living in wildfire threat zones was used to estimate potential wildfire losses.
- The value of buildings within the county was used to estimate potential losses due to winter storms and summer storms (building exposure).
- Population density within the county was used to estimate potential losses due to winter storms and summer storms.

Actual Loss Methodologies

- The National Climatic Data Center's Storm Events Database was consulted for historic information regarding weather events (see **Table C.2 in Appendix C**).
- Records from FEMA were consulted for federal assistance provided to Yankton County following major disaster declarations through FEMA's Public Assistance program (see **Table C.1 in Appendix C**).

⁵ A limitation of HAZUS is the inadequacies associated with its hydrologic and hydraulic modeling, especially in sparsely populated areas where census blocks - the basis of the loss calculations - are large. The software assumes the population and building inventory to be evenly distributed over the census blocks, whereas in reality flooding may occur only in a small part of the block where there are few buildings or people. Also, HAZUS uses default national databases that may not be applicable at the local level.

- Data from the U.S. Dept of Agriculture Risk Management Agency was used to assess crop loss due to a variety of natural hazards.
- Information from the National Drought Mitigation Center's Drought Impact Reporter was used to assess the local impact of droughts.
- Data from the South Dakota Division of Wildland Fire was used to assess the historical impact of wildfires in the county.

At the conclusion of the vulnerability assessment for each hazard, development trends are considered to determine whether the county's vulnerability to the hazard might increase in the future. Information on development trends in the county was obtained by analyzing population trends and projections, and through discussion with county officials about where housing development and other growth may occur. Other factors, including the possible impact of climate change, also are considered.

At the end of the chapter, the county's vulnerability to each hazard is summarized. Vulnerability is characterized as either "low", "moderate", or "high", based on the results of the risk analysis. A brief discussion of vulnerable populations within the county also is presented.

Winter Storms

All areas of South Dakota are vulnerable to winter storms, and the consequences of such storms can be great. They can disrupt the power supply when electrical lines are brought down by high winds, falling trees, or extreme ice buildup. Everyday activities can be significantly disrupted when road conditions deteriorate because of snow cover or precipitation that freezes on road pavement. In extreme situations, roads can be closed because of accumulated snow for days or even weeks. Winter storms also can kill or injure livestock, and can cause significant crop losses when they occur early in the growing season.

The rural areas of the county may be more vulnerable to winter storms than the towns. For example, transmission of electricity in rural areas is dependent on many miles of power lines located in open country that is highly susceptible to high wind events, especially when combined with freezing rain (high winds can snap power poles, and freezing rain and sleet forms ice on the lines, making them heavy and more susceptible to being blown down). Rural residents also are vulnerable if roads are blocked by snow for an extended period of time and they cannot travel into town for groceries, medical supplies, or other important items.

To assess the county's vulnerability to winter storms, the methodology that was used in the South Dakota Hazard Mitigation Plan was essentially followed for this plan. The following factors were considered:

- The number of prior winter storm events in the county
- Past damage amounts
- The county's building exposure
- Population density

Prior Events:

Table C.2 in Appendix C shows that numerous winter storms have occurred in Yankton County, including blizzards, ice storms, heavy snows, and extreme cold events. The authors of the South Dakota Hazard Mitigation Plan found that there were 77 total winter storm events in the National Climatic Data Center's Storm Events Database between January 1993 and August 2016 for Yankton County, ranking the county 23rd among the state's counties.

Past Damage Amounts:

Winter storms have the potential to cause significant amounts of damage. The ice storm that occurred in November 2005 caused over \$100,000 of damage to Bon Homme-Yankton Electric Association infrastructure in Yankton County, and many other winter weather events have caused significant amounts of damage in the county.

Given Yankton County's agriculturally-based economy, another method to determine vulnerability is to look at the impact of winter storms on the county's agricultural producers. Farmers typically protect themselves from the impacts of adverse weather and other natural hazards by insuring their crops against losses through multi-peril crop insurance, which is underwritten by the Risk Management Agency, a part of the U.S. Dept of Agriculture. Data on indemnity payouts for crop loss in Yankton County due to various types of winter weather events between 2000 and 2017 was obtained from the Risk Management Agency, and is presented in the following table. During this period of analysis, winter weather-related payouts accounted for less than 1% of all indemnity payouts in Yankton County.

Table 3.6 – Crop Loss Due to Winter Weather

| Year | Frost | Freeze | Cold Winter | Cold Wet Weather |
|------|---------|----------|-------------|------------------|
| 2000 | \$0 | \$192 | \$150 | \$0 |
| 2001 | \$0 | \$12,399 | \$2,609 | \$1,273 |
| 2002 | \$0 | \$0 | \$930 | \$1,104 |
| 2003 | \$0 | \$0 | \$0 | \$0 |
| 2004 | \$0 | \$831 | \$0 | \$1,820 |
| 2005 | \$6,191 | \$691 | \$271 | \$7,956 |
| 2006 | \$0 | \$0 | \$0 | \$0 |
| 2007 | \$961 | \$2,062 | \$223 | \$0 |
| 2008 | \$0 | \$0 | \$228 | \$1,917 |
| 2009 | \$0 | \$0 | \$571 | \$8,811 |
| 2010 | \$0 | \$0 | \$0 | \$12,828 |
| 2011 | \$1,053 | \$1,020 | \$0 | \$514,139 |
| 2012 | \$0 | \$0 | \$1,470 | \$0 |
| 2013 | \$0 | \$0 | \$3,635 | \$0 |
| 2014 | \$0 | \$3,316 | \$136,971 | \$20,938 |
| 2015 | \$0 | \$0 | \$8,666 | \$8,906 |
| 2016 | \$0 | \$0 | \$0 | \$19,779 |
| 2017 | \$0 | \$0 | \$7,631 | \$9,527 |

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

Building Exposure:

The total value of buildings in Yankton County is approximately \$2,630,700,000, according to the South Dakota Hazard Mitigation Plan, which ranks the county 8th among the state's 66 counties. The median figure for South Dakota counties is approximately \$605,000,000. The county's building exposure can thus be considered high.

Population Density:

Yankton County is the ninth most populous county in South Dakota. Compared to the rest of the state, Yankton County is densely populated, with an average of 42.2 people per square mile, much higher than the overall state figure of 10.5 people per square mile. However, this is much lower than the national average of 89.5 people per square mile. Yankton County can be considered at least moderate in terms of population density.

Development Trends

Looking ahead, Yankton County's expected population growth may increase vulnerability to winter storms. Climate change also may have an impact on local vulnerability to winter storms. According to the South Dakota Hazard Mitigation Plan, the winter season is warming at a faster rate than any other season in South Dakota, but winter storms and blizzards will continue to be a severe weather hazard in the state. Warmer winter temperatures could mean more ice and freezing rain events, which would impact electrical utilities and communication systems, the transportation system, and livestock. An increase in the frequency of large snowfall events also is being experienced in the northern U.S. There remains some uncertainty in projections for the coming decades, but the rising trend of extreme precipitation events is something that needs to be considered.

Summer Storms

All areas of Yankton County are vulnerable to summer storms, especially those that are accompanied by tornadoes, lightning, or large hail. Typical damage from summer storms includes blown down power lines, crop damage from hail and high wind, property damage if a populated area is struck, and flooding as the result of heavy rain. Like the rest of the Great Plains, Yankton County is especially vulnerable to summer storms accompanied by high wind because the landscape is open, with little topographic relief to block the wind. Infrastructure and facilities located at higher elevations may be particularly vulnerable to high wind events.

Vulnerable populations include the elderly, the sick, those with a mobility limitation, and people who happen to be outside during a storm event. People living in mobile homes are also vulnerable, since such structures can be overturned by winds of 60 to 70 miles per hour if they are not anchored properly.

As with winter storms, the methodology used in the South Dakota Hazard Mitigation Plan to assess vulnerability to summer storms was followed. The following factors were considered:

- The number of prior summer storm events in the county
- Past damage amounts

- The county's building exposure
- Population density

Prior events:

Table C.2 in Appendix C shows many significant summer storms that have been recorded in Yankton County, including hailstorms, thunderstorms, lightning, and tornadoes. The table shows 25 recorded tornadoes. The authors of the South Dakota Hazard Mitigation Plan assigned a rating of 4 (out of 10 maximum) to Yankton County in terms of the frequency of tornadoes recorded between 1950 and 2016, and assigned a rating of 6 for tornadoes of magnitude F1 or greater.

Past Damage Amounts:

Summer storms have the potential to cause significant amounts of damage, especially when accompanied by tornadoes or hail. Recent events include a tornado in May 2007 that caused approximately \$100,000 of damage, and a hailstorm in July 2009 that caused several million dollars of property and crop damage. As shown in **Table C.2**, many other summer storm events have caused lesser amounts of property and/or crop damage in the county.

As with winter storms, another method to determine the county's vulnerability to summer storms is to look at the impact of such storms on the county's agricultural producers. Summer storms can cause a lot of damage to cropland, especially when they are accompanied by hail. Data on indemnity payouts for crop loss in Yankton County due to hail as well as high wind events between 2000 and 2017 was obtained from the Risk Management Agency, and is presented in the following table. During this period of analysis, summer storm-related payouts represented almost 6% of all indemnity payouts in Yankton County.

Table 3.7 – Crop Loss Due to Severe Summer Weather

| Year | Hail | High Wind | Year | Hail | High Wind |
|------|-----------|-----------|------|-------------|-----------|
| 2000 | \$184,037 | \$1,323 | 2009 | \$1,490,557 | \$0 |
| 2001 | \$16,662 | \$0 | 2010 | \$6,316 | \$0 |
| 2002 | \$706,965 | \$0 | 2011 | \$2,336,633 | \$6,514 |
| 2003 | \$8,498 | \$23,078 | 2012 | \$0 | \$204,276 |
| 2004 | \$413,610 | \$3,640 | 2013 | \$124,922 | \$31,938 |
| 2005 | \$125,984 | \$0 | 2014 | \$29,447 | \$4,012 |
| 2006 | \$78,312 | \$0 | 2015 | \$36,970 | \$5,027 |
| 2007 | \$30,054 | \$1,949 | 2016 | \$6,179 | \$35,124 |
| 2008 | \$34,063 | \$99,309 | 2017 | \$119,958 | \$24,719 |

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

Building Exposure:

The total value of buildings in Yankton County is approximately \$2,630,700,000, according to the South Dakota Hazard Mitigation Plan, which ranks the county 8th among the state's 66 counties. The median figure for South Dakota counties is approximately \$605,000,000. The county's building exposure can thus be considered high.

Population Density:

Yankton County is the ninth most populous county in South Dakota. Compared to the rest of the state, Yankton County is densely populated, with an average of 42.2 people per square mile, much higher than the overall state figure of 10.5 people per square mile. However, this is much lower than the national average of 89.5 people per square mile. Yankton County can be considered at least moderate in terms of population density.

Development Trends

Looking ahead, the county's expected growth in population suggests that vulnerability to summer storms may increase in the future. Regarding the impact of climate change, the South Dakota Hazard Mitigation Plan cites the Climate Science Special Report from 2017, which states that damages from convective weather hazards, such as severe thunderstorms and tornadoes, have undergone the greatest increase relative to other extreme weather since 1980. The plan states that the tornado season is getting longer, and that an increase in potential days for severe thunderstorms is projected for the mid to late 21st century, although the largest increases are projected for neighboring regions of the Midwest and the southern plains. There is some uncertainty in these projections, but severe thunderstorms and tornadoes will remain a hazard in South Dakota.

Flooding

Like all counties in South Dakota, Yankton County is vulnerable to flooding. Because of the specific nature of flooding, the county's vulnerability to flooding will be analyzed first on a general county-level basis, and then specifically for each community. Given the degree to which flooding is geographically-based, this approach made sense to the planning team.

General Flood Vulnerability

According to the HAZUS analysis that was run for the South Dakota Hazard Mitigation Plan (see Table 3-45 of that plan), the potential building damage loss from flooding in Yankton County is \$81,492,000. The median figure for all South Dakota counties is approximately \$2,800,000. Overall, Yankton ranks 3rd among the state's 66 counties in this measure of vulnerability. The potential displaced population in the county was determined to be 3,328 people, compared to the median for South Dakota counties of 255.

As of August 2021, there are a total of 86 National Flood Insurance Program policies in Yankton County, with 64 claims having been paid since 1978. There are seven repetitive loss properties in the county. See **Table 3.3** on page 27 for further details about NFIP participation in the county.

In addition to impacting buildings and other structures, a good deal of public infrastructure throughout the county is vulnerable to flooding. Flood damage frequently involves washed out or damaged roads and drainage culverts, often occurring in the spring, especially following winters with heavy snow. Roads and infrastructure in the vicinity of the James River typically experience the most severe flooding. Continued bank erosion along the James has

put some bridges at risk, including the bridges at 303rd and 309th Street. Private property damage is usually minimal, with the notable exception of the 2019 flood (see Risk Assessment Summary on p.45).

Flooding also has a major impact on agriculture. Spring flooding can delay farmers getting into their fields to plant, and later in the growing season it can damage crops. Data on indemnity payouts for crop loss in Yankton County due to flooding, as well as excess moisture/precipitation, between 2000 and 2017 was obtained from the Risk Management Agency, and is presented in the following table. During this period of analysis, flood-related payouts represented just under 19% of all indemnity payouts in Yankton County, second only to drought.

Table 3.8 – Crop Loss Due to Flooding

| Year | Flooding | Excess Moisture/ Precipitation | Year | Flooding | Excess Moisture/ Precipitation |
|------|-----------|-----------------------------------|------|-----------|-----------------------------------|
| 2000 | \$2,337 | \$97,602 | 2009 | \$262,208 | \$1,035,851 |
| 2001 | \$0 | \$924,508 | 2010 | \$210,122 | \$2,212,145 |
| 2002 | \$0 | \$109,775 | 2011 | \$153,863 | \$2,526,973 |
| 2003 | \$4,602 | \$184,471 | 2012 | \$16,032 | \$11,688 |
| 2004 | \$858 | \$182,343 | 2013 | \$0 | \$92,131 |
| 2005 | \$25,420 | \$2,025,764 | 2014 | \$160,258 | \$219,330 |
| 2006 | \$0 | \$66,180 | 2015 | \$0 | \$150,884 |
| 2007 | \$79,526 | \$1,451,696 | 2016 | \$10,287 | \$3,270,440 |
| 2008 | \$371,554 | \$3,270,543 | 2017 | \$5,260 | \$1,191,471 |

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

2019 was probably the worst year ever in terms of flooding's impact on South Dakota's agricultural producers. The state ranked first in the nation with almost 4 million acres of farmland prevented from being planted due to flooding, more than double the next nearest state. Yankton County ranked 19th in the state with a total of approximately 81,000 acres not planted.

The county also is vulnerable to flooding due to dam failure, primarily because of Gavins Point Dam, an earthen fill structure built in 1957 that is 8,700 feet wide and 74 feet high. The dam impounds Lewis and Clark Lake, which covers an area of about 48 square miles with a storage capacity of 492,000 acre feet. If the dam failed, the consequences could be catastrophic. Depending on the extent of the failure, water could cover a large area below the dam within a matter of a few hours, putting several hundred people in the housing developments below the dam at risk, as well as people staying at the recreational area located immediately below the dam. A large portion of southeast Yankton also could be flooded.

It had once been thought that the system of dams on the Missouri River had essentially eliminated the threat of flooding along the river. However, flooding did occur along the Missouri in 2011, due to heavy snowmelt at the river's source in the Rocky Mountains and extremely high rainfall throughout the river's drainage basin in the spring of 2011.

Mismanagement of dam releases - which can be considered a type of dam failure - exacerbated the situation.

The Marindahl Dam is another high hazard dam located in Yankton County. The dam was built in 1947, and its spillway was repaired in 2000. Its normal storage capacity is 1,570 acre-feet, and its maximum capacity is 3,060 acre-feet. According to the Marindahl Dam Emergency Preparedness Plan, the dam is considered to be in reasonably good condition, with the ability to handle 50% of the probable maximum flood without floodwaters overtopping the embankment. There are two farm properties located downstream from the dam that could be affected by flooding, the nearer of which would be impacted in about 25 minutes. The house elevation of the nearer property is two feet higher than the predicted flood wave elevation, while the house elevation of the other property is seven feet below the predicted flood wave.

Local Flood Vulnerability

At the community level, flood vulnerability was determined by using FEMA's HAZUS loss estimation software to estimate potential losses from flooding during a 100-year flood event, and by using GIS software to determine the value of property at risk of being flooded. The following table summarizes the results of the HAZUS analysis, showing a considerable amount of risk in Yankton. It should be noted that the HAZUS runs may have included some land outside the cities' incorporated limits.

Table 3.9 – HAZUS Base Flood Loss Estimation Results

| Community | Building Structural Damage | Debris Generated | Households Displaced | People Needing Shelter |
|--------------|----------------------------|------------------|----------------------|------------------------|
| Gayville | \$147,000 | 128 tons | 115 | 19 |
| Lesterville | HAZUS FAILED TO RUN | | | |
| Mission Hill | \$243,600 | 241 tons | 50 | 16 |
| Utica | \$0 | 0 tons | 2 | 0 |
| Volin | \$0 | 2 tons | 4 | 0 |
| Yankton | \$17,010,100 | 10,231 tons | 1,233 | 922 |

Source: FEMA HAZUS loss estimation software

The following table shows the amount and value of property at risk of flooding. The analysis was done by using GIS software to overlay areas of known flood risk (either the 100 year floodplain or the area identified by HAZUS as flood prone) on parcel data supplied by the county.

Table 3.10 – Property in Flood Prone Areas

| Community | Number of Housing Units | Assessed Value (Improvements) |
|--------------|-------------------------|-------------------------------|
| Gayville | 57 | \$3,900,000 |
| Mission Hill | 19 | \$355,000 |
| Yankton | 225 | \$12,850,000 |

Source: FEMA HAZUS loss estimation software; Yankton County Director of Equalization

Development Trends

Looking ahead, Yankton County's expected increase in population could impact vulnerability to flooding. In particular, continued development along Lewis and Clark Lake and other areas along the Missouri River could increase risk.

Another factor that is likely to increase Yankton County's vulnerability to flooding is the continuing conversion of wetlands and other marginal land to agricultural production. Farming these marginal lands is increasing the probability and severity of flooding in certain areas as the land's natural capacity to absorb excess surface water is decreased. The primary impact is on rural roads and infrastructure. Precise statistics on the amount of road damage that flooding has caused over the years in Yankton County are not available, but there appears to be little doubt that county and township roads are suffering more flood-related damage than they used to. Future updates to this plan could explore this trend in more depth.

The nature and frequency of flooding also could be altered by climate change. There is no comprehensive assessment of how climate change might affect flooding in South Dakota, but regional trends for the northern Great Plains show a trend toward less frequent, but more intense, rain events. Climate projections indicate that 1-day, 20-year return events may increase in frequency by 8% to 16% in the coming decades. In the northern Great Plains region, this is compounded by an overall wetter trend of about 15% increase when comparing the years 1986-2015 to 1901-1960. The additional moisture overall can add to the increase in precipitation per extreme event.

Drought

Without question, Yankton County is vulnerable to drought. As shown in **Table C.2** in **Appendix C**, there are 19 drought records for the county in the Storm Events Database just since 1999, with many more droughts known to have occurred before then. The biggest impact of drought in Yankton County is in the agricultural sector, which is not surprising, given the county's heavy reliance on farming. Non-irrigated cropland is most susceptible to drought, and yield reductions due to moisture shortages can be aggravated by wind-induced soil erosion.

Data on indemnity payouts for crop loss in Yankton County due to drought and heat between 2000 and 2017 is presented in the table on the following page. During this period of analysis, drought-related payouts accounted for about 67% of all indemnity payouts in Yankton County, which was far higher than any other type of payout. It is safe to say that drought is one of the costliest natural hazards facing Yankton County farmers ⁶.

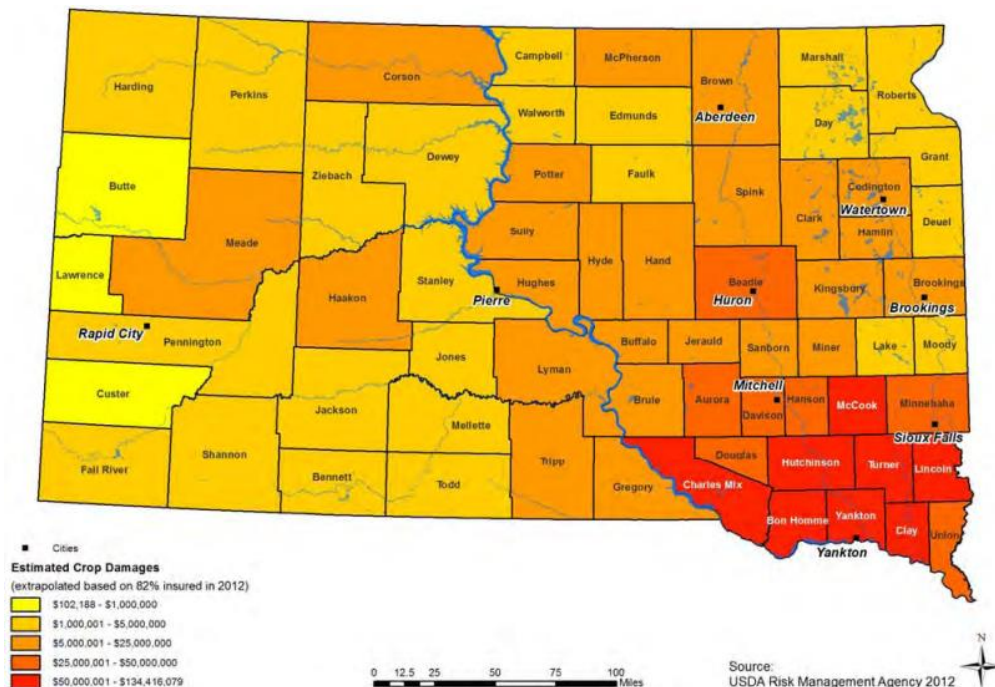
⁶ Drought also appears to be the costliest natural hazard statewide for South Dakota farmers. From 2000 through 2017, drought payouts accounted for approximately 50% of all indemnity payouts in the state.

Table 3.11 – Crop Loss Due to Drought and Heat

| Year | Drought | Heat | Year | Drought | Heat |
|------|-------------|-----------|------|--------------|-------------|
| 2000 | \$655,535 | \$21,974 | 2009 | \$50,286 | \$0 |
| 2001 | \$617,285 | \$24,176 | 2010 | \$0 | \$0 |
| 2002 | \$3,498,560 | \$35,349 | 2011 | \$132,263 | \$119,398 |
| 2003 | \$491,653 | \$55,719 | 2012 | \$53,375,690 | \$5,599,579 |
| 2004 | \$303,864 | \$869 | 2013 | \$61,041 | \$1,151 |
| 2005 | \$1,567,330 | \$73,074 | 2014 | \$76,818 | \$0 |
| 2006 | \$1,812,906 | \$39,247 | 2015 | \$86,013 | \$13,896 |
| 2007 | \$1,255,950 | \$135,922 | 2016 | \$515,643 | \$5,683 |
| 2008 | \$2,040,894 | \$0 | 2017 | \$649,755 | \$98,345 |

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

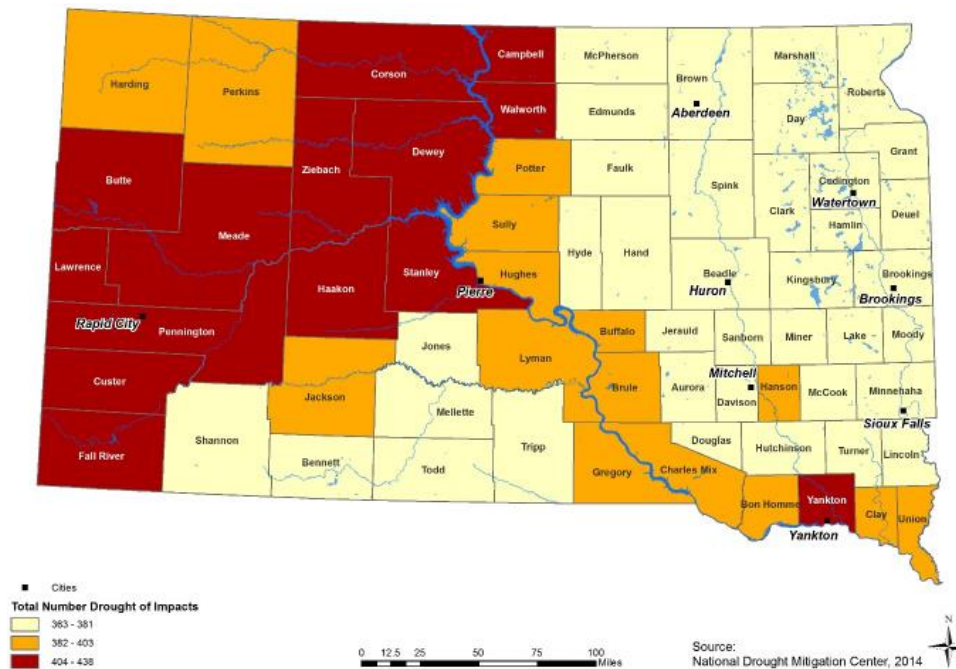
As the table shows, the 2012 drought had by far the biggest impact on the county's agricultural production. Only seven other counties in South Dakota suffered more loss than did Yankton County. The figure below, as reproduced from the South Dakota Drought Mitigation Plan, shows the 2012 drought's impact statewide.



To determine which areas of the state are most vulnerable to the agricultural impacts of drought, the authors of the South Dakota Drought Mitigation Plan conducted an analysis comparing crop losses in each county to the total value of the county's crops. Crop value was taken from the 2012 Census of Agriculture, while crop loss was based on the Risk Management Agency's crop indemnity data for the period 2000 to 2014. The resulting loss ratio is the average annual loss divided by total crop value; the higher the ratio the higher the vulnerability. Yankton County's average annual loss from drought for the 2000 – 2014 period was \$4,906,874, compared to a total crop value of \$56,866,000, resulting in a loss ratio of

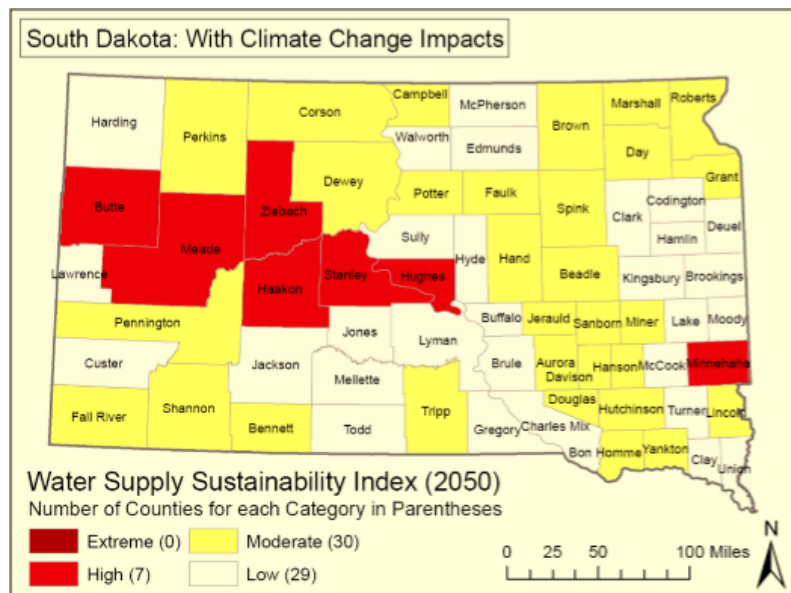
8.6%. The average loss ratio figure for South Dakota counties was 3.1%. Yankton County was assigned a “High” vulnerability rating for this measure of drought vulnerability.

Vulnerability also was assessed by reviewing the South Dakota Drought Mitigation Plan’s section on the National Drought Mitigation Center's Drought Impact Reporter. The Drought Impact Reporter analyzes drought impact information from a broad range of areas, including the social, economic, and environmental realms. As shown in the figure below, Yankton County is in the high range of counties in terms of number of drought impacts.



Development Trends

Vulnerability to drought may increase if current land use trends continue and more marginal land is brought into farm production. Climate change also may increase the frequency and severity of droughts in the future, according to many climate prediction models. An analysis performed for the Natural Resources Defense Council described in the South Dakota Drought Mitigation Plan examined the effects of climate change on water supply and demand in the United States. The study found that more than 1,100 counties nationwide may face higher risks of water shortages by mid-century as a result of increasing potential for drought due to climate change. This figure from



the Natural Resources Defense Council shows that Yankton County could face moderate water shortages in the future due to climate change.

Wildfire

Wildfire risk in Yankton County can be determined by analyzing historical records of actual wildfire losses in the county (see **Table 3.4** on page 31), or by estimating potential wildfire losses. To analyze potential wildfire loss in the county, data from the SILVIS Lab at the University of Wisconsin was used. The SILVIS data is classified into various categories based on the density of housing and vegetation in specific areas. Areas are classified as High, Moderate, or Low Risk threat zones. High Risk zones are areas of moderate to high density housing within heavily vegetated areas, Moderate Risk zones are areas of lower housing unit density within areas of high vegetation, and Low Risk zones have little vegetation and/or very low density housing.

The map that was generated using SILVIS data showed a few very small areas of fire risk in the county, and one large concentrated area of high risk west of Yankton, which is shown in **Figure 3.1**. The area at risk is concentrated on the Lewis and Clark residential area along Lewis and Clark Lake, an area of bluffs with a considerable amount of cedar trees and heavy brush. A fire that got out of control in this type of terrain could be difficult to contain, and Yankton Fire Department officials believe the potential exists for multiple homes being damaged or destroyed by a large wildfire in this area, particularly one spread by high winds. The total population and number of housing units in this area, and the other high wildfire risk zones in the county, is summarized in the table below, which is based on 2010 Census Block data.

Table 3.12 – Population in Wildfire Risk Zones in Yankton County

| Housing Units | Total Population | Median Home Value | Total Home Value |
|---------------|------------------|-------------------|------------------|
| 388 | 752 | \$115,500 | \$44,814,000 |

Source: State of South Dakota Hazard Mitigation Plan, based on data from the SILVIS Lab at the University of Wisconsin–Madison

The population of 752 living in a High or Moderate Risk threat zone ranks Yankton County 32nd among the state's counties, and it represents about three percent of the county's total population. Putting things in perspective, in South Dakota as a whole approximately 25% of the population lives in a wildfire threat zone. The total value of homes in Yankton County located in wildfire threat zones ranks 20th in the state, an indication that many of the homes at risk are fairly expensive.

Development Trends

Looking ahead, Yankton County's vulnerability to wildfires may increase somewhat in the future, especially in the growing residential developments west of Yankton. The continued spread of cedar trees could exacerbate the situation. These trees are spreading quickly in Yankton County, and efforts to control their spread have met with only limited success. The

fuel load they represent could turn an otherwise routine brush fire into a very serious situation.

Climate change also may increase local wildfire vulnerability. The South Dakota Hazard Mitigation Plan cites a U.S. Forest Service study that indicates the potential for an increase in future lightning activity and a higher frequency of weather patterns conducive to surface drying. These factors, together with higher summer temperatures, will likely increase the annual window of high fire risk by 10 to 30%. The plan states that predictions past 2040 are largely speculative, but there will be an increase in the potential for drought and the number of days in any given year with flammable fuels, which may extend the fire season.

Risk Assessment Summary

In this section, the vulnerability of Yankton County to each of the hazards profiled is summarized. The summary is presented starting with a general county-level overview, and then looking specifically at each of the communities. Maps are presented at the end of the section to augment the analysis, showing areas vulnerable to flooding; **Figure 3.1** also shows an area vulnerable to wildfire. Vulnerability to winter storms, summer storms, and drought is not mapped, as those hazards are likely to impact all areas of the county more or less equally. A brief discussion of vulnerable populations within the county also is presented.

- **Winter Storms**

Yankton County's vulnerability to winter storms can be considered very high (the authors of the South Dakota Hazard Mitigation Plan rated Yankton County the seventh most vulnerable of the state's counties to winter storms). All areas of Yankton County are vulnerable to winter storms. Major winter storms accompanied by heavy snow or freezing rain contribute to the vulnerability of county residents by making roads dangerous for travel. The isolation of residents living outside Yankton or the county's other communities puts them at increased risk. Some of these residents are more than 10 miles from the nearest place with groceries, medical service and supplies, or other important items. If roads are blocked by snow for an extended period of time, some rural residents, particularly the elderly, may be at risk. Winter storms accompanied by high winds have the potential to damage residential and commercial property in the county, as well as infrastructure. A major concern is the vulnerability of rural electric power infrastructure. When winter storms are accompanied by high winds and freezing precipitation, ice can build up on powerlines, which can cause the lines and poles to come down. It is a certainty that the county will remain vulnerable to winter storms no matter what mitigation actions are taken.

- **Summer Storms**

Yankton County's overall vulnerability to summer storms can be considered high (the authors of the South Dakota Hazard Mitigation Plan rated Yankton County tied for sixth most vulnerable among the state's counties to summer storms). All areas of the county are vulnerable to summer storms, and are highly vulnerable to summer storms that are accompanied by tornadoes or hail. A large amount of cropland in the county is vulnerable to

the effects of hail and other violent summer weather. Vulnerability may be somewhat higher in Lesterville and Utica, where about 12% and 22% of the housing stock respectively consists of mobile homes, compared to 10% statewide. The lack of building codes in the county outside of Yankton impacts vulnerability to summer storms.

- **Flooding**

The overall vulnerability of Yankton County to flooding can be described as high. Most of the vulnerability is to cropland and to rural county and township roads. The area of greatest concern generally is along the James River, where a considerable amount of farmland is vulnerable to flooding. During the worst years of flooding along the river, the river rises so high that some bridges over the river have to be closed. The potential for flood damage from the Missouri River also has to be acknowledged after the historic flood of 2011, which damaged many properties below Gavins Point Dam. Flooding impacts in 2019 were especially significant in Yankton County. Numerous county and township roads were flooded, resulting in approximately \$1.75 million of damages, and 64 properties throughout the county suffered varying degrees of flood damage totaling approximately \$1.5 million. **Figure 3.1** shows two road locations that remain closed due to flooding in 2019, and an area where several homes were severely flooded. Following is a summary of vulnerability to flooding in each of the communities:

Gayville: There is some vulnerability here, as shown in **Table 3.9** and **Table 3.10**. The total value of property vulnerable to flooding in the community is over \$3 million. The Gayville-Volin school is located in the flood prone area, but it has never suffered any significant flooding. Flooding in 2019 caused widespread sewage backups in the city, with at least ten homes impacted.

Lesterville: There appears to be little vulnerability here. However, the town's storm drainage system, located south of and along the Burlington Northern Santa Fe Railroad, is very old and has silted in considerably over the years, increasing the risk of flooding in the community. Flooding in 2019 impacted a few residences and caused significant road damage, resulting in almost \$400,000 of damage.

Mission Hill: There is some vulnerability here, as shown in **Table 3.9** and **Table 3.10**. The total value of property vulnerable to flooding in the community is over \$300,000. Mission Hill's water pump station is located in the flood hazard zone, and the town's main sewage lift station is considered vulnerable to flooding. In May 2016, after over two inches of heavy rain in the area, the lift station was overwhelmed by runoff, leading to emergency discharges of raw sewage for several hours. Flooding in 2019 impacted a few residences on the western side of town.

Utica: Although **Table 3.9** indicates essentially no vulnerability to flooding in Utica, this is somewhat misleading. The town was built on an old lakebed, and consequently drainage is poor. Many of the streets in the community, including Main Street, can become quite muddy after very heavy rainfall or during wet springs, at which time basement flooding is common. The situation was compounded in the 1990s when drainage pipes were installed along 435th Avenue to help drain a low area one mile south of Utica to prevent water overtopping the road, which had the unintended

consequence of moving more water into Utica. Flooding in 2019 impacted several residences and caused some road damage, resulting in about \$27,000 of damage.

Volin: There appears to be little vulnerability to flooding here, as indicated in **Table 3.9**, but there is a flood prone area just east of the community along Turkey Creek. Flooding in 2019 had little impact in Volin.

Yankton: Yankton is definitely vulnerable to flooding, as **Table 3.9** and **Table 3.10** both clearly indicate. **Table 3.10** shows that over 200 housing units with an assessed value over \$12 million are vulnerable to flooding. Part of the Fox Run Golf Course, two elementary schools, and the city's wastewater treatment plant are located in flood prone areas, and a considerable amount of commercial property is located in the flood zone along Marne Creek. Fairly substantial flooding used to occur along Marne Creek, but the situation was greatly improved in the 1990s when the creek was deepened and its bank stabilized. At the golf course, large ponds on the course act as retention ponds to hold excess water. The city stringently enforces flood regulations, and has acquired a considerable amount of flood prone property ⁷. Flooding in 2019 had a major impact in Yankton, with numerous residential properties suffering varying amounts of flood damage. Flooding along Marne Creek damaged water and sewer lines in some locations. The total damage estimate in the city was over \$18 million.

- **Drought**

Yankton County's vulnerability to drought can be considered high, and is certain to continue for the foreseeable future. All areas of the county are vulnerable to drought. The impact is primarily to the agricultural sector, where serious losses have occurred. Residential and commercial impacts of drought are minor. The Bon Homme-Yankton Rural Water System gets its water from the Missouri River and has never had difficulty delivering enough water to its customers.

- **Wildfire**

The overall vulnerability to wildfire in Yankton County can be considered low. Only 3% of the county's population considered to be living in a High or Moderate Risk wildfire threat zone, well below the statewide figure of 25%. Risk is somewhat higher in the residential areas west of Yankton along Lewis and Clark Lake, which is one of the fastest growing parts of the county.

Vulnerable Populations

To conclude the risk assessment summary, the issue of vulnerable populations is considered. Such individuals, including the very young, the elderly, those with physical or mental disabilities, and the very poor, may be particularly vulnerable to disaster events. Populations that tend to be isolated in some way from the rest of the community, such as racial minorities and those who are not fluent in English, also may be more vulnerable.

⁷ The City is in the process of acquiring five more properties in the Marne Creek flood zone with the help of a recent FEMA hazard mitigation grant.

The South Dakota Hazard Mitigation Plan includes a section on social vulnerability, using the Social Vulnerability Index for the United States. This index, compiled by the University of South Carolina Hazards and Vulnerability Research Institute, measures the social vulnerability of all counties in the nation to environmental hazards. The index synthesizes 30 socioeconomic variables, which research suggests contributes to reducing a community's ability to prepare for, respond to, and recover from hazards. The primary variables are race and class, wealth, percentage of elderly residents, Hispanic ethnicity, special needs individuals, Native American ethnicity, and service industry employment. According to the index, Yankton County is not within the top 20% of the most socially vulnerable counties in the nation to environmental hazards; it ranks 48th among South Dakota's 66 counties.

For Yankton County, a specific population of concern is the elderly. As shown in **Table 2.4**, a relatively high percentage of the population in Yankton County is old, with the median age of the population a few years higher than the state and national figures. Many of the aged live in nursing homes and other types of senior care facilities, a few of which are located in Yankton.

Figure 3.1 - Yankton County

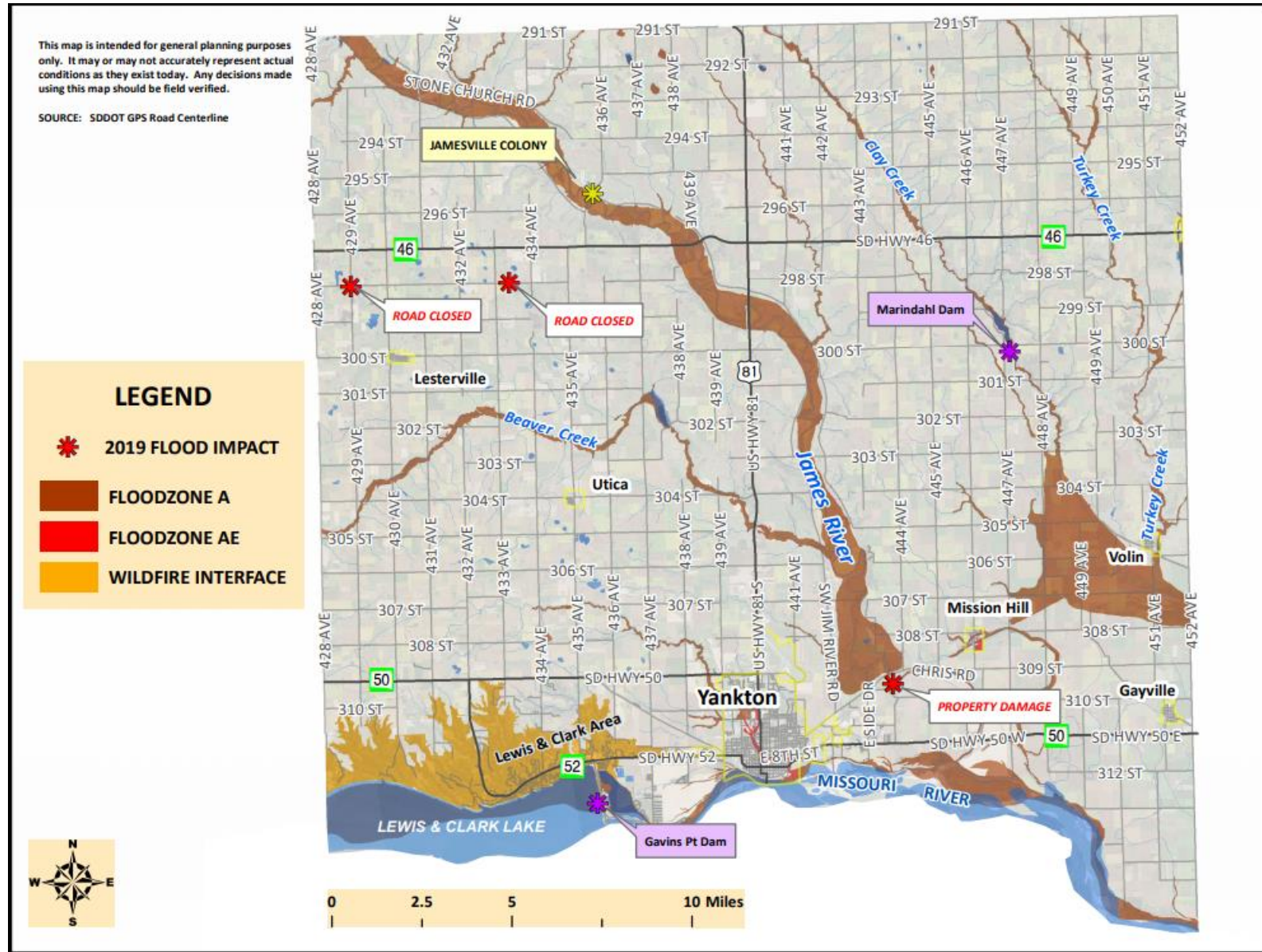


Figure 3.2 – Gayville

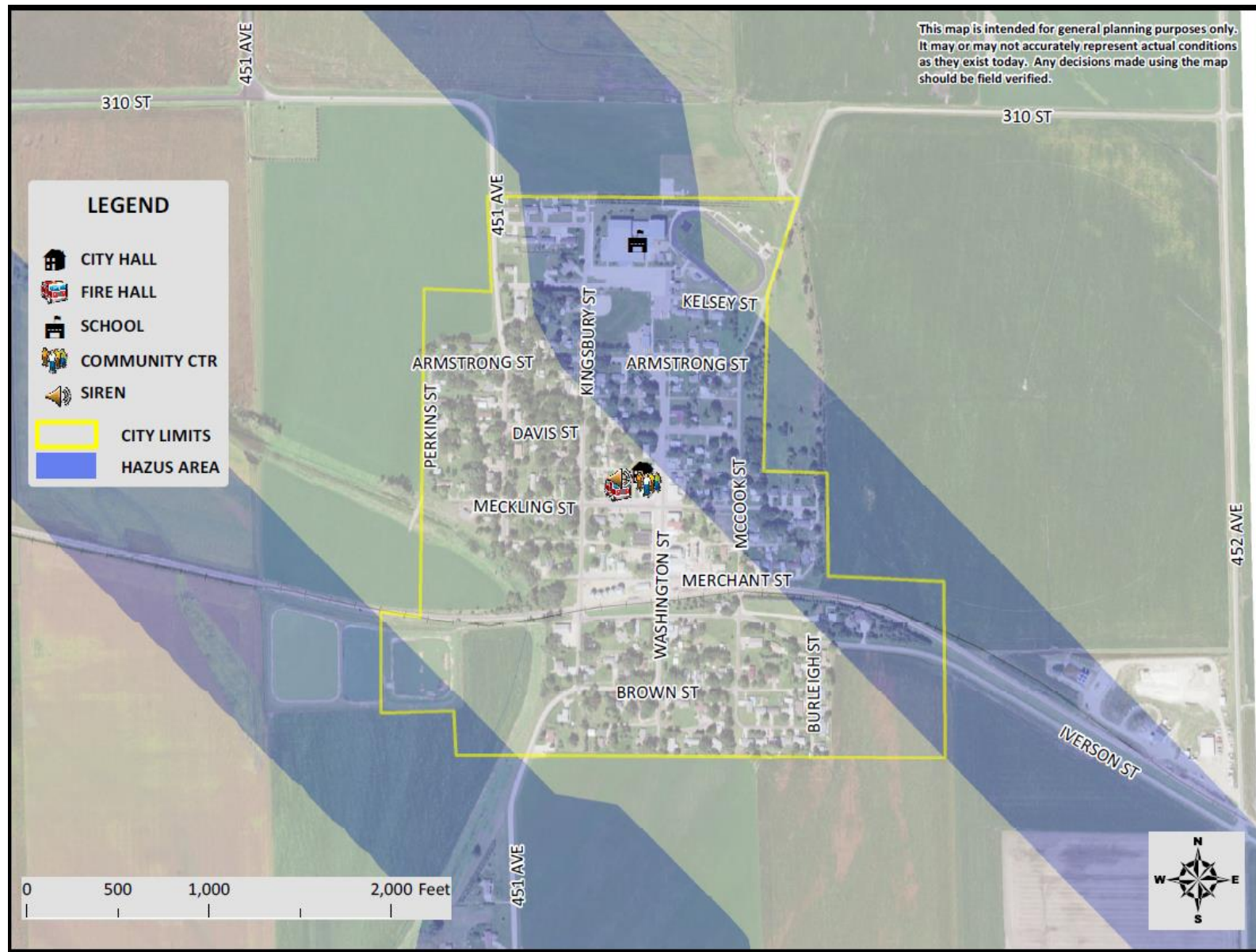


Figure 3.3 – Lesterville

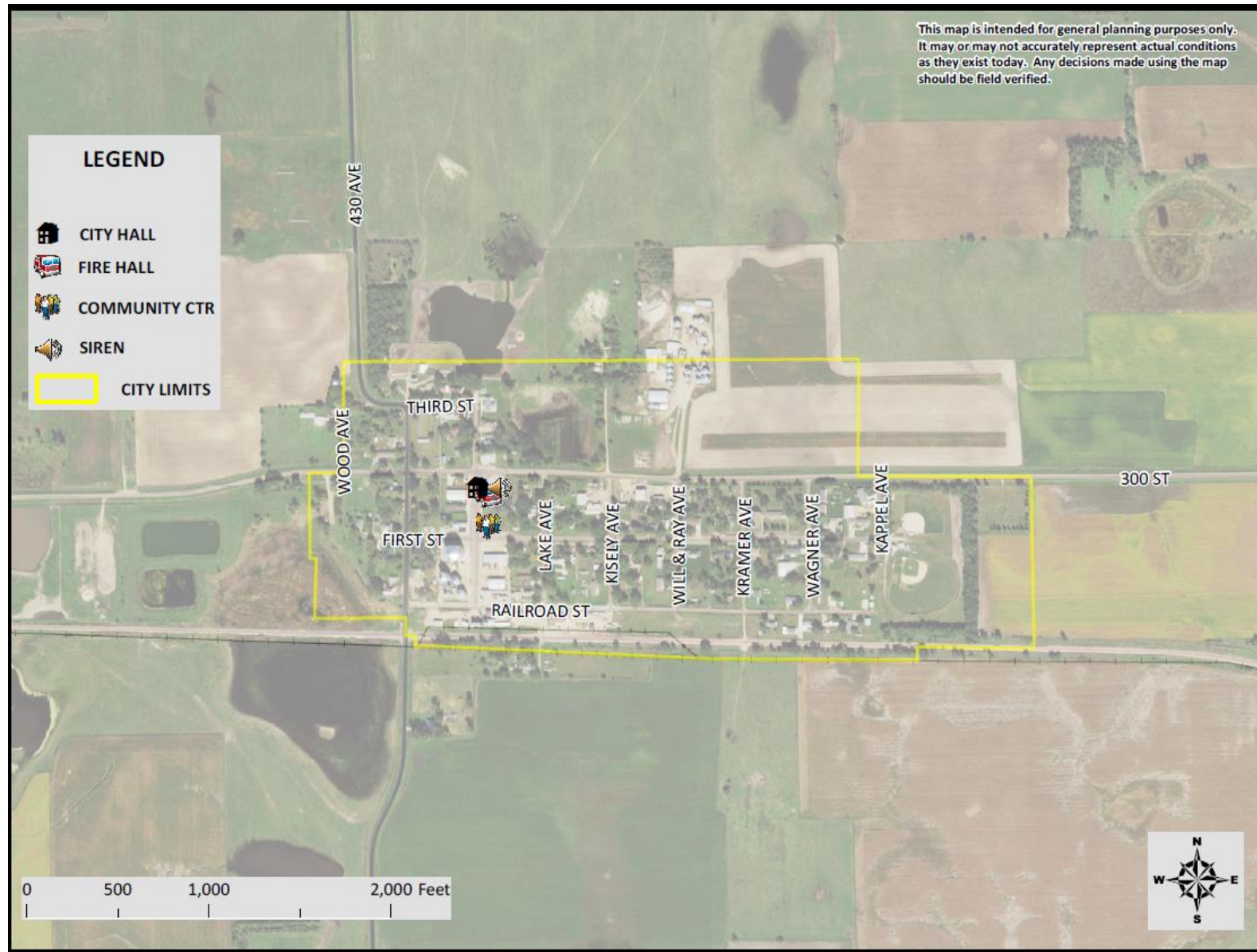


Figure 3.4 - Mission Hill

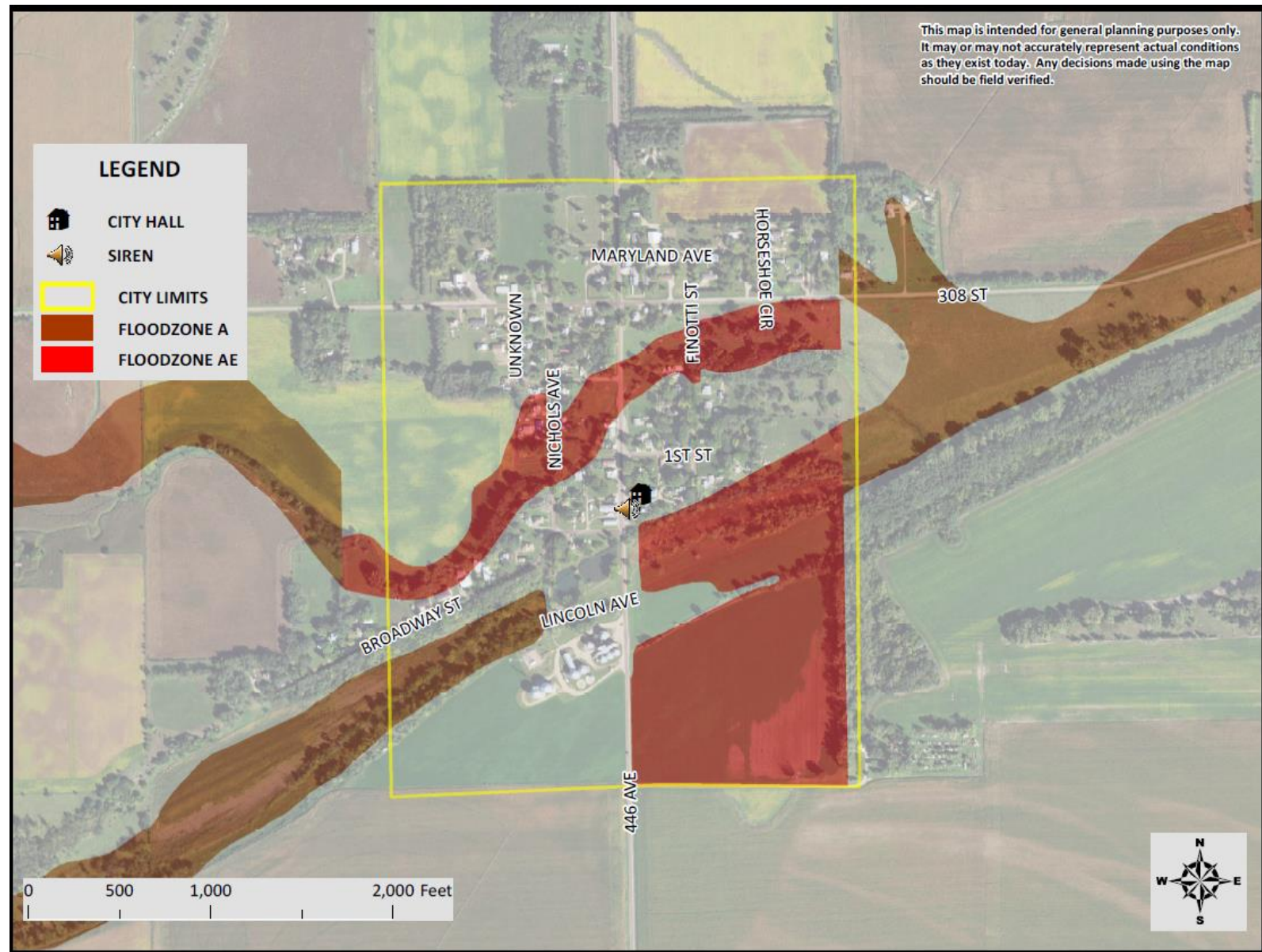


Figure 3.5 – Utica

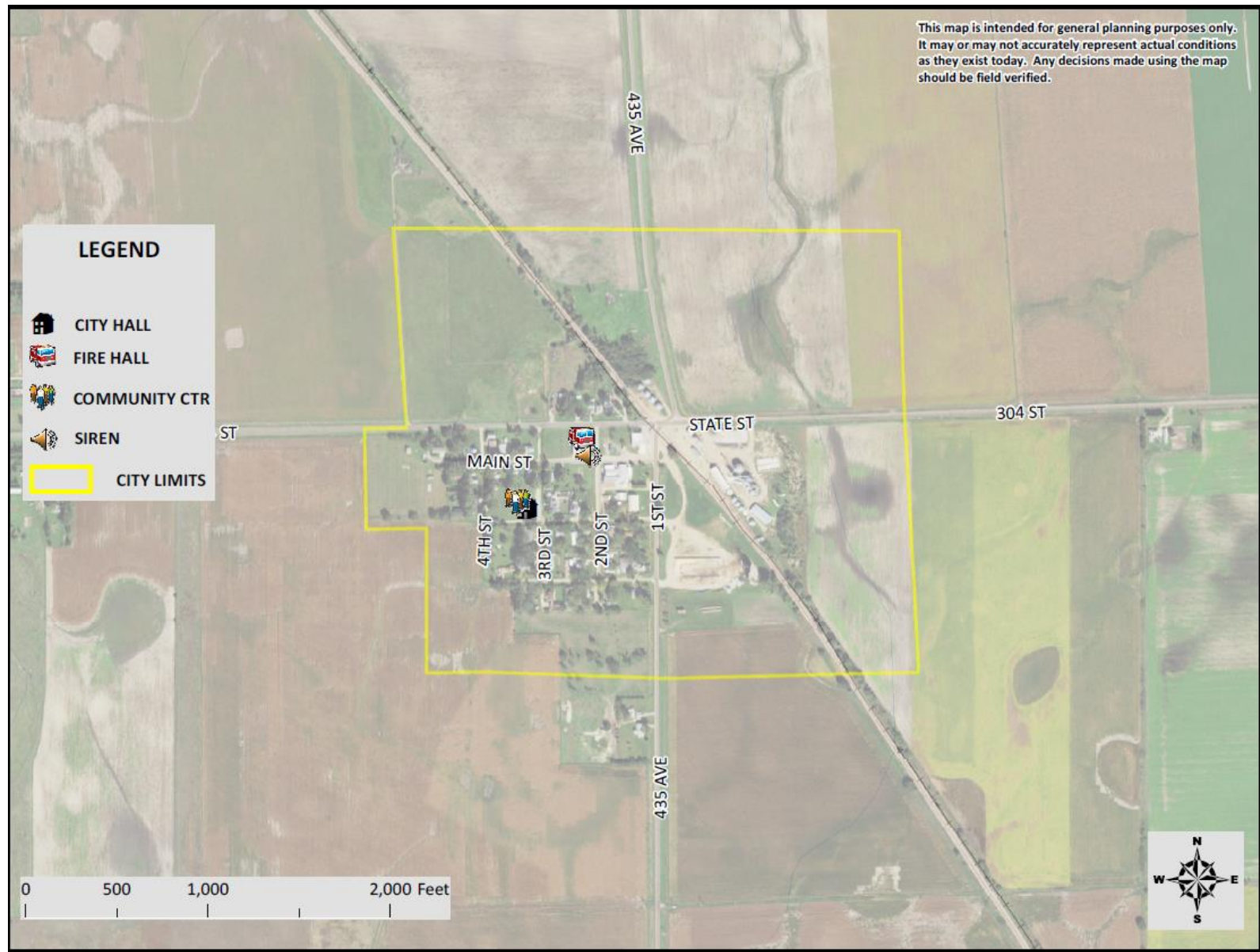
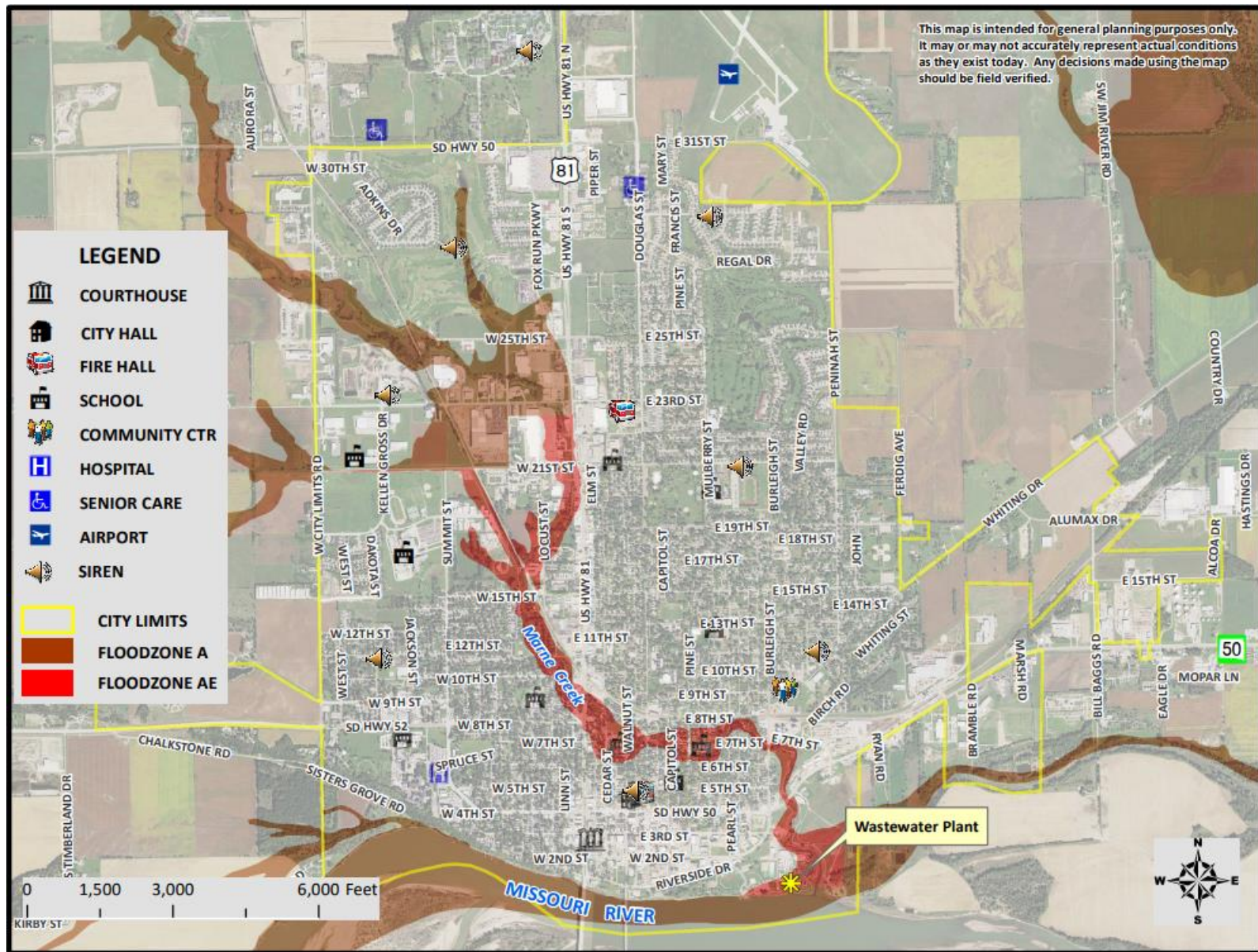


Figure 3.6 – Volin



Figure 3.7 – Yankton



CHAPTER IV

RISK MITIGATION STRATEGY

Background

The previous chapter described the types of hazards most likely to impact Yankton County, and discussed the county's vulnerability to each of the hazards. This chapter identifies the hazard mitigation goals and objectives that the planning team decided upon, and then focuses on a presentation of the mitigation actions proposed to achieve the goals and objectives. A table showing all of the proposed actions is included. The chapter concludes with a discussion about how the proposed actions were prioritized.

Mitigation Goals and Objectives

At the beginning of the planning process, it was determined that the same general goals and objectives as listed in the county's current plan would be kept for this update. Among other considerations, the planning team wanted to ensure that the goals and objectives supported the priorities of the other planning documents that were reviewed as this plan was being developed. The following goals were identified:

- Minimize loss of life and injuries from hazards.
- Minimize damage to existing and future structures within hazard areas.
- Reduce losses to critical facilities, utilities, and infrastructure from hazards.
- Reduce impacts to the economy and the environment from hazards.

After the team had settled on the goals, they began to focus more narrowly on each hazard by reviewing the results of the risk assessment and analyzing each jurisdiction's vulnerability to the hazards, and the severity of the threat posed by the hazards. Much of the discussion focused on damage caused by past hazard events, and what could be done to lessen or eliminate damage from future events. The planning team also considered how future development might affect the jurisdictions' vulnerability to each of the hazards faced.

Following are the specific mitigation objectives for each of the hazards:

Winter storm

- Reduce property and infrastructure losses due to winter storms.
- Ensure that people are adequately protected from the effects of winter storms.
- Minimize disruptions to the power distribution system.

Summer storm

- Reduce property and infrastructure losses due to summer storms.

- Ensure that people are adequately protected from the effects of summer storms.
- Ensure that people have adequate warning when violent weather threatens.

Flooding

- Reduce property and infrastructure losses due to flooding.
- Minimize development in areas that are prone to flooding.
- Maintain the natural and man-made systems that protect people and property from floods.

Drought

- Reduce economic and environmental impacts due to drought.

Wildfire

- Reduce property and infrastructure losses due to wildfires.
- Minimize development in areas that are prone to wildfires.

Mitigation Actions

With the goals and objectives identified by the planning team, the participating jurisdictions began the process of selecting mitigation actions that could be taken to accomplish the goals. The process began with a review of the actions listed in the county's current disaster mitigation plan and discussion about the progress that had been made to implement the actions. A list of the actions and a summary of the implementation status of each action is shown in the following table.

Table 4.1 – Progress on Implementing Previously Proposed Actions

| Mitigation Action | Hazard | Current Status |
|---|---------------|---|
| YANKTON COUNTY | | |
| Continued National Flood Insurance Program compliance. | Flooding | Continuing |
| Drainage improvements along county and township roads. | Flooding | Some progress, but flooding in 2019 set the County back. |
| Bank stabilization along James River. | Flooding | No progress – lack of funds. |
| Stream channel improvements at James River mouth. | Flooding | No progress – lack of funds. |
| Outdoor warning siren acquisition for Lewis & Clark Lake Area, KOA Campground, and other locations as needed. | Summer storm | Sirens have been installed at Lewis & Clark Lake. |
| Access road construction in the housing developments in the Lewis & Clark Lake area. | Wildfire | No progress – lack of funds. |
| Begin participating in the StormReady Community Program. | Summer storm | In progress, but not completed. |
| Tornado safe room construction in various locations. | Summer storm | Tornado shelters have been built at the Boy Scout camp west of Yankton. |
| Develop a community wildfire protection plan. | Wildfire | No progress – lack of funds. |

| Mitigation Action | Hazard | Current Status |
|--|--------------|---|
| TOWN OF LESTERVILLE | | |
| Continued National Flood Insurance Program compliance. | Flooding | Continuing |
| Upgrade storm drainage system. | Flooding | A hydrology study is being developed at this time. |
| Generator acquisition for main sewage lift station. | Winter storm | Installed in 2019 with FEMA funds. |
| Tornado safe room construction. | Summer storm | No progress – lack of funds. |
| TOWN OF UTICA | | |
| Continued National Flood Insurance Program compliance. | Flooding | Continuing |
| Develop plan for addressing stormwater runoff. | Flooding | No progress – lack of funds. |
| Implement drainage system improvements in downtown area. | Flooding | After the 2019 flooding, the Town received funds from James River Water District for road repair. |
| Generator acquisition for sewage lift station. | Winter storm | No progress – lack of funds. |
| CITY OF YANKTON | | |
| Continued National Flood Insurance Program compliance. | Flooding | Continuing |
| Continue upgrading storm drainage system as needed. | Flooding | Some progress is being made. |
| Tornado safe room construction for soccer complex and other locations as needed. | Summer storm | No progress – lack of funds. |
| Begin participating in the StormReady Community Program. | Summer storm | In progress, but not completed. |

Following this review, a list of potential mitigation actions based on FEMA's guidance document *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* was reviewed. The actions on the list can be grouped into the following general categories:

- Prevention: Government administrative or regulatory actions or processes that influence building and development. Examples include:
 - Adopting zoning regulations.
 - Preserving open space.
 - Reviewing and strengthening local flood ordinances.
 - Adopting stormwater management regulations.
 - Adopting National Building Code standards.
 - Enacting measures to restrict non-essential water usage.
- Education and Outreach: Actions to inform and educate elected officials, stakeholders, property owners, and the general public about potential risks from hazards and potential ways to mitigate them. Examples include:
 - Developing a disaster mitigation public awareness program.
 - Participating in the StormReady program.
 - Participating in the Firewise Communities program.
 - Making presentations to school groups or neighborhood organizations.
 - Mailings to residents in hazard-prone areas.
 - Encouraging people to take various water-saving measures.

- **Property Protection:** Actions that modify existing buildings or infrastructure to protect them from a hazard or remove them from the hazard area. Examples include:
 - Property acquisition, elevation, or relocation, including elevating roads in flood-prone areas.
 - Making structural retrofits to facilities.
 - Replacing overhead utility lines with underground lines.
- **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples include:
 - Using low-lying areas as natural water retention ponds.
 - Restoring and preserving wetlands.
 - Restoring stream corridors.
 - Forest and vegetation management.
 - Providing incentives for xeriscaping.
- **Structural Projects:** Actions that involve the construction of new structures to reduce the impact of a hazard. Examples include:
 - Upgrading stormwater infrastructure, such as culverts and storm sewer piping.
 - Building floodwalls.
 - Building tornado safe rooms.

It was explained that hazard mitigation is defined as *sustained action* taken to reduce or eliminate the long-term risk to people and property from hazards, as opposed to preparedness planning. Still, some actions to enhance disaster preparedness were discussed. Actions considered in this category included installing warning sirens in areas currently not well served and acquiring emergency power generators for critical facilities.

The final list of mitigation actions identified by the jurisdictions is shown in **Table 4.2**, which contains the following information for each action:

- The local priority rating – either High or Medium.
- The individual (party) primarily responsible for implementing the action.
- The estimated time frame needed to accomplish the action. Short term actions are those that can be completed within a few years, while Long term actions may take several years or more to accomplish due to cost or other factors.
- The estimated cost to implement the action.
- Resources that may be available to help fund the action.

Prioritizing the actions is important because it is unlikely that all of them can be pursued simultaneously, especially when costly projects are being considered. Those actions providing the most overall benefit in terms of cost are likely to be pursued first, while some lower priority actions may never be implemented. The prioritization process was informal

and somewhat subjective, but a methodology did help guide the process. This framework, which was suggested by the Planning & Development District III office, is based on the following criteria:

- Overall benefit - how many lives or how much property will be protected, and how much disruption will be prevented? Are there any critical facilities or important public infrastructure that will be protected?
- Financial feasibility - how expensive will the action be? Could the action qualify for grant or loan funding?
- Political feasibility – will the public support the action? Are there any groups or interests that may be opposed to the action and thus prevent it from being implemented?
- Technical feasibility – does the technology exist for the action to be implemented? Is the action likely to function as intended?
- Environmental feasibility - does the action have the potential to have an adverse impact on the environment?
- Legal feasibility – are there any legal issues that might prevent the action from being implemented?

Guesswork was kept to a minimum during the prioritization process. For instance, in determining the potential benefit of a given action, the amount of property that would be protected by the action could in some cases be estimated with a fair amount of certainty. Assessing the proposed actions in relation to the other criteria was sometimes more difficult. Determining the political feasibility of the actions may have been the most subjective part of the process, but the jurisdiction representatives generally had a good idea of how the public and vested interests would support the actions.

Funding considerations also are critical, because neither Yankton County nor any of the other participating jurisdictions have much discretionary money available to fund mitigation activities. Given this reality, it is unlikely that any mitigation action requiring substantial financial resources could be implemented locally without grant assistance. Following are potential sources of outside funding to help the jurisdictions accomplish mitigation projects:

FEMA grant programs

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Rehabilitation of High Hazard Potential Dams (HHPD)

Other grant and loan programs/sources

- US Economic Development Administration
- US Department of Agriculture Rural Development grant/loan program
- South Dakota Community Development Block Grant program
- South Dakota State Homeland Security Program

- South Dakota Dept. of Agriculture and Natural Resources
- South Dakota Dept. of Transportation
- James River Water Development District
- Western States Wildland Urban Interface Grant Program

Table 4.2 - Proposed Mitigation Actions

| YANKTON COUNTY ACTIONS | HAZARD | PRIORITY | PROJECT LEAD | TIME | COST | FUNDING | STATUS |
|--|---------------|-----------------|----------------------------|-------------|-------------|------------------|--|
| Ensure continued NFIP compliance. | Flooding | HIGH | Planning & Zoning Director | SHORT | N/A | N/A | County continues to work with state NFIP and FEMA on training and program information. |
| Pursue flood mitigation along county and township roads. | Flooding | HIGH | Hwy Superintendent | LONG | Unknown | FEMA | County is pursuing funding for the Stone Church bridge area, and may apply for additional locations. |
| Generator acquisition for critical facilities. | Winter storm | HIGH | County commission | MID | ≈\$25,000 | FEMA | County intends to apply for funding as opportunities develop. |
| Complete StormReady application process. | Summer storm | HIGH | Emergency Mgmt Director | SHORT | N/A | N/A | County will make this a priority. |
| Conduct tornado safety outreach, including public education, conducting tornado drills, and distributing storm shelter location information. | Summer storm | HIGH | Emergency Mgmt Director | MID | N/A | N/A | County will make this a priority, especially targeting outreach to school children. |
| Tornado safe room construction in various locations. | Summer storm | HIGH | Emergency Mgmt Director | MID | Unknown | FEMA | County will prioritize locations and consider pursuing funding. |
| Mobile sheltering/dispensing facility acquisition. | All hazards | HIGH | Emergency Mgmt Director | MID | \$100,000 | FEMA | County will continue to investigate options for funding. |
| Develop a drought emergency plan. | Drought | MED | Emergency Mgmt Director | MID | N/A | N/A | County will make this a priority. |
| Begin participation in Firewise Program. | Wildfire | MED | Emergency Mgmt Director | MID | ≈\$30,000 | Unknown | County will continue to investigate options for funding. |
| Incorporate wildfire mitigation in the Yankton County Comprehensive Plan. | Wildfire | MED | Emergency Mgmt Director | SHORT | N/A | N/A | County will make this a priority. |
| TOWN OF GAYVILLE ACTIONS | HAZARD | PRIORITY | PROJECT LEAD | TIME | COST | FUNDING | STATUS |
| Ensure continued NFIP compliance. More training and program information will be requested. | Flooding | HIGH | Finance officer | SHORT | N/A | N/A | Town will make this a high priority. |
| Implement stormwater mitigation project. | Flooding | HIGH | Public works director | LONG | Unknown | FEMA; CDBG; DANR | Town has applied for funding for a hydrology study. |
| Tornado safe room construction. | Summer storm | HIGH | Town board | MID | Unknown | FEMA | Town intends to apply for funding as opportunities develop. |
| Generator acquisition for critical facilities. | Winter storm | MED | Town board | MID | ≈\$25,000 | FEMA | Town intends to apply for funding as opportunities develop. |

| TOWN OF LESTERVILLE ACTIONS | HAZARD | PRIORITY | PROJECT LEAD | TIME | COST | FUNDING | STATUS |
|---|--------------|----------|--------------------------------------|-------|--------------------|------------------|---|
| Ensure continued NFIP compliance. More training and program information will be requested. | Flooding | HIGH | Mayor | SHORT | N/A | N/A | Town will make this a high priority. |
| Storm drainage system upgrades. | Flooding | HIGH | Water superintendent | LONG | Unknown | FEMA; DANR | A hydrology study is underway; Town will apply for funding if a project with a positive benefit/cost is identified. |
| Storm shelter construction/acquisition for community. | Summer storm | HIGH | Town board | MID | Unknown | FEMA | Town intends to apply for funding as opportunities develop. |
| Generator acquisition for critical facilities. | Winter storm | HIGH | Town board | MID | ≈\$25,000 | FEMA | Town intends to apply for funding as opportunities develop. |
| CITY OF YANKTON ACTIONS | HAZARD | PRIORITY | PROJECT LEAD | TIME | COST | FUNDING | STATUS |
| Ensure continued NFIP compliance, including diligent enforcement of floodplain development regulations. | Flooding | HIGH | Floodplain Administrator (Brad Bies) | SHORT | N/A | N/A | Among other actions, the floodplain administrator will work toward Certified Floodplain Manager status. |
| Property acquisitions in flood hazard areas. | Flooding | HIGH | Comm Dev Director | MID | Varies by property | FEMA | City is acquiring properties now, and may pursue additional opportunities. |
| Stream flow and stream monitoring/studies in flood hazard areas. | Flooding | HIGH | Public Works Director | MID | Unknown | FEMA; JRWDD | City intends to apply for funding as opportunities develop. |
| Flood monitoring/warning devices in flood hazard areas. | Flooding | HIGH | Public Works Director | MID | Unknown | FEMA; JRWDD | City intends to apply for funding as opportunities develop. |
| Bank stabilization and other improvements in flood hazard areas. | Flooding | HIGH | Public Works Director | LONG | Unknown | EDA; FEMA; JRWDD | City intends to apply for funding as opportunities develop. |
| Continue upgrading storm sewer infrastructure. | Flooding | HIGH | Public Works Director | MID | Unknown | DANR; EDA; FEMA | City intends to pursue funding for grant-eligible projects listed in the Capital Improvements Plan. |
| Tornado shelter construction/acquisition for public gathering places and critical facilities. | Summer storm | HIGH | City commission | SHORT | Unknown | FEMA | City staff will prioritize locations and the City may pursue funding. |
| Generator acquisition for critical facilities. | Winter storm | MED | City commission | SHORT | ≈\$25,000 | FEMA | City staff will prioritize facilities and the City may pursue funding. |
| Begin participating in StormReady program. | Summer storm | MED | City commission | SHORT | N/A | N/A | City staff will work with County Emergency Management Director. |

Potential Resources for Funding Assistance:

CDBG Community Development Block Grant
 EDA Economic Development Administration
 JRWDD James River Water Development District

DANR
 FEMA

South Dakota Dept of Agriculture and Natural Resources
 FEMA Hazard Mitigation Assistance Programs

Mitigation Action Plan

The Yankton County Hazard Mitigation Plan is the backbone for disaster mitigation planning within the county. To remain useful, the plan cannot exist in a vacuum – it is designed to work with other local planning and development tools and mechanisms, and local officials and policy makers need to be familiar with it. This section first describes how the mitigation plan will be incorporated into existing planning mechanisms, and concludes by describing how the mitigation strategy will be implemented.

Plan Incorporation

It is important that the goals and actions included in this plan be integrated with the other plans and policies within the county that may affect land use and development. Neither this plan nor any of the others will work effectively if they contain contrary goals or policy recommendations. The following table shows the planning-related technical documents that currently exist within the county, each of which was reviewed as this plan was being developed. Looking ahead, future updates of this plan should not be made without reviewing these planning tools.

Table 4.3 – Local Planning Mechanisms

| | Capital Improvement Plan | Comprehensive Land Use Plan | Zoning ordinance | Building codes | Electrical Construction Plan | Housing Plan | Flood damage prevention ordinance | Drainage ordinance | Five Year Highway Improvement Plan | Fire Management Plan |
|---------------------|--------------------------|-----------------------------|------------------|----------------|------------------------------|--------------|-----------------------------------|--------------------|------------------------------------|----------------------|
| Yankton Co. | | X | X | | | | X | X | X | |
| Gayville | | X | X | | | | X | | | |
| Lesterville | | | | | | | X | | | |
| Mission Hill | | | | | | | X | | | |
| Utica | | | | | | | X | | | |
| Volin | | | | | | | | | | |
| Yankton | X | X | X | X | X | X | X | | | |

Hazard mitigation concepts should be incorporated where appropriate into the policy documents listed in the table. It is also important that major development projects within the jurisdictions be undertaken based on sound hazard mitigation planning.

Hazard mitigation also is discussed in the 2019 Comprehensive Economic Development Strategy (CEDS) for the Planning & Development District III region, which includes Yankton County. The CEDS, which is produced for the Economic Development Administration, analyzes development issues, opportunities, and challenges from a regional perspective. It is being updated at this time with a greater emphasis on the subject of economic resiliency, including

the role that hazard mitigation can play in helping communities maintain their economic wellbeing. Information from this plan will be used as the CEDS is updated.

Plan Implementation

The Yankton County Emergency Management Director is ultimately responsible for ensuring that the plan's mitigation strategy is implemented effectively. The director will work under the authority of the county commission to implement the strategy, and will coordinate his/her activities with other county departments and other agencies as needed. Each jurisdiction participating in this plan also will play a critical role in carrying out the action plan by identifying and prioritizing the actions they want to pursue, allocating resources for their implementation, and applying for funding assistance as needed. If and when they are able to secure funding, they will move forward with implementing their actions.

The availability of funding is critical to the success of this plan, and therefore the mitigation actions listed in **Table 4.2** should be considered when the jurisdictions begin the process of working on their annual budgets. In this way, the plan will not become a mere "wish list" of ideas for which there is no practical funding mechanism. For those jurisdictions that lack any other planning tools and mechanisms, this may be the only practical way for the plan to be implemented. To help ensure that this happens, the Emergency Management Director will continue reaching out to each community at least annually to discuss hazard mitigation, including the possibility of obtaining funds through FEMA or other sources for the projects they have identified.

If FEMA mitigation funds are awarded for a project, grant administration will be the responsibility of the local jurisdiction, which will appoint an individual who will be responsible for ensuring that the project is completed as proposed and that all grant award conditions and requirements are followed. A resource that can help the jurisdictions meet the FEMA grant requirements (and help develop the grant applications) is the Planning & Development District III office. District III staff have decades of experience working on various planning and community development activities within Yankton County, and over a decade of experience working with the county's emergency management office.

CHAPTER V

PLAN MAINTENANCE

Background

Plan maintenance is a continuous process, which involves monitoring, evaluating, and updating the plan. It provides the foundation for an ongoing mitigation program and helps ensure that the plan remains relevant and effective. This chapter addresses how Yankton County officials intend to ensure that the plan will remain a dynamic, useful tool for mitigating against the impact of future disaster events.

Plan Monitoring and Evaluation

Ultimate responsibility for monitoring the plan and evaluating its effectiveness lies with the Yankton County Emergency Management Director. The director will work with the support of the Yankton County Local Emergency Planning Committee (LEPC), which meets quarterly and includes representation from each jurisdiction participating in this plan.

The LEPC will review the plan annually. Major points of discussion will include whether the risk assessment remains valid because of new development or other factors that may impact vulnerability to hazards, whether the mitigation goals and objectives identified in the plan remain sound, and whether progress is being made on implementing the mitigation actions identified in the plan. An opportunity also will be provided to add additional mitigation actions to the plan as needed. If any new projects are identified, the South Dakota Office of Emergency Management will be notified so that the project will be eligible for hazard mitigation assistance in the next funding cycle.

After the LEPC's plan review meeting, the Emergency Management Director will meet with the Yankton County commission and the other participating jurisdictions to discuss the progress being made to implement the plan. At this time, a determination will be made about whether the implementation strategy needs to be revised or the plan itself needs to be updated.

Plan evaluation must be an ongoing process. This will help ensure that the plan remains relevant and able to meet local conditions and priorities, which can change. Following are some of the factors that can have a major impact on mitigation planning:

- Occurrence of a significant disaster event – Serious events can reveal flaws in local jurisdictions' disaster preparedness plans. The 9/11 terrorist strikes are a dramatic example of this type of event. The Missouri River flooding that occurred in 2011 is another example of an event significant enough to necessitate a reexamination of local mitigation strategies.

- Change in the nature or magnitude of risks – Changing environmental conditions, increased development in sensitive areas, and other factors can be significant enough to cause localities to rethink their mitigation strategies. As discussed earlier, climate change may increase the county's vulnerability to drought, and possibly other hazards.
- Change in funding availability – The availability of money often determines whether an action can be implemented. For example, local budget cuts can delay, or prevent altogether, a mitigation project's implementation. On the other hand, grant opportunities for specific types of mitigation actions may argue for their implementation.
- Change in local priorities – Local priorities regarding mitigation projects can change for a number of reasons. Regular meetings between the Yankton County commission and the local township boards are one way in which the county stays current on the townships' needs regarding their roads, bridges, and other infrastructure.
- Legal factors – Laws and regulatory requirements may change, which may make certain mitigation actions more or less feasible or desirable.
- Technological change – Advances in technology may make it possible in the future to address certain types of hazards more effectively or at lower cost.
- Other factors – There are many other factors that can have an impact on local disaster mitigation priorities and strategies. For example, a detailed engineering analysis may indicate that a proposed mitigation action may be much costlier than first estimated, which could make the action unpractical to pursue.

Updating the Plan

Updating the plan may occur at any time in response to the factors identified above. Otherwise, it is expected that the County will begin the process of updating the plan approximately two years prior to the plan's expiration date. Plan updates will reflect changes in growth and development, changing mitigation priorities, and progress in implementing the mitigation actions listed in this plan. Led by the Emergency Management Director, the process will consist of the following general steps:

- Obtain funding assistance
- Hire contractor to write the plan
- Organize planning team
- Begin soliciting public participation and input
- Hold meetings of planning team to develop the plan
- Make draft of the plan available for public review and comment
- Submit plan for State review
- Revise plan as needed based on reviewer comments
- Plan submitted by State to FEMA

- Revise plan as needed based on reviewer comments
- Jurisdictional adoption of approved plan

Public Involvement

Throughout the development of this plan update, a sustained effort was made to involve the general public in the plan. Outreach included press releases that were printed in the Yankton newspaper and posted on the county website, as well as social media. Looking forward, the outreach strategy will evolve over time as different methods are used to get greater public participation in the mitigation planning process. Outreach activities may include:

- Community visits by the Emergency Management Director to discuss mitigation planning (local schools, civic meetings, etc.).
- Information about the plan on the Yankton County and City of Yankton websites.
- Information about the plan included with utility billing statements.

Another way for the public to participate in the mitigation planning process will be through the mitigation plan review meeting of the Yankton County LEPC. The local media is invited to all LEPC meetings, and the plan review meeting will be made known to the public through a public notice or press release in the Yankton *Press & Dakotan* stating that the plan will be reviewed at the meeting and that comments from the public are encouraged.

All comments and suggestions received from the public through any of the forums described above will be included in a public comment section in the plan's appendix.

APPENDICES

| | |
|------------|--|
| Appendix A | Outreach Effort |
| Appendix B | Documentation of Meetings |
| Appendix C | History of Previous Hazard Occurrences |
| Appendix D | Community Assets |
| Appendix E | References |

APPENDIX A: Outreach Effort

This section documents the outreach effort that was used to solicit input into the plan.

Meeting #1 - Email to Planning Team:

From: Paul Scherschligt <paul@yanktonoem.com>
Sent: Thursday, May 13, 2021 11:39 AM
To: Tom Curran (Thomas.J.Curran@usace.army.mil) <Thomas.J.Curran@usace.army.mil>; Ken Carda (kcarda@byelectric.com) <kcarda@byelectric.com>; byh2o@hcinet.net <byh2o@hcinet.net>; judysmoyer@midconetwork.com; 'Cheri Loest' <cheri@co.yankton.sd.us>; Wanda Howey-Fox (wanda@co.yankton.sd.us) <wanda@co.yankton.sd.us>
Cc: John Clem <John.Clem@districtiii.org>
Subject: FW: Yankton County PDM Meeting

Good morning,

Yankton County will soon begin updating its Pre-Disaster Mitigation (PDM) plan. The first meeting will be held Tuesday, June 15 at 11:30 AM at Yankton Fire Station #2, which is located at 201 W. 23rd Street. The meeting is expected to take about an hour, and lunch will be provided. There's plenty of space in the room where we'll be meeting, and we hope that each community within the county will be represented at the meeting.

One of the main agenda items will be a review of the County's current PDM plan, which is attached. We'll especially focus on the status of the hazard mitigation projects listed in Table 4.2 on pages 69 and 70 of the plan. We'll also discuss how hazards like winter storms, summer storms, flooding, and drought impact the county and each community.

After this first meeting, we anticipate having one more meeting later this summer before the plan is submitted to FEMA for approval. Thanks for your cooperation, and be sure to let me know if there are any questions about the meeting, or the planning process in general.

Meeting #1 - Email to Emergency Management Directors in Other Counties:

From: John Clem
Sent: Monday, June 7, 2021 9:59 AM
To: Allemang, Heather <Heather.Allemang@state.sd.us>; Poppen, Jim <Jim.Poppen@state.sd.us>; Kafka, Kyle <Kyle.Kafka@state.sd.us>; Brian Humphrey <bhumphrey@hutchinsoncounty.org>; Eric Elsberry <bhcem@hcinet.net>; lstewart@claycountyoem.org; turnercoem@iw.net
Cc: Paul Scherschligt <paul@yanktonoem.com>
Subject: Yankton County PDM Plan

Good morning folks –

This is just an FYI that **Yankton County** is beginning the process of updating its current Pre-Disaster Mitigation Plan. The first meeting will be held at Yankton Fire Station #2 on June 15 at 11:30 AM. You are all invited to participate, but this is an in-person meeting only. Let me or Paul know if there are any questions about the meeting.

John Clem
Planning & Development District III
PO Box 687
Yankton, SD 57078
John.Clem@districtiii.org

Post on County Website Prior to Meeting #1:

 *Announcements*

Yankton County Emergency Management
Thursday, May 13, 2021
The Yankton County Office of Emergency Management would like to invite the public to a Disaster Mitigation Meeting on June 15th, 2021 at 11:30 am that will be held at the Yankton Fire Station #2. To read more about this [CLICK HERE](#).

Yankton County Highway Department
Monday, April 5, 2021
We are currently in our Summer Hours, which are 6:30am thru 5:00pm Monday through Thursday.

Yankton County Weed Department
Wednesday, March 24, 2021
The Yankton County Weed Department is going to begin inspections for Noxious Weeds on Wednesday, May 1, 2021. To learn

PRESS & DAKOTAN ■ TUESDAY, JUNE 8, 2021

Construction Project On Highway 46 East Of Irene Progresses

The South Dakota Department of Transportation says crews will continue shoulder and grade construction on S.D. Highway 46 from the east side of Irene to the intersection of S.D. Highways 19 South and 19A. This includes the stretch of Highway 46 between Irene and Centerville.

Work on the first phase of construction on Highway 46 from Highway 19 North to Highway 19 South is near completion and the detour for this stretch will be removed on Wednesday, June 9. The remaining work in this stretch will be done with the use of flaggers and a pilot car.

On Wednesday, June 9, work will also begin for the second phase which is from the east side of Irene to Highway 19 North. This section of Highway 46 will be closed during construction and the detour will be on U.S. Highway 81, U.S. Highway 18, and S.D. Highway 19. Access will be maintained to local traffic throughout the project.

The \$11.3 million project consists of shoulder widening, structures, pipe work, spot grading, mill, and asphalt surfacing.

Central Specialties of Alexandria, Minnesota, is the prime contractor for this project. The overall completion date is Nov. 19, 2021.

County To Host Disaster Mitigation Meeting

Blizzards, tornadoes and floods are a few of the natural hazards that strike this part of the country. Events like these have the potential of causing thousands of dollars annually in damage to property.

To lessen the impact of these disasters in the future, Yankton County is beginning the process of updating its current Disaster Mitigation Plan. A series of meetings will be held to obtain input as the plan is developed. These meetings are open to everyone. If you have an idea about what can be done to prepare for future disaster events occurring in Yankton County, you are urged to attend the meetings.

The first meeting will be held at Yankton Fire Station #2 on Tuesday, June 15, at 11:30 a.m. Agenda items for the initial meeting include a discussion of hazard mitigation concepts, a review of the county's current disaster mitigation plan, and identification and profiling of the hazards that impact the county.

Additional information about the meeting can be obtained by contacting the Yankton County Emergency Management Office at 605 668-5289 or by email at paul@yanktonoem.com. You can also call John Clem at 800 952-3562 or by email at John.Clem@districtiii.org.

Chopper Johnson Memorial Scholarship



SUBMITTED PHOTO

The Chopper Johnson Memorial Scholarships were presented recently at the Yankton High School Academic Awards Night. Pictured are Simon Hacecky, Halle Stephenson and Tristan Redman with the Chopper Johnson Foundation Board.

Project

From Page 1

Native Americans harvest wild rice, hunt, fish, gather medicinal plants, and claim treaty rights.

By evening, at least 30 people were arrested by state police and sheriff's officers, but the number "is growing rapidly," Ashley Fairbanks, a spokeswoman for Treaty People Gathering, told The Associated Press.

None of them appeared to resist as allies chanted "We love you." Protesters said the Treaty People Gathering was the largest show of resistance yet to the project.

The crowd showed no signs of leaving hours after an earlier protest at the headwaters of the Mississippi River, roughly 20 minutes away, where they chanted "Stop Line 3!" and "Water is life!"

"This is important. This is what we need," actress Jane

Fonda told the AP at the rally, motioning toward the crowd as she held signs with President Joe Biden's image that said, "Which side are you on?"

She urged protesters to keep pressuring Biden to halt construction so his administration can study any harm to the environment and indigenous people. The Mississippi River is one of the water crossings for the pipeline.

Fonda said Line 3 protesters "are going to Standing Rock this place," referring to the Dakota Access pipeline, which is owned by a different company and was the subject of major protests near the Standing Rock Indian Reservation in the Dakotas in 2016 and 2017.

Activists said they were pitching tents at the pump station site Monday night, and an AP reporter saw people rolling a large wooden spool that holds wire into a pile of trees and twigs. Police were directing traffic.

Meeting #2 - Email to Planning Team:

From: Paul Scherschligt <paul@yanktonoem.com>
Sent: Monday, August 23, 2021 9:02 AM
To: 'Town of Lesterville (lestsd@gwtc.net)' <lestsd@gwtc.net>; 'Nick Huber' <nichuber7@gmail.com>; 'Ken Carda (Kcarda@byelectric.com)' <Kcarda@byelectric.com>; 'Cheri Loest' <cheri@co.yankton.sd.us>; 'Brad Moser' <BMoser@cityofyankton.org>; Dave Mingo <DMingo@cityofyankton.org>; 'ycems' <ycems@co.yankton.sd.us>; 'Tom Kurtenbach' <tkurtenbach@cityofyankton.org>; erin@yanktonoem.com
Cc: John Clem <John.Clem@districtiii.org>; Harry Redman <Harry.Redman@districtiii.org>
Subject: RE: PDM Draft

Reminder of the PDM Meeting this Thursday August 26th at 11 am at the Emergency Management Office. This will be the final review.

Meeting #2 - Email to Emergency Management Directors in Other Counties:

From: John Clem
Sent: Monday, August 23, 2021 8:08 AM
To: Allemang, Heather <Heather.Allemang@state.sd.us>; Poppen, Jim <Jim.Poppen@state.sd.us>; Kafka, Kyle <Kyle.Kafka@state.sd.us>; Brian Humphrey <bhumphrey@hutchinsoncounty.org>; Eric Elsberry <bhcem@hcinet.net>; lstewart@claycountyoem.org; turnercoem@iw.net
Cc: Paul Scherschligt <paul@yanktonoem.com>
Subject: Yankton County PDM Plan Meeting

Good morning folks –

This is just an FYI that **Yankton County** will be holding its final meeting to update the Pre-Disaster Mitigation Plan. The meeting will be held at the Emergency Management Office in Yankton on August 26 at 11:00 AM. You are all invited to participate, but please note this is an in-person meeting only. Let me or Paul know if there are any questions about the meeting.

John Clem
Planning & Development District III
PO Box 687
Yankton, SD 57078
800 952-3562
John.Clem@districtiii.org

Press Release in Yankton Press and Dakotan After Completion of Plan:

eds.

Voting Bill To Gov.

Controlled Texas Legislature election laws Tuesday, and dealing a bruising months-long fight over what disenfranchise minorities

he will sign the bill, the odd new hurdles to voting which led to new restrictions here, was spurred in part also claims of a stolen

ation for months, arguer for young people, le with disabilities — all ballots, just as they see the party. The bill specifically ding Houston's Harris tate already considered illot. nmer in Texas of walkouts ng them with arrest, Abbott f rank-and-file staffers er, and accusations of rac-

ting for it are that it creates olor of their skin and their f people," said Democrat re whose return to the a 38-day standoff.

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Following a presentation of the memorandum by a staffer from the Legislative Research Council on the history and parameters of special sessions, Huron Republican Rep. Roger Chase asked if it's possible to add "any other new legislation" to the agenda.

"The only legislation that can be passed is what is detailed in the proclamation," said Brigid Hoffman, legislative attorney.

Later, co-chair of the legislative executive board and Senate Pro Tempore Lee Schoenbeck scoffed at prospects for a special session, noting, "That

Jon Hansen of Dell Rapids — floated a bill via social media to ban vaccine mandates in private businesses, such as healthcare companies. The House Speaker, Rep. Spencer Gosch, later said he thought such a measure could be raised in a special session.

Talk of other special sessions on numerous topics — from marijuana to eligibility for sex-segregated sports — has been bandied about since the Legislature declared sine die in muddled formation on a transgender-banning sports measure and attempts to stall the effective date on the

ture is set for a special session on November 8 for redrawing the political boundaries for their own states.

Under state law, both the governor and state Legislature can call for a special session of the body, though the Legislature requires a two-thirds majority. According to LRC records, since 1990, the Legislature has only called for special sessions in conjunction with redistricting efforts.

Earlier in the executive board's meeting on Tuesday, the state's LRC staff also issued memorandum dovetailing with a collapse of a transgender bill that Gov. Noem insisted to a na-

Yankton County Disaster Mitigation Plan Update

The Yankton County Disaster Mitigation Planning Team has just completed updating the County's disaster mitigation plan. The plan includes a profile and risk assessment of the various natural hazards that affect the county, such as blizzards, tornadoes, flooding, and droughts, and presents a disaster mitigation strategy designed to lessen the impacts of the hazards. The plan is available for public review on the Yankton County website and at the Yankton County Emergency Management Office. Comments and suggestions regarding the plan can be sent to the Yankton County Office of Emergency Management Office at paul@yanktonoem.com or by calling 605-668-5289.

A Night at
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APPENDIX B: Documentation of Meetings

This appendix includes the following items:

- Signup sheets from the planning team meetings.
- Minutes from each of the participating jurisdictions' meetings as they discussed the mitigation actions they wanted to include in the plan.

SIGNUP SHEET – PLANNING TEAM MEETING #1:

Yankton County Pre-Disaster Mitigation Planning Meeting

Yankton Fire Station #2

June 15, 2021

[illegible]

SIGNUP SHEET – PLANNING TEAM MEETING #2:

Yankton County Pre-Disaster Mitigation Planning Meeting

Yankton EOC

August 26, 2021

[illegible]

YANKTON COUNTY COMMISSION MEETING

July 20, 2021

The regular meeting of the Yankton County Commission was called to order by Chair Cheri Loest at 6:00 p.m. on Tuesday, July 20, 2021.

Roll call was taken with the following Commissioners present: Wanda Howey-Fox, Don Kettering, Dan Klimisch, Joseph Healy and Cheri Loest.

There were no conflicts of interest reported by Commissioners.

Action 21330C: A motion was made by Fox and seconded by Healy to approve the regular meeting agenda. All present voted aye; motion carried, 5-0.

There were no public comments.

Chair Loest closed public comment.

Highway: Highway Superintendent Mike Sedlacek presented the board with a request from the South Dakota Department of Transportation to create a T intersection at the intersection of 310th Street and 451st Avenue, due to four crashes in the past ten years. The project is eligible for federal safety funds which is 90% and 10% local match. The county's share would be \$13,000. Sedlacek suggested using rumble bars and traffic warning lights first. It was the consensus of the board to use the bars and lights and check with the Gayville Town Board for their input.

Action 21331C: A motion was made by Fox and seconded by Klimisch to approve a Temporary 2 Day Liquor License for Upper Deck Bar & Grill at Gavins Point Recreational Center. All present voted aye; motion carried, 5-0.

There was no public comment on the liquor license request.

Emergency Management Director Paul Scherschligt presented a list of programs for the Pre-Disaster Mitigation Plan. A few items mentioned were storm ready county, shelters, tornado shelter location information, severe weather awareness week and weather radios. Commissioner Healy would like to see a tent on the list.

Action 21332OEM: A motion was made by Healy and seconded by Klimisch to approve the list presented and the addition of a Multi Hazard Portable Facility. All present voted aye; motion carried, 5-0.

Chair Loest presented a 2021 Achievement Award from the National Association of Counties to Michelle Goeken, Deputy Director of Equalization. This award was given for the Director of Equalization program titled "Lending a Helping Hand." Items noted on the application

including helping the County Auditor's office with 2020 absentee voting, work on the county handbook, helping with Highway Department paperwork for the 2019 flood, and development of a wage matrix for county employees. Members of the Equalization team in 2020 and 2021 include Lori Mackey (retired), Matt Archer (retired), Nancy Brockmoller (retired), Jeff Puthoff, Michelle Goeken, Andrea Wright, Jessica Atkinson and Kasi Foss.

Drainage: There was a second reading on Yankton County Drainage Ordinance #19.

There was no public comment.

Action 21333DR: A motion was made by Fox and seconded by Kettering to approve the amendments to the Yankton County Drainage Ordinance #19 with the removal of 3.03G. Roll call vote was taken with Fox, Kettering, Healy, Klimisch and Loest voting aye; motion carried, 5-0.

Article 5: There was a second reading of Article 5 and Definitions. Individuals commenting at the Article 5 hearing were: Chris Barkl, Jay Cutts, Ryan Heine, Zane Williams, Louis Johnson, Laura Nelson and Ron Budde.

Commissioner Healy proposed the corrected definition: Solid Manure System - any style of manure not conforming to the definition of "Liquid Manure", systems include floor-raised poultry, deep-bedded housing systems and dry lot.

The following is inserted after the Facility setback chart: "Operations that utilize both solid and liquid manure shall have a blended setback, taking into account setback distances proportional to the number of animal units

of each style of manure. Example: An operation 1/1000 dry lot beef cattle and 940 AUs of finishing swine would have a setback of $(1000 \text{ AU} \times 1.98 \text{ ft.}) + (940 \text{ AU} \times 2.64 \text{ ft.}) = 4462'$.

Action 21334C: A motion was made Kettering and seconded by Healy to recess the commission meeting for five minutes. All present voted aye; motion carried, 5-0.

Action 21335C: A motion was made by Fox and seconded by Kettering to reconvene. All present voted aye; motion carried, 5-0.

Action 21336Z: A motion was made by Fox and seconded by Kettering to approve changes to Article 5 that were in the commission packet with the following addition: change liquid and dry manure definitions as proposed by Commissioner Healy and change setbacks to 1/4 mile for all animal units. Commissioner Fox withdrew her motion.

Action 21337Z: A motion was made by Kettering and seconded by Fox to approve the proposed changes that were in the commission packet with the following additions: change in liquid and dry manure definitions as proposed by Commissioner Healy and change setbacks for less than 1,000 animal units to 1/4 mile and over 1,000 animal units to a half mile. Roll call vote was taken with Kettering and Fox voting aye; Healy, Klimisch and Loest voting nay; motion failed, 2-3.

Action 21338Z: A motion was made by Healy and seconded by Loest to approve proposed changes that were in the commission packet with the following addition: change in the liquid and dry manure definitions as proposed by Commissioner Healy. Roll call vote was taken with Healy and Loest voting aye; Kettering, Fox and Klimisch voting nay; motion failed, 2-3.

Action 21339Z: A motion was made by Fox and seconded by Healy to approve proposed changes that were in the commission packet with the following addition: change in the liquid and dry manure definitions as proposed by Commissioner Healy. Roll call vote was taken with Fox, Healy and Loest voting aye; Klimisch and Kettering voting nay; motion carried, 3-2.

Action 21340Z: A motion was made by Healy and seconded by Klimisch to adopt the following resolution: Whereas it appears, Deerfield Trucking, owner of record, has caused a plat to be made of the following real property: Lot 13, Whitetail Run, SE1/4, NE1/4, S16-T93N-R56W, County of Yankton, S.D., and has submitted such plat to the Yankton County Planning Commission and the Yankton County Commission for approval. Now therefore be it resolved that such plat has been executed according to law and conforms to all existing applicable zoning, subdivision and erosion and sediment control and the same is hereby approved. The County Auditor is hereby authorized and directed to endorse on such the proper resolution and certify the same. All present voted aye; motion carried, 5-0.

Action 21341Z: A motion was made by Kettering and seconded by Fox to adopt the following resolution: Whereas it appears, James Souhrada, owner of record, has caused a plat to be made of the following real property: Souhrada's Addition, SE1/4, NE1/4, S31-T95N-R57W, County of Yankton, S.D., and has submitted such plat to the Yankton County Planning Commission and the Yankton County Commission for approval. Now therefore be it resolved that such plat has been executed according to law and conforms to all existing applicable zoning, subdivision and erosion and sediment control and the same is hereby approved. The County Auditor is hereby authorized and directed to endorse on such the proper resolution and certify the same. All present voted aye; motion carried, 5-0.

Action 21342Z: A motion was made by Kettering and seconded by Fox to adopt the following resolution: Whereas it appears, Brandy McDonald, owner of record, has caused a plat to be made of the following real property: Tract 1, McDonald Addition, Lots 1 and 2, NE1/4, S2-T95N-R55W, County of Yankton, S.D., and has submitted such plat to the Yankton County Planning Commission and the Yankton County Commission for approval. Now therefore be it resolved that such plat has been executed according to law and conforms to all existing applicable zoning, subdivision and erosion and sediment control and the same is hereby approved. The County Auditor is hereby authorized and directed to endorse on such the proper resolution and certify the same. All present voted aye; motion carried, 5-0.

Action 21343Z: A motion was made by Fox and seconded by Klimisch to adopt the following resolution: Whereas it appears, Mike Mathison, owner of record, has caused a plat to be made of the following real property: Mathison Tract 6, NE1/4, NE1/4, S6-T93N-R56W, County of Yankton, S.D., and has submitted such plat to the Yankton County Planning Commission and the Yankton County Commission for approval. Now therefore be it resolved that such plat has been executed according to law and conforms to all existing applicable zoning, subdivision and erosion and sediment control and the same is hereby approved. The County

Auditor is hereby authorized and directed to endorse on such the proper resolution and certify the same. All present voted aye; motion carried, 5-0.

Gary Vetter presented to the board a letter to land owners that would be interested in a onetime administrative rezone of some Rural Transitional District Zones. The board approved the letter.

Action 21344C: A motion was made by Kettering and seconded by Fox to approve the following claims: *(DELETED)*

Action 21345AUD: A motion was made by Healy and seconded by Fox to approve the Auditor's Monthly Settlement with the Treasurer and Pooled Cash Report as of June 30, 2021 which showed Total Cash of \$16,581,508.71. The General Fund was \$7,748,536.81; Special Funds were \$7,162,351.97; and Trust and Agency Funds were \$1,568,979.84 adding to a Grand Total of General Ledger Cash and Investments of \$16,479,868.62. Federal Tax payment was taken out July 7, 2021 not June 30, 2021. A detailed report is on file with the County Auditor. All present voted aye; motion carried, 5-0.

July 6, 2021 commission minutes will be approved at the next scheduled meeting.

Deputy States Attorney Debra Lillie appeared before the board to request to hire a temporary position to review poor relief cases and report findings back to the State's Attorney's office.

Action 21346C: A motion was made by Fox and seconded by Kettering to approve the request. All present voted aye; motion carried, 5-0.

There were no public comments.

Chair Loest closed public comment.

There were no commissioner updates.

Action 21347C: A motion was made by Fox and seconded by Healy to recess the regular session at 9:10 p.m. and convene in executive session to discuss Poor Relief Issues SDCL 1-25-2 & 28-13 and litigation issue SDCL 1-25-2(3). All present voted aye; motion carried, 5-0.

Action 21348C: A motion was made by Fox and seconded by Healy to adjourn the executive session at 9:20 p.m. and reconvene in regular session. All present voted aye; motion carried, 5-0.

Action 21349C: A motion was made by Fox and seconded by Kettering to pre-pay travel costs for witness travel in the amount \$551.04 for an upcoming trial. All present voted aye; motion carried, 5-0.

Action 21350C: A motion was made by Fox and seconded by Kettering to rescind her previous motion and correct the dollar amount to \$509.04. All present voted aye; motion carried, 5-0.

Action 21351C: A motion was made by Healy and seconded by Fox to pend the files of poor relief case CW21-046, CW 21-049, CW 21-050 and 21-056 through CW 21-064 based on the following SDCLs: 28-13-1.3(1); 28-13-1.3(2); 28-13-1.3(4); 28-13-34.2; 28-13-33-2; 28-13-3; 28-13-33. All present voted aye; motion carried, 5-0.

Action 21352C: A motion was made by Healy and seconded by Fox to deny the files of poor relief case CW21-050 through CW 21-055 based on the following SDCLs: 28-13-1.3(1); 28-13-1-3(2); 28-13-1-3(4); 28-13-33; 28-13-33.2. All present voted aye; motion carried, 5-0.

Action 21353C: A motion was made by Fox and seconded by Healy to adjourn. All present voted aye; motion carried, 5-0.

The next regular meeting will be Tuesday, August 3, 2021 at 6:00 p.m.

Cheri Loest, Chair

Yankton County Commission

ATTEST:

Patty Hojem, County Auditor

TOWN OF GAYVILLE MEETING MINUTES JULY 5, 2021

The Regular Meeting of the Town Board of Gayville, SD was held Monday July 5, 2021.

Mayor/Trustees Present: Jay Jorgensen, Nick Huber, and Paula Marshall

Officers Present: Lori Miller, Sandy Heier

Lawyer Present: Tamara Lee

Visitors: Chuck Flemming, Gary Heier, Terry Rye, Josh Lauck, Kim Bennett, Tara Pirak, Brett Pirak, Tyler Wuebben Alison Larson,

The meeting was called to order by Jay Jorgensen @ 6:02 pm

Minutes from 6.7.2021 Meeting – Motion by Huber to approve minutes, 2nd by Marshall. All in favor. Motion carried.

Additions to Agenda: Tara Pirak

Motion to approve Agenda, with addition, by Jorgensen, 2nd by Huber. All in favor. Motion carried.

Public Comments: None

Motion by Jorgensen, 2nd by Huber to pay the following on the General Account: *(DELETED)*

Motion by Marshall, 2nd by Jorgensen to pay the following on the Water Account: *(DELETED)*

Motion by Huber, 2nd by Jorgensen to pay the following on the Special Water Project Account: *(DELETED)*

Motion by Marshall, 2nd by Jorgensen to pay the following on the Sewer Account: *(DELETED)*

Motion by Huber, 2nd by Marshall to pay the following on the Garbage Account: *(DELETED)*

June 2021 Receipts: *(DELETED)*

Old Business:

Lagoon Info Update: Cell #1: 5' - Cell #4: 5' - Cell #3: 0'

Possible Ticket/Citation for Ordinance Infraction: Nothing to report

Sewer Project Update: Motion by Jorgensen, for the Town of Gayville to apply to the United States Department of Agriculture – Rural Development for \$4,429,000 of Rural Development funds to finance the proposed project, 2nd by Huber. All in favor. Motion carried.

Town Shop Sewer Repair/Sidewalk: Waiting for funding for this separate sewer project to repair sewer line behind the Town Shop. Sidewalk to be incorporated into Town Garage concrete pending project.

Park Grant: Nothing to report.

Yard Waste and Compost Site (Site Security): Nothing to report.

Garbage Contract: A draft was provided to the Board and discussion held. Contract to be discussed at next regular meeting to finalize and publish Notice for Bids.

Gayville Hall Water Reading: Nothing new to report.

Valley Ag Supply: Draft User Agreement was reviewed. Motion by Jorgensen, Attorney to amend Agreement as discussed and agreed upon by all parties, 2nd by Marshall. All in favor. Motion carried. Final User Agreement to be provided to both parties for signatures.

Town Attorney Contract: Attorney to email the Board a draft for their review. To be discussed at next regular meeting.

Initiated Measure (IM26) and Temporary Ordinance 2021-03: Motion by Jorgensen, to have a Joint Meeting with the Gayville Zoning Board on Monday, July 26th 7:00 pm at the Community Center, 2nd by Huber. All in favor. Motion carried.

Dangerous Buildings in Town: Washington Street Building – Summons & Complaint has been filed. Property owner has not been served. Brown Street Garage – Structure burned down by the Gayville Fire Department. Property owner to complete cleanup & plant grass. Merchant Street House –Attorney continues to work with the County Treasurer and State's Attorney.

Welcome Sign: Brett Pirak, as part of his Eagle Scout project, requested an acknowledgment from the Town that all steps have been completed for the welcome sign. Attorney to prepare requested acknowledgment. Agreement Regarding Erecting and Maintaining Billboard between the Town of Gayville and the landowners has been completed and signed.

Town Street Banners: Motion by Jorgensen, Huber to order street banners/brackets at an approximate cost of \$4,400, 2nd by Marshall. All in favor. Motion carried.

Yankton County, SD Risk Map Flood Risk Review (FRR): Nothing to report.

American Rescue Plan Act: Nothing new to report.

Town Phone: Marshall reported that the phone line has been installed. Voice messaging system needs to be set up.

Old Snow Plow: Marshall continues to work with individuals to submit valuation report.

Street Sweeping: Huber to get a price quote. To be discussed at the September regular meeting.

West Nile Grant: Motion by Jorgensen, to utilize \$1,000 grant from the Dept. of Health (WNV) Prevention and Control towards mosquito control, 2nd by Marshall. All in favor. Motion carried.

Yankton County Pre-Disaster Mitigation (PDM) Plan: Huber attended and reported what was discussed at the June 15th meeting. Projects to include in the plan are stormwater mitigation, generators for critical facilities, and a tornado shelter.

Speed Limit Signs: Delivered and will be installed.

Sewer Rates: Nothing discussed/reported.

Fire Hydrants: Parts have been ordered to repair two (2) fire hydrants.

City Billing Notices: Additional verbiage, that was added to monthly utility notices, was reviewed.

Town Bank Accounts: Nothing new to report.

150th Anniversary Town Celebration: July 1-3, 2022. Heier, who is on the Anniversary Committee, asked the Board to provide amount to be pledged by the Town towards the cost of the celebration. To be discussed at next regular meeting.

Town Garage: Three bids received to concrete the floor. Flemming to obtain updated bids and will be discussed at next regular board meeting.

Community Center Message Board: Nothing new to report.

Property Maintenance Ordinance: Discussion held regarding properties in violation and letters to be sent to the property owners. Approval by all board members.

New Business:

Annexation: Tyler Wuebben came to the Board regarding property purchased that is just outside of the city limits on the north side of town. His plans are to build a new home now and to build a shed in the future. Discussion held regarding annexation and water/sewer hookup. Attorney to research and to be discussed at next regular meeting.

Tara Pirak: Discussion held regarding re-platting process.

Daily Collections: Treasurer to begin completing daily deposits.

Building Permit Applications: Huber brought to the Board's attention, that the Zoning Board should update the Building Permit application to include sidewalks.

Vehicles (unlicensed/parked long term)- Letters to be sent to property owners.

MISC.

Water Samples: Passed

Disconnect Notices – None

Building Permits: 1 Issued

Treasurer's Report as of June 30, 2021 (per Bank Statements): General: \$194,031.72; Water: \$42,355.96; Special Water: \$4,290.73; Garbage: \$9,084.96; Sewer: \$90,789.12; Savings: \$53,426.81

Motion by, Jorgensen, 2nd by Huber to Adjourn @ 9:20 pm.

Special Joint Meeting, with the Zoning Board, will be held July 26, 2021 @ 7:00 pm. to discuss Initiated Measure (IM 26) and Ordinance 2021-03.

The next Regular Board Meeting will be held August 2, 2021 @ 6:00 pm.

Jay Jorgensen, Chairperson

Attest: Lori Miller, Finance Officer

LESTERVILLE TOWN BOARD MINUTES
Fire Hall Meeting Room
7/6/2021 @ 7:00 PM

The monthly meeting of the Lesterville Town Board was called to order via Zoom due to Covid-19 restrictions by Mayor Trevor Munkvold at 7:00 pm on Tuesday, July 6 2021 in the fire hall meeting room. Attendees included: Daryl Bierle, Trustee; Kevin Frangenberg, Trustee; Janelle Munkvold, Finance Officer; Paul Scherschligt, Water Superintendent; Peggy Munkvold, Derrick Johnson, Mike Gutenkauf, Clark Engineering; Karen Frangenberg and Mary Schenkel.

Motion Frangenberg, second Bierle to approve the meeting agenda with the addition of Hazardous Mitigation Meeting follow up. Motion carried. Motion Frangenberg second Bierle to approve the June Meeting Minutes. Motion carried.

Motion Bierle, second Frangenberg to approve the following vouchers for payment. Motion carried.
(DELETED)

REPORTS:

Finance Officer Report

Account balance as of June 30, 2021: General \$53,294.77, Water \$31,758.36 (\$9,005.72 Restricted), Sewer \$71,856.01, Reserve \$79,327.69. Water loss was 41,980 gallons.

Water Superintendent Report

Crack Seal Railroad & Main Avenue – Asked if the cracks could be sealed to preserve what road is left. No quote available and no action taken.

Place black top around manholes & Water vales – This needs to be done. No costing was provided and no action taken.

Garbage Cans on right of way – cans are being left in the city right of way. Attorney Johnson will draft a letter to be sent to all residents.

Water Usage - do we need to restrict or alternate water in town – With all the water used last month the tower can't keep up. We are getting 20 gallons per minute from B-Y Water and using 27-29 gallons per minute. If the drought continues water restriction may need to be put in place.

Water Tower pipe replacement – cost estimate not received yet.

OLD BUSINESS:

Streets / Drainage

Mike surveyed Wagner Avenue and Railroad Street to Kramer Avenue to replace culverts and clean ditches. Maintaining drainage and cleaning ditches is part of routine maintenance and can be done. An updated cost estimate will be provided at next meeting. No more information on the drainage project, more modeling needs to be done. December is the deadline at District III.

Trees in City right of Way

Mayor Munkvold received quote from Abe's of \$10,900.00 to remove 9 trees and \$3,490.00 to remove stumps. Beld Tree Service quoted \$5,000.00 - \$8,000.00 to remove 9 trees and \$2,000.00 to remove stumps. Motion Frangenberg, second Bierle to approve Beld Tree Service for the project. Motion carried.

Nuisance Properties / Unlicensed Vehicle

Attorney Johnson will start abatement process with property owners. Moved forward with issuing ordinance violation ticket.

Hazardous Mitigation Meeting Follow up

Projects discussed to be included in the plan are generator at critical facilities and storm shelter. Already in the plan is storm sewer infrastructure updates, we want to leave this in the new plan also.

NEW BUSINESS:

Special Events Malt Beverage License – Lesterville Fire & Rescue

Motion Bierle, second Frangenberg to approve the license for July 17th. Motion carried.

Special Events Malt Beverage License – Trevor Munkvold – Truck Pull

Motion Bierle, second Frangenberg to approve the license for July 24th. Motion carried.

Dog Licensing

Licensing will be done from 5:30 pm to 7:00pm on August 3rd. Reminder will be placed in water bills.

Budget Workshop

Need to meet prior to August Meeting to prepare 2022 budget. Meeting will be held July 28th @ 6pm.

Public Concerns from audience:

Need for Marijuana Resolution / Ordinance was brought up.

ADJOURNMENT:

Motion Bierle, second Frangenberg to adjourn the town board meeting at 8:50pm. Motion carried. Next monthly meeting of the Lesterville Town Board is scheduled for August 3 2021 at 7 pm in the fire hall room.

Janelle Munkvold
Finance Officer

CHAMBER OF THE BOARD OF CITY COMMISSIONERS
YANKTON, SOUTH DAKOTA
JULY 26TH, 2021

Board of City Commissioners of the City of Yankton was called to order by Mayor Moser.

Roll Call: Present: Commissioners Benson, Brunick, Johnson, Maibaum, Miner, Schramm, Webber and Villanueva. City Attorney Den Herder and City Manager Leon were also present.

Action 21-195

Moved by Commissioner Webber, seconded by Commissioner Schramm, to approve Minutes of regular meeting of July 12, 2021.

Roll Call: All members present voting “Aye;” voting “Nay:” None.

Motion adopted.

City Manager Leon submitted a written report giving an update on community projects and items of interest.

There were no public appearances at that time.

Action 21-196

Moved by Commissioner Miner, seconded by Commissioner Webber, to approve the following consent agenda items:

1. Transient Merchant License and Special Events Dance License

Consideration of Memorandum #21-157 recommending approval of the application from Martha’s Crafts for Transient Merchant License for Martha’s Crafts from July 27, 2021 – August 27, 2021

2. Establishing public hearing for sale of alcoholic beverages

Establish August 9, 2021, as the date for the public hearing on the request for a Special Events Malt Beverage (on-sale) Liquor License for September 24-26, 2021 from Stripes, Inc. dba Mojo’s 3rd Street Pizza (Jeff Dayhuff, Owner), Riverside Park, Yankton, South Dakota.

3. Establishing public hearing for sale of alcoholic beverages

Establish August 9, 2021, as the date for the public hearing on the request for a Special Events RETAIL (on-sale) Liquor License for 1 day, August 15, 2021 from Boomer’s Inc., (Gary W. Boom, President) d/b/a Boomer’s Lounge, Zombie’s Realm, 109 E 3rd St., Yankton, South Dakota.

Roll Call: All members present voting “Aye;” voting “Nay:” None.

Motion adopted.

Action 21-197

Moved by Commissioner Webber, seconded by Commissioner Johnson, to approve Resolution 21-60.

(Memorandum 21-153)

Roll Call: All members present voting “Aye;” voting “Nay:” None.

Motion adopted.

Action 21-198

Moved by Commissioner Schramm, seconded by Commissioner Webber, to approve Resolution 21-61.

(Memorandum 21-154)

Roll Call: All members present voting “Aye;” voting “Nay:” None.

Motion adopted.

Action 21-199

Moved by Commissioner Johnson, seconded by Commissioner Miner, to approve the inclusion of the identified hazard mitigation actions and projects in the revision to Yankton County Pre-Disaster Mitigation Plan. (Memorandum 21-156)

Memorandum #21-156 To: Amy Leon, City Manager

From: Dave Mingo, AICP, Community and Economic Development Director

Subject: 2021-2026 Yankton County Pre-Disaster Mitigation Plan Projects

Date: July 19, 2021

Staff from several departments have been participating in the Yankton County Pre-Disaster Mitigation Plan (PDM Plan) update. This is a periodic revision of the county-wide PDM Plan coordinated by Planning and Development District III and encompassing all the jurisdictions in the county. The plan identifies and analyzes the hazards that the county is susceptible to, and proposes a mitigation strategy to minimize future damage that may be caused by those hazards. The document serves as a strategic planning tool in efforts to mitigate against future disaster events.

Part of the five-year revision process includes identifying potential future hazard mitigation projects that each community might undertake during the period covered by the plan. Inclusion in the plan doesn't obligate the City to the pursue the projects, but describes the types of efforts for which the City might pursue including seeking grant funding. Some of the identified mitigation actions/projects are more routine services/outreach efforts that don't have specific future grant projects attached to them but help maintain our preparedness for disasters. Staff has identified the following mitigation projects/actions for inclusion in the plan:

- Continue National Flood Insurance Program participation and floodplain development regulation.
- Projects along Marne Creek and other mapped special flood hazard areas including stream flow and stream monitoring/studies, flood monitoring/warning devices, property acquisition, bank stabilization and other physical improvements/mitigation measures.
- Continue enforcement and periodic adoption of revised ICC Building Codes.
- Continue upgrading storm sewer infrastructure.
- Work toward Certified Floodplain Manager status for local floodplain administrator.
- Tornado shelter construction/acquisition for public gathering/critical facilities.
- Generator acquisition for emergency power at critical facilities.
- Begin participating in StormReady Community Program.

Once a draft plan has been completed and reviewed by FEMA a final draft version will be provided for review and approval by each of the governing bodies in covered jurisdictions.

Respectfully Submitted, Dave Mingo, AICP Community and Economic Development Director

Recommendation: It is recommended that the City Commission approve the inclusion of the identified hazard mitigation actions and projects in the revision to Yankton County Pre-Disaster Mitigation Plan.

Roll Call: All members present voting "Aye;" voting "Nay:" None.

Motion adopted.

Action 21-200

Moved by Commissioner Webber, seconded by Commissioner Brunick, to approve and authorize Mayor Moser to sign the Addendum to Collective Bargaining Agreement between the City of Yankton and the American Federation of State, County, and Municipal Employees, AFL-CIO Local 3968 for wages effective January 1, 2022 and January 1, 2023. (Memorandum 21-158)

Roll Call: All members present voting "Aye;" voting "Nay:" None.

Motion adopted.

Action 21-201

Rylend Brunick, Eagle Scout, was present to answer questions and request support for this proposed Eagle Scout Bike Repair Station Project in Memorial Park.

Moved by Commissioner Miner, seconded by Commissioner Webber, to approve the funding to purchase the bike repair station and air pump for Memorial Park. (Memorandum 21-159)

Roll Call: Commissioners voting "Aye" were Benson, Maibaum, Miner, Johnson, Schramm, Webber, Villanueva and Mayor Moser.; voting "Nay:" None. Abstain: Commissioner Brunick.

Motion adopted.

Action 21-202

Moved by Commissioner Johnson, seconded by Commissioner Schramm, to approve Resolution 21-63. (Memorandum 21-162)

Roll Call: All members present voting "Aye;" voting "Nay:" None.

Motion adopted.

Action 21-203

Moved by Commissioner Villanueva, seconded by Commissioner Miner, to adjourn into Executive Session at 7:33 p.m. to discuss contractual, litigation and personnel matters under SDCL 1-25-2.

Roll Call: All members present voting "Aye;" voting "Nay:" None.

Motion adopted.

Regular meeting of the Board of City Commissioners of the City of Yankton was reconvened by Mayor Moser.

Roll Call: Present: Commissioners Brunick, Johnson, Miner, Schramm, Webber and Villanueva.

City Attorney Den Herder and City Manager Leon were also present. Absent: Commissioners Benson and Maibaum.

Quorum present.

Action 21-204

Moved by Commissioner Johnson, seconded by Commissioner Schramm, to adjourn at 8:17 p.m.

Roll Call: All members present voting "Aye;" voting "Nay:" None.

Motion adopted.

Stephanie Moser, Mayor

ATTEST:

Al Viereck, Finance Officer

APPENDIX C: History of Previous Hazard Occurrences

This appendix provides details about hazard events that have impacted Yankton County in the past. **Table C.1** below lists all of the events since 1970 that resulted in a major disaster declaration in which Yankton County was part of the designated area. Records from FEMA were consulted for federal assistance provided following each disaster through FEMA's Public Assistance program.

Table C.1 – Major Disaster Declarations Affecting Yankton County

| Dec # | Date Disaster Declared | Type | Primary Damage Impact | Public Assistance to County |
|-------|------------------------|----------------------------------|-----------------------|-----------------------------|
| 3015 | Jun 1976 | Drought | | |
| 717 | Jul 1984 | Severe storms; Flooding | | |
| 999 | Jul 1993 | Severe storms; Tornado | | |
| 1052 | May 1995 | Severe storms; Flooding | | |
| 1156 | Feb 1997 | Severe winter storm; Blizzard | | |
| 1173 | Apr 1997 | Severe storms; Flooding | | |
| 1531 | Jul 2004 | Severe storms; Flooding | | ≈\$45,000 |
| 1620 | Dec 2005 | Severe winter storm | | |
| 1702 | May 2007 | Severe storms, Tornado, Flood | | |
| 1886 | Mar 2010 | Severe winter storm | Emergency Protection | ≈\$95,000 |
| 1984 | May 2011 | Flooding | Roads | ≈\$320,000 |
| 4440 | Jun 2019 | Severe winter storms; Flooding | Roads, bridges | ≈\$9,800,000 |
| 4469 | Nov 2019 | Severe storms; Tornado; Flooding | Roads, bridges | ≈\$165,000 |

Sources: www.fema.gov/disasters/grid/state-tribal-government/72; www.fema.gov/data-feeds/openfema-dataset-public-assistance-funded-projects-summaries-v1

Table C.2 is a comprehensive list of the most significant hazard events reported for Yankton County from 1960 through 2020, as recorded in the National Climatic Data Center's Storm Events Database. The National Climatic Data Center receives storm data from the National Weather Service, which gets its information from a variety of sources, including county, state and federal emergency management officials, local law enforcement officials, National Weather Service damage surveys, the insurance industry, and the general public.

The Storm Events Database is useful, but it does have limitations. One problem is that records for certain hazard events, including winter storms and blizzards, only go back to the 1990s. Another issue is that damage amounts in most cases are estimates, especially for events that impacted multiple counties. Also note that the database contains a preponderance of records from recent times. This is due to an inconsistency in data reporting over the years, and does not indicate an increase in the frequency of events affecting the county.

The table includes the following information about the events:

- Date - multiple events may be shown for a single day because a storm system may contain many specific storm events affecting different locations.

- Type of event.
- Descriptive information - details are provided for some of the more noteworthy events back to the 1990s.
- Magnitude - the magnitude of tornadoes, hail, thunderstorm winds, and high wind events is given. For events occurring since 2000 the speed is represented by either the highest measured wind gust (M) or the highest estimated wind gust (E). Note that speeds are shown in knots - multiply figure by 1.15 to get approximate speed in miles per hour.
- Property and crop damage - the National Weather Service uses all available data from the sources identified above in compiling the damage amounts, but the figures should be considered as broad estimates. In many cases, damage amounts are unknown.

Table C.2 – History of Significant Hazard Events in Yankton County

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|-----------|-------------------|-------------------|----------|------------------------|------------------------|
| 5/17/1962 | Tornado | | F1 | 25 | |
| 5/5/1964 | Tornado | | F1 | 2.5 | |
| 5/5/1964 | Tornado | | F0 | | |
| 5/24/1965 | Tornado | | F2 | 25 | |
| 5/24/1965 | Tornado | | F1 | 2.5 | |
| 5/24/1965 | Tornado | | F0 | | |
| 6/7/1965 | Tornado | | F4 | 2500 | |
| 6/3/1966 | Tornado | | F0 | | |
| 9/3/1966 | Thunderstorm Wind | | 65 kts. | | |
| 6/14/1967 | Tornado | | F0 | | |
| 7/16/1968 | Hail | | 1.75 in. | | |
| 9/2/1968 | Thunderstorm Wind | | 61 kts. | | |
| 7/3/1969 | Thunderstorm Wind | | 60 kts. | | |
| 7/14/1970 | Thunderstorm Wind | | 70 kts. | | |
| 6/3/1971 | Thunderstorm Wind | | 65 kts. | | |
| 6/6/1971 | Thunderstorm Wind | | 85 kts. | | |
| 8/5/1972 | Tornado | | F2 | 2.5 | |
| 9/20/1972 | Tornado | | F2 | 250 | |
| 4/19/1973 | Thunderstorm Wind | | 61 kts. | | |
| 6/18/1973 | Hail | | 1.75 in. | | |
| 5/22/1975 | Thunderstorm Wind | | 90 kts. | | |
| 6/3/1975 | Tornado | | F0 | 25 | |
| 8/9/1977 | Thunderstorm Wind | | 72 kts. | | |
| 9/8/1977 | Thunderstorm Wind | | 60 kts. | | |
| 7/5/1978 | Hail | | 1.75 in. | | |
| 7/5/1978 | Hail | | 1.25 in. | | |
| 7/6/1978 | Thunderstorm Wind | | 60 kts. | | |
| 6/19/1979 | Tornado | | F1 | 2500 | |
| 7/13/1979 | Hail | | 1.75 in. | | |
| 5/29/1980 | Tornado | | F0 | | |
| 5/29/1980 | Tornado | | F0 | | |
| 5/29/1980 | Hail | | 2.75 in. | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|----------|------------------------|------------------------|
| 5/29/1980 | Hail | | 1.75 in. | | |
| 6/26/1980 | Thunderstorm Wind | | 70 kts. | | |
| 10/16/1980 | Thunderstorm Wind | | 60 kts. | | |
| 4/2/1982 | Thunderstorm Wind | | 63 kts. | | |
| 7/2/1982 | Hail | | 1.75 in. | | |
| 7/2/1982 | Hail | | 1.75 in. | | |
| 7/22/1983 | Thunderstorm Wind | | 61 kts. | | |
| 7/22/1983 | Thunderstorm Wind | | 65 kts. | | |
| 7/22/1983 | Thunderstorm Wind | | 65 kts. | | |
| 9/5/1983 | Hail | | 1.75 in. | | |
| 6/22/1984 | Hail | | 1.75 in. | | |
| 6/24/1984 | Hail | | 1.75 in. | | |
| 4/20/1985 | Tornado | | F2 | 25 | |
| 4/20/1985 | Tornado | | F0 | | |
| 4/20/1985 | Tornado | | F0 | | |
| 6/21/1986 | Thunderstorm Wind | | 83 kts. | | |
| 6/29/1986 | Hail | | 2.00 in. | | |
| 8/22/1988 | Hail | | 1.75 in. | | |
| 10/1/1989 | Thunderstorm Wind | | 62 kts. | | |
| 6/11/1990 | Thunderstorm Wind | | 66 kts. | | |
| 5/28/1991 | Thunderstorm Wind | | 80 kts. | | |
| 7/18/1991 | Thunderstorm Wind | | 75 kts. | | |
| 6/16/1992 | Thunderstorm Wind | | 60 kts. | | |
| 8/16/1993 | Thunderstorm Wind | | 52 kts. | 50 | |
| 9/13/1993 | Thunderstorm Wind | | 56 kts. | 50 | |
| 9/2/1995 | Hail | | 2.75 in. | | |
| 9/2/1995 | Hail | | 2.50 in. | | |
| 9/2/1995 | Hail | | 1.75 in. | | |
| 1/17/1996 | Blizzard | A blizzard spread across the area from the west. Snow 3 to 12 inches deep was accompanied by 50 to 60 mph winds and very cold temperatures. The wind chill dropped to around -70. Roads and many businesses and schools were shut down. The total destruction of at least 3 homes by fire was due in part to the inability of firefighters to travel across blocked roads. Several accidents occurred and other vehicles slid into ditches or became stranded. | | | |
| 1/29/1996 | Extreme cold | Wind chill readings as cold as 80 below zero occurred as winds over 30 mph combined with temperatures of 10 below to 30 below zero. Many vehicles failed to start, but the main impact was financial with greatly increased heating energy use, and purchase of supplies and services to ensure furnace operation. | | | |
| 2/10/1996 | High Wind | | 58 kts. | 30 | |
| 3/24/1996 | Blizzard | Snow accumulating 3 to 8 inches was accompanied by winds over 50 mph at times, producing widespread whiteout conditions. Numerous vehicles slid into ditches and many people were stranded in vehicles. There were some rollovers and other accidents. | | 20 | |
| 4/12/1996 | Heavy Snow | | | | |
| 4/25/1996 | High Wind | | 62 kts. | 10 | |
| 8/6/1996 | Thunderstorm Wind | Thunderstorm winds damaged trees and power lines. Two campers were blown over and other damage to vehicles occurred from tree debris, including a mobile home heavily damaged by a falling tree in Yankton. | 55 kts. | 200 | |
| 10/26/1996 | High Wind | | 50 kts. | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|----------|------------------------|------------------------|
| 10/29/1996 | High Wind | | 57 kts. | 50 | |
| 11/14/1996 | Ice Storm | Several periods of freezing rain caused widespread damage and paralyzed travel. Widespread damage occurred to electrical poles and lines, leaving thousands without power for up to four days. Numerous accidents occurred. Tree damage was widespread with tree debris blocking several roads and sidewalks. Some farm buildings and other small structures were damaged by the weight of ice and snow on roofs. | | 40 | |
| 12/16/1996 | Blizzard | | | | |
| 12/25/1996 | Heavy Snow | | | | |
| 1/4/1997 | Blizzard | | | | |
| 1/9/1997 | Blizzard | | | | |
| 1/15/1997 | Extreme cold | Temperatures a few degrees below zero accompanied by wind gusts over 40 mph created wind chills as cold as 70 below zero. Drifting snow and areas of low visibility in blowing snow also occurred in open areas. | | | |
| 2/3/1997 | Heavy Snow | | | | |
| 3/12/1997 | Flood | Widespread snowmelt flooding began in March and continued through the end of the month. Record flooding occurred on the James River. Widespread flooding of farmland and other lowlands occurred, both near and away from major river basins. Many roads, farm buildings, and some homes and businesses were flooded. Many basements were flooded just from groundwater seepage. Travel was severely hampered by flooded roads in some areas. Farmland flooding was severe and widespread. | | | |
| 4/1/1997 | Flood | | | | |
| 4/6/1997 | High Wind | | 63 kts. | 10 | |
| 4/9/1997 | Heavy Snow | | | | |
| 5/1/1997 | Flood | | | | |
| 7/21/1997 | Thunderstorm Wind | | 61 kts. | 50 | |
| 7/27/1997 | Hail | | 2.00 in. | | |
| 7/27/1997 | Thunderstorm Wind | Thunderstorm winds caused widespread tree and power line damage in Yankton County. The winds also tore the roof off a building and damaged a grain elevator at Utica. | 57 kts. | 200 | 100 |
| 9/18/1997 | Thunderstorm Wind | | 57 kts. | 20 | |
| 3/31/1998 | Heavy Snow | Snowfall of 6 to 16 inches occurred over a large area, causing some damage to power lines resulting in power outages. | | | |
| 7/6/1998 | Thunderstorm Wind | | 61 kts. | 5 | |
| 7/6/1998 | Flash Flood | 2 to 5 inches of rain in an hour or less caused flash flooding of lowlands and small streams, including Marne Creek in Yankton. Some roads were flooded. Damage occurred to a few homes from water seepage, mainly in the Lesterville and Utica areas where the heaviest rain fell. | | 50 | |
| 11/10/1998 | Blizzard | Snow accumulating 4 to 14 inches combined with winds gusting as high as 60 mph caused zero visibilities in snow and blowing snow, drifting snow, and damage to trees and power lines with resultant power outages. Some of the power outages lasted over 2 days. Most roads were closed and many people were stranded in vehicles after the sudden onset of the heavy snow. | | 20 | |
| 1/1/1999 | Winter Storm | | | | |
| 2/22/1999 | Heavy Snow | | | | |
| 3/8/1999 | Winter Storm | | | | |
| 5/12/1999 | Flood | | | | |
| 5/16/1999 | Hail | | 1.75 in. | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|-----------|------------------------|------------------------|
| 11/1/1999 | Drought | Generally dry weather that began in August continued through November. Dry surface and soil conditions became quite pronounced in November. Water levels fell, especially in small streams and lakes. Damage to winter wheat crops was feared. The area experienced the third driest fall (September through November) period on record. Unusually warm weather during the month contributed to the drying. The most noticeable manifestation of the dry conditions was the large number of grass fires across the area. While damage was mainly limited to the grasslands, considerable manpower and expense was needed to fight the fires. | | | |
| 12/1/1999 | Drought | | | | |
| 2/1/2000 | Drought | Dry weather that prevailed during the fall continued in February, Dry surface and soil conditions remained quite pronounced. Water levels continued to fall slowly. especially in wetlands, small streams, and lakes. Above normal temperatures contributed to further drying. Grass fires were again a problem in some areas. | | | |
| 3/1/2000 | Drought | | | | |
| 4/1/2000 | Drought | | | | |
| 4/5/2000 | High Wind | | 56 kts. M | 17 | |
| 4/16/2000 | Ice Storm | Freezing rain caused significant ice accumulation on trees, power lines, and other exposed surfaces. The ice caused tree damage, much of it minor. A few power lines and poles were also pulled down by the weight of the ice. | | | |
| 6/3/2000 | Hail | | 1.75 in. | | |
| 6/4/2000 | Hail | | 1.75 in. | | |
| 6/4/2000 | Thunderstorm Wind | | 52 kts. E | 10 | |
| 6/23/2000 | Hail | | 1.75 in. | | |
| 7/11/2000 | Thunderstorm Wind | | 52 kts. E | 30 | |
| 8/5/2000 | Thunderstorm Wind | | 61 kts. E | 70 | |
| 8/7/2000 | Thunderstorm Wind | | 65 kts. E | | |
| 8/16/2000 | Thunderstorm Wind | | 61 kts. E | 50 | |
| 11/11/2000 | Winter Storm | | | | |
| 12/16/2000 | Blizzard | | | | |
| 12/28/2000 | High Wind | | 52 kts. M | | |
| 1/29/2001 | Winter Storm | | | | |
| 2/24/2001 | Winter Storm | | | | |
| 4/1/2001 | Flood | | | | |
| 5/1/2001 | Flood | | | | |
| 7/7/2001 | Lightning | Lightning struck the tower of a radio station, damaging transmitting equipment and knocking the station off the air temporarily. | | 10 | |
| 10/9/2001 | Hail | | 1.50 in. | | |
| 11/26/2001 | Heavy Snow | Most areas of southeast South Dakota received at least 8 inches of snow, with Yankton receiving 16 inches. The snowfall closed many schools and businesses, closed some government offices, and severely hampered transportation. The wet and heavy nature of the snow made it difficult to clear away. | | | |
| 2/9/2002 | Winter Storm | | | | |
| 8/16/2002 | Hail | | 1.75 in. | | |
| 8/16/2002 | Hail | | 1.75 in. | | |
| 8/30/2002 | Lightning | | | | |
| 2/14/2003 | Winter Weather | | | | |
| 3/3/2003 | Winter Weather | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|---|-----------|------------------------------|------------------------------|
| 4/6/2003 | Heavy Snow | | | | |
| 6/9/2003 | Hail | | 2.00 in. | | |
| 6/9/2003 | Hail | | 1.75 in. | | |
| 6/24/2003 | Thunderstorm Wind | | 61 kts. E | | |
| 7/20/2003 | Lightning | Two brothers were struck by lightning while swimming in Lewis and Clark Lake. One died that day, while the other survived his injuries. | | | |
| 11/23/2003 | Winter Storm | | | | |
| 12/8/2003 | Winter Storm | | | | |
| 1/25/2004 | Winter Storm | | | | |
| 2/5/2004 | Winter Storm | | | | |
| 3/15/2004 | Heavy Snow | | | | |
| 5/21/2004 | Tornado | | F0 | | |
| 5/21/2004 | Hail | | 1.75 in. | | |
| 5/29/2004 | Hail | | 2.00 in. | | |
| 5/29/2004 | Hail | | 1.75 in. | | |
| 5/29/2004 | Hail | | 1.75 in. | | |
| 5/29/2004 | Flash Flood | | | | |
| 7/3/2004 | Hail | | 1.75 in. | | |
| 7/3/2004 | Hail | | 1.75 in. | | |
| 7/21/2004 | Thunderstorm Wind | Thunderstorm winds blew down power poles and lines and significantly damaged at least 6 houses. Some of the houses had holes blown in the walls from the flying debris. Significant tree damage also occurred with 10 to 20 trees uprooted. | 78 kts. E | 200 | |
| 8/22/2004 | Lightning | | | 2 | |
| 10/30/2004 | High Wind | | 50 kts. E | | |
| 12/20/2004 | Winter Weather | | | | |
| 1/4/2005 | Heavy Snow | | | | |
| 3/10/2005 | High Wind | | 54 kts. M | 10 | |
| 4/3/2005 | Wildfire | Numerous grass fires were reported across Yankton County as strong winds combined with dry weather conditions and dry vegetation. The fires burned mainly in fields, with several along railroad tracks. No reports of damage amounts were received. | | | |
| 5/7/2005 | Thunderstorm Wind | | 61 kts. E | | |
| 5/26/2005 | Thunderstorm Wind | | 61 kts. E | | |
| 6/4/2005 | Flash Flood | | | | |
| 11/8/2005 | High Wind | | 52 kts. E | | |
| 11/28/2005 | Blizzard | Snowfall from 4 to 15 inches combined with winds gusting over 50 mph to produce blizzard conditions. Heaviest snowfall was near and west of the James River, in the area where a severe ice storm immediately preceded the blizzard. Several reports of 6 to 8 foot drifts were received. Travel was made impossible in many areas as roads were closed for extended periods. Most schools and businesses not already closed because of the ice storm were forced to close. The winds during the blizzard continued to bring down power lines and poles, most of which had been coated and weighted down by ice in the area hit by the ice storm. | | 50 | |
| 11/30/2005 | Winter Weather | | | | |
| 12/2/2005 | Winter Weather | | | | |
| 1/1/2006 | Winter Weather | | | | |
| 2/16/2006 | Winter Weather | | | | |
| 3/12/2006 | Winter Weather | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|---|-----------|------------------------|------------------------|
| 3/19/2006 | Winter Storm | A prolonged period of snowfall spread into the area from the west and south, and continued for over a day. Snowfall totals varied from 6 to 10 inches, with winds gusting over 35 mph, which caused near blizzard conditions. The storm halted travel in the area of the heaviest snow, and greatly curtailed travel in other areas. Numerous schools and businesses were closed. Power outages were reported from collapsed lines due to the heavy snow and winds. | | | |
| 6/16/2006 | Hail | | 2.75 in. | 10 | |
| 6/16/2006 | Hail | | 1.75 in. | | |
| 7/18/2006 | Drought | | | | |
| 8/1/2006 | Drought | | | | |
| 11/26/2006 | Winter Weather | | | | |
| 12/30/2006 | Winter Storm | Freezing rain caused significant icing of roads, trees, and power lines, with 1 to 3 inches of snow. Travel was brought to a standstill in places and many vehicles slid off roads. Ice accumulation was around a quarter inch in the western part of Yankton County, with several power lines and tree branches brought down by the ice. | | 40 | |
| 1/14/2007 | Winter Storm | | | | |
| 1/20/2007 | Winter Weather | | | | |
| 2/12/2007 | Winter Weather | | | | |
| 2/24/2007 | Winter Storm | Rain changed to freezing rain, causing light icing before the precipitation changed to snow. Snow accumulated 7 to 11 inches, with the heaviest amounts along the Missouri River. The icing and subsequent snow accumulation made travel very difficult, with several vehicle accidents and numerous vehicles sliding into ditches. Some weekend school activities were cancelled. | | | |
| 3/1/2007 | Blizzard | | | | |
| 3/11/2007 | Flood | | | | |
| 5/5/2007 | Tornado | A tornado destroyed 3 concrete silos, destroyed numerous outbuildings, heavily damaged a large shed, damaged a barn, caused tree damage, and caused other damage on a farm. | EF2 | 100 | |
| 5/5/2007 | Tornado | A tornado damaged two homes, including one roof taken off, destroyed a garage, and caused tree damage. One camper at Lewis and Clark Recreation Area was injured when thrown into trees. | EF1 | 100 | |
| 5/5/2007 | Flood | Heavy rainfall caused flooding of low areas including fields, homes, businesses, schools, roads, streams, and bridges. The flooding was a longer term event than flash flooding, which also had resulted. Long term major flooding of the James River also resulted. Some parks and other recreation areas were affected. The flooding delayed planting of crops in some areas. | | 100 | |
| 5/5/2007 | Flash Flood | | | | |
| 6/1/2007 | Flood | | | | |
| 6/6/2007 | Thunderstorm Wind | | 61 kts. E | | |
| 8/21/2007 | Hail | | 1.75 in. | | |
| 12/1/2007 | Winter Weather | | | | |
| 12/8/2007 | Winter Weather | | | | |
| 12/25/2007 | Winter Weather | | | | |
| 1/20/2008 | Winter Weather | | | | |
| 2/11/2008 | Winter Weather | | | | |
| 3/31/2008 | Winter Weather | | | | |
| 4/10/2008 | Winter Weather | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|-----------|------------------------|------------------------|
| 4/25/2008 | Winter Weather | | | | |
| 5/1/2008 | Hail | | 1.75 in. | | |
| 5/1/2008 | Hail | | 1.50 in. | | |
| 5/6/2008 | Thunderstorm Wind | | 61 kts. E | 10 | |
| 5/6/2008 | Thunderstorm Wind | | 61 kts. E | 5 | |
| 5/29/2008 | Tornado | | EFO | | |
| 5/29/2008 | Hail | | 1.75 in. | | |
| 6/4/2008 | Hail | | 1.50 in. | | |
| 6/4/2008 | Flash Flood | Heavy rainfall of around 2 inches in 45 minutes caused flash flooding of roads and fields. | | | |
| 6/6/2008 | Flood | | | | |
| 11/6/2008 | Winter Weather | | | | |
| 12/8/2008 | Winter Weather | | | | |
| 12/14/2008 | Winter Weather | | | | |
| 12/19/2008 | Winter Weather | | | | |
| 1/12/2009 | Blizzard | | | | |
| 2/26/2009 | Winter Weather | | | | |
| 3/31/2009 | Winter Weather | | | | |
| 4/4/2009 | Blizzard | | | | |
| 4/5/2009 | Flood | | | | |
| 5/1/2009 | Flood | | | | |
| 6/1/2009 | Flood | | | | |
| 6/16/2009 | Tornado | | EFO | | |
| 7/5/2009 | Flood | | | | |
| 7/9/2009 | Hail | Large hail and high winds destroyed or severely damaged crops in an area up to 10 miles wide from northwestern to southeastern Yankton County. Estimates were at least 48,000 acres of corn, soybean, and alfalfa were affected, some totally destroyed. Hail also broke windows in buildings and vehicles, severely dented many vehicles, and damaged siding and roofs of buildings. Property damage was especially great in and near the cities of Yankton and Gayville. | 2.50 in. | 5000 | 6750 |
| 7/9/2009 | Hail | | 2.50 in. | | |
| 7/9/2009 | Hail | | 1.75 in. | 3000 | |
| 7/9/2009 | Hail | | 1.75 in. | 500 | |
| 7/9/2009 | Hail | | 1.75 in. | | |
| 7/9/2009 | Hail | | 1.75 in. | | |
| 7/9/2009 | Thunderstorm Wind | | 61 kts. E | | |
| 8/8/2009 | Hail | | 1.75 in. | | |
| 12/8/2009 | Winter Weather | | | | |
| 12/23/2009 | Blizzard | Prolonged snowfall produced heavy accumulations over southeast South Dakota, ranging up to over 20 inches in several areas. The snowfall took place from two days before to the day after Christmas. The snowfall was accompanied by increasing north to northwest winds which caused widespread blizzard conditions on Christmas day and the start of the next day. | | | |
| 1/6/2010 | Blizzard | Snowfall of 3 to 6 inches, previously existing snow cover, and northwest winds gusting over 40 mph produced widespread blizzard conditions, with visibilities less than a quarter mile. New snowfall included 6 inches near Yankton. Schools and businesses were closed, and travel became impossible in much of the area. | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|-----------|------------------------|------------------------|
| | | Wind chills colder than 35 below zero occurred toward the latter part of the storm. | | | |
| 1/7/2010 | Extreme cold | Persistent north/northwest winds combined with very cold air to produce wind chill values that dropped to 35 below zero. | | | |
| 1/20/2010 | Winter Weather | | | | |
| 1/25/2010 | Winter Weather | | | | |
| 2/13/2010 | Winter Weather | | | | |
| 3/11/2010 | Flood | | | | |
| 4/1/2010 | Flood | | | | |
| 5/1/2010 | Flood | | | | |
| 6/1/2010 | Flood | | | | |
| 6/11/2010 | Thunderstorm Wind | Thunderstorm winds destroyed several large grain bins, blew down power lines and poles, and caused widespread tree damage, including several large trees blown down. | 65 kts. E | 100 | |
| 6/22/2010 | Thunderstorm Wind | | 85 kts. M | 25 | |
| 6/26/2010 | Hail | | 1.75 in. | | |
| 7/1/2010 | Flood | | | | |
| 7/11/2010 | Lightning | | | 5 | |
| 7/29/2010 | Flash Flood | | | | |
| 8/1/2010 | Flood | | | | |
| 8/8/2010 | Thunderstorm Wind | | 61 kts. E | 50 | |
| 8/8/2010 | Flash Flood | | | | |
| 9/23/2010 | Flood | | | | |
| 10/26/2010 | High Wind | | 52 kts. E | | |
| 12/11/2010 | Blizzard | | | | |
| 12/30/2010 | Winter Weather | | | | |
| 12/31/2010 | Winter Storm | | | | |
| 1/9/2011 | Heavy Snow | | | | |
| 2/1/2011 | Extreme cold | North/northwest winds averaging 15 to 30 mph combined with temperatures dropping below zero to produce wind chills of 35 to 40 below zero. | | | |
| 2/20/2011 | Ice Storm | Freezing rain produced around a half inch of glaze, topped by sleet accumulations of similar amounts in much of the county. Travel and walking surfaces were made very icy, and the ice accumulations caused an unknown amount of damage to trees and power lines. Damage was considerable in the Yankton area, where downed power lines produced an additional hazard. | | | |
| 3/7/2011 | Winter Weather | | | | |
| 3/17/2011 | Flood | | | | |
| 4/1/2011 | Flood | Major flooding of the James River, as well as flooding of small streams and lakes in the county, continued through April. Much farmland remained flooded, both near to and away from the James River. The James River was 9.2 feet above flood stage near Yankton April 1st, and fell very slowly during the month. A large area of land and numerous roads were flooded at the start of the month. Water was running over other roads, from flooded streams, creeks, and fields as well as from the James River. Many roads were heavily damaged. Some homes and businesses were also flooded, with the flooding of these places slowly alleviating through the month. High water and groundwater levels from record precipitation in the year 2010, a main reason the flooding onset was so fast in March, was also a main reason that the flooding subsided so slowly during April. | | 1000 | |
| 4/15/2011 | Winter Weather | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|-----------|-------------------|--|-----------|------------------------|------------------------|
| 5/1/2011 | Flood | | | | |
| 5/25/2011 | Flood | Flooding along the Missouri River developed and then increased in late May as runoff from excessive upstream snowmelt and rain reached the area. Lowlands flooded included some roads near the River away from Lewis and Clark Lake. The river reached its highest May levels at the end of the month. | | | |
| 6/1/2011 | Flood | Flooding from upstream spring snowmelt and subsequent heavy rain continued to worsen in June. Lowlands along the river east of Lewis and Clark Lake including numerous roads, parks, recreational areas and several homes were flooded. The flooding included the Larson's Landing development west of Yankton with most homes and recreational vehicles there flooded. Thousands of acres of usually dry land were flooded, with several farms affected. The highest stage at Yankton was 6.1 feet above flood stage on June 29th. | | | |
| 6/20/2011 | Thunderstorm Wind | | 61 kts. E | 10 | |
| 7/1/2011 | Flood | | | | |
| 7/1/2011 | Flood | Flooding from upstream spring snowmelt and subsequent heavy rain continued at major levels through July. Lowlands along the river east of Lewis and Clark Lake including numerous roads, parks, recreational areas and several homes remained flooded. The flooding included the Larson's Landing development west of Yankton with most homes and recreational vehicles there remaining flooded. Thousands of acres of usually dry land, including several farms, remained flooded. The river began a very slow general fall late in the month. The highest stage at Yankton was 6.1 feet above flood stage on July 7th. This was equal to the highest level recorded in June. | | | |
| 7/15/2011 | Excessive Heat | | | | |
| 8/1/2011 | Flood | | | | |
| 8/1/2011 | Flood | Flooding from upstream spring snowmelt and subsequent heavy rain continued at moderate to major levels at the start of August. Lowlands along the river east of Lewis and Clark Lake including numerous roads, parks, recreational areas and several homes remained flooded. The flooding included the Larson's Landing development west of Yankton with most homes and recreational vehicles there remaining flooded. Thousands of acres of usually dry land, including several farms, remained flooded. The river fell slowly during the month. The highest stage at Yankton was 5.5 feet above flood stage on August 1st | | | |
| 8/18/2011 | Hail | | 1.75 in. | 2000 | |
| 8/18/2011 | Hail | | 1.75 in. | 10 | |
| 8/18/2011 | Hail | | 1.75 in. | | |
| 8/18/2011 | Thunderstorm Wind | Thunderstorm winds caused widespread tree damage, including numerous trees blown down. Some homes were damaged by falling trees or tree debris. | 66 kts. M | 500 | |
| 9/1/2011 | Flood | Flooding from upstream spring snowmelt and subsequent heavy rain decreased steadily, and ended late in the month. Flooding of roads, recreational areas, other parks, golf courses, and a few homes ended, including the flooding of homes and recreational vehicles at the Larson's Landing development. The highest stage at Yankton was 0.7 feet above flood stage on September 1st. | | | |
| 2/13/2012 | Winter Weather | | | | |
| 4/15/2012 | High Wind | | 52 kts. E | | |
| 6/1/2012 | Drought | Well below normal rainfall aggravated long term dry soil conditions, producing stress on crops which had been planted unusually early due to a warm late winter and early spring. The crops had begun their growth with ample mid spring rains, but | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|----------------|--|-----------|------------------------|------------------------|
| | | the stress quickly developed with the return to dry conditions which had existed generally since the previous fall. | | | |
| 6/27/2012 | Excessive Heat | | | | |
| 7/1/2012 | Drought | Drought conditions became established over the area. Stress on crops increased with no relief during the month. Hot weather added to the stress. Crop damage became certain. Severe non-ag water supply problems were not observed, but the long term dry conditions raised fears for the future. | | | |
| 7/2/2012 | Excessive Heat | | | | |
| 7/15/2012 | Excessive Heat | | | | |
| 7/18/2012 | Excessive Heat | | | | |
| 8/1/2012 | Excessive Heat | | | | |
| 8/1/2012 | Drought | Drought was generally listed as severe to extreme for the area, and was being compared to the worst of the dust bowl years, though not yet over as long a time period. Stress on crops continued, even though August was less hot than July. Crop damage was quite evident. Many local governments had water use restrictions in place. | | | |
| 9/1/2012 | Drought | Drought conditions continued over all of southeast South Dakota. Rainfall for the month varied from around half to less than a quarter of normal. Stress on crops that prevailed over the growing season became even more evident with the start of harvest. Local governments continued to use water use restrictions in an effort to prevent serious water supply problems. | | | |
| 10/1/2012 | Drought | Drought conditions continued over all of southeast South Dakota in October with well below normal rainfall keeping soil and vegetation dry. | | | |
| 10/17/2012 | High Wind | | 52 kts. E | | |
| 11/1/2012 | Drought | Drought conditions continued over all of southeast South Dakota in November. | | | |
| 12/1/2012 | Drought | Drought conditions continued over all of southeast South Dakota in December. Although precipitation was generally normal to above normal, the amount of excess over the low winter normals was not enough to relieve the dry conditions. The effects of the drought on farmers and ranchers continued. Hunting was also affected, with low pheasant numbers, and disease in the deer population. | | | |
| 12/27/2012 | Winter Weather | | | | |
| 1/1/2013 | Drought | | | | |
| 2/1/2013 | Drought | | | | |
| 2/10/2013 | Winter Weather | | | | |
| 2/21/2013 | Winter Weather | | | | |
| 3/1/2013 | Drought | | | | |
| 4/1/2013 | Drought | | | | |
| 4/9/2013 | Winter Storm | An extended period of precipitation began with rain changing to freezing rain and freezing drizzle, producing light ice accumulations. The precipitation then changed to sleet and then snow, with sleet and snow accumulations reaching 5.6 inches near Yankton. The winter precipitation made travel very difficult, resulting in schools and businesses being forced to close. | | | |
| 5/1/2013 | Drought | | | | |
| 5/8/2013 | Tornado | | EFO | | |
| 6/21/2013 | Hail | | 1.75 in. | | |
| 8/10/2013 | Hail | | 1.25 in. | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|------------|------------------------------|------------------------------|
| 11/5/2013 | Winter Weather | | | | |
| 12/3/2013 | Winter Weather | | | | |
| 1/16/2014 | High Wind | | 54 kts. M | | |
| 1/26/2014 | High Wind | | 50 kts. E | | |
| 5/31/2014 | Thunderstorm Wind | | 61 kts. E | 10 | |
| 6/1/2014 | Thunderstorm Wind | | 59 kts. M | | |
| 6/1/2014 | Thunderstorm Wind | | 52 kts. E | 10 | |
| 6/14/2014 | Hail | | 1.50 in. | | |
| 6/16/2014 | Flood | Persistent rain caused flooding of fields and other lowlands, including several roads, homes, and businesses. This flooding lasted for almost two days. Some roads were damaged or washed out. | | 50 | |
| 8/28/2014 | Tornado | | EFO | | |
| 9/19/2014 | Thunderstorm Wind | | 52 kts. E | | |
| 11/15/2014 | Winter Weather | | | | |
| 12/15/2014 | Winter Weather | | | | |
| 12/26/2014 | Winter Weather | | | | |
| 1/3/2015 | Winter Weather | | | | |
| 1/5/2015 | Winter Weather | | | | |
| 1/31/2015 | Winter Storm | | | | |
| 2/1/2015 | Winter Storm | | | | |
| 6/6/2015 | Hail | | 1.00 in. | | |
| 7/28/2015 | Strong Wind | | 43 kts. EG | 5 | |
| 8/9/2015 | Thunderstorm Wind | | 61 kts. EG | | |
| 8/18/2015 | Heavy Rain | | | | |
| 9/9/2015 | Hail | | 1.75 in. | | |
| 11/20/2015 | Heavy Snow | | | | |
| 11/30/2015 | Winter Storm | | | | |
| 12/25/2015 | Winter Storm | | | | |
| 12/28/2015 | Winter Weather | | | | |
| 1/7/2016 | Winter Weather | | | | |
| 2/2/2016 | Blizzard | Snow, combined with winds gusting over 40 mph, produced near zero visibilities. Total snow amounts included 12 inches east of Yankton. Travel was brought to a halt and several vehicles slid off roads due to the combination of snowy roads and low visibility. Schools and numerous businesses were closed. | | | |
| 3/23/2016 | Winter Storm | | | | |
| 3/26/2016 | Heavy Snow | | | | |
| 5/25/2016 | Hail | | 1.00 in. | | |
| 6/10/2016 | Excessive Heat | | | | |
| 7/19/2016 | Excessive Heat | | | | |
| 8/11/2016 | Hail | | 1.00 in. | | |
| 8/12/2016 | Thunderstorm Wind | | 52 kts. EG | | |
| 8/16/2016 | Hail | | 1.50 in. | | |
| 9/4/2016 | Thunderstorm Wind | | 53 kts. MG | | |
| 9/15/2016 | Flash Flood | Heavy rain caused street and yard flooding in Yankton. | | | |
| 11/18/2016 | Winter Storm | | | | |
| 12/17/2016 | Cold/wind Chill | | | | |
| 12/25/2016 | High Wind | | 63 kts. MG | | |
| 1/17/2017 | Winter Weather | | | | |
| 1/24/2017 | Winter Storm | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|------------|------------------------|------------------------|
| 2/23/2017 | Winter Storm | | | | |
| 4/15/2017 | Hail | | 1.75 in. | | |
| 6/12/2017 | Hail | | 1.75 in. | | |
| 6/29/2017 | Hail | | 2.75 in. | | |
| 6/29/2017 | Thunderstorm Wind | | 71 kts. MG | | |
| 8/21/2017 | Hail | | 1.00 in. | | |
| 12/21/2017 | Winter Weather | | | | |
| 12/26/2017 | Cold/wind Chill | | | | |
| 12/31/2017 | Extreme Cold | A wind chill of -38 was recorded at Yankton. | | | |
| 1/10/2018 | Winter Weather | | | | |
| 1/15/2018 | Cold/wind Chill | | | | |
| 1/22/2018 | Blizzard | | | | |
| 2/5/2018 | Winter Weather | | | | |
| 2/8/2018 | Winter Weather | | | | |
| 2/19/2018 | Winter Weather | | | | |
| 2/22/2018 | Winter Weather | | | | |
| 2/24/2018 | Winter Weather | | | | |
| 3/5/2018 | Blizzard | | | | |
| 3/16/2018 | Winter Weather | | | | |
| 3/18/2018 | Flood | | | | |
| 4/3/2018 | Winter Storm | | | | |
| 4/14/2018 | Blizzard | Life threatening conditions developed, as a mix of rain, sleet and snow changed to all snow. Brutal winds gusting over 40 mph whipped visibility to less than a quarter mile at times. Businesses and schools were closed. Travel was not recommended for a two day period. Total snowfall of 8 inches measured at Yankton. | | | |
| 4/18/2018 | Winter Storm | | | | |
| 4/29/2018 | Flood | Snow melt and runoff from periods of heavy rainfall produced minor flooding which impacted lowland agricultural areas. | | | |
| 6/26/2018 | Flood | | | | |
| 7/3/2018 | Heat | | | | |
| 7/11/2018 | Heat | | | | |
| 7/18/2018 | Flash Flood | | | | |
| 9/20/2018 | Flood | Runoff from heavy rain produced moderate flooding which significantly impacted lowland agricultural areas between Mitchell and Yankton. River levels reached 2.1 feet above flood stage on the James River near Scotland. | | | |
| 1/1/2019 | Extreme Cold | | | | |
| 2/3/2019 | Winter Weather | | | | |
| 3/13/2019 | Flood | | | | |
| 3/13/2019 | Flood | Rainfall of one to three inches on frozen ground and into a snow pack with between 2 and 5 inches of liquid water equivalent resulted in considerable overland flooding. One of the hardest hit areas was around Yankton, where a No Travel Advisory was issued for the city on March 13-14. Businesses along north Highway 81 toward Yankton Mall had considerable ponding of water. Water rescues were necessary as cars stalled in high water in low spots around Yankton. Two people were also rescued from their inundated vehicle on Jim River Road east of Yankton. Water also got into power substations and caused some power outages and necessitated temporary evacuation of residents. | | | |
| 3/13/2019 | Flood | | | | |
| 3/14/2019 | Flood | | | | |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|----------------|---|------------|------------------------|------------------------|
| 4/1/2019 | Flood | High water levels persisted through April, with continued damage to road and drainage infrastructure. 260 miles of gravel roads were reported completely unusable at times during the month | | 20000 | |
| 4/1/2019 | Flood | | | | |
| 4/1/2019 | Flood | | | | |
| 4/10/2019 | Winter Storm | | | | |
| 5/1/2019 | Flood | | | | |
| 5/1/2019 | Flood | | | | |
| 6/1/2019 | Flood | | | | |
| 6/1/2019 | Flood | | | | |
| 6/28/2019 | Heat | | | | |
| 6/29/2019 | Extreme Heat | | | | |
| 6/30/2019 | Heat | | | | |
| 7/9/2019 | Flood | | | | |
| 7/14/2019 | Flood | | | | |
| 8/1/2019 | Flood | | | 10 | |
| 8/3/2019 | Flood | | | 10 | |
| 8/9/2019 | High Wind | | 52 kts. EG | 10 | |
| 9/1/2019 | Flood | Flooding continued from August. The James River near Yankton fell below flood stage on September 4, but rainfall of 4 to 8 inches upstream September 10-12 led to a rapid rise and a record crest 15.1 feet above flood stage on September 14. Five of the six bridges crossing the James River in Yankton county were closed. Numerous roads were inundated and closed for several days, including US Hwy 81 north of Yankton, SD Hwy 46 west of Irene, and 431st Ave in northern Yankton county. Fifty-five homes were impacted by flood waters in Yankton County, with residents forced to take temporary shelter until floodwaters receded. | | 1500 | |
| 9/1/2019 | Flood | | | 25 | |
| 9/12/2019 | Flood | | | 165 | 148 |
| 10/1/2019 | Flood | A continuation of flooding from September, as the James River near Scotland spent much of the month at moderate flood stage. Significant amounts of agricultural land remained flooded. | | 5 | |
| 10/22/2019 | Flood | | | | |
| 11/25/2019 | Flood | The James River near Scotland crested on November 30 at 0.30 feet above flood stage. Impacts were generally inundation of agricultural lands near the river. | | | |
| 11/26/2019 | Winter Storm | | | | |
| 11/28/2019 | Winter Weather | | | | |
| 12/1/2019 | Winter Weather | | | | |
| 12/1/2019 | Flood | | | | |
| 12/29/2019 | Winter Weather | Mixed precipitation changed to snow, producing hazardous travel. Snowfall totaled 5 inches at Yankton, with wind gusting up to 47 mph, resulting in blowing and drifting snow. | | | |
| 1/17/2020 | Blizzard | High wind and snow reduced visibility, with travel not recommended. Snowfall reached 4.5 inches near Yankton. | | | |
| 2/12/2020 | Winter Weather | High wind and snow reduced visibility for several hours. | | | |
| 3/3/2020 | Flood | | | | |
| 3/8/2020 | Flood | | | | |
| 3/19/2020 | Winter Weather | | | | |
| 4/1/2020 | Flood | | | | 35 |
| 4/12/2020 | Winter Storm | | | | |
| 5/1/2020 | Flood | | | | |
| 6/9/2020 | Hail | | 1.75 in. | | 514 |

| Date | Event Type | Event Description | Mag | Prop Damage (\$1,000s) | Crop Damage (\$1,000s) |
|------------|-------------------|--|------------|------------------------------|------------------------------|
| 6/12/2020 | Flood | | | | |
| 7/2/2020 | Flood | | | | |
| 7/6/2020 | Hail | | 0.88 in. | | 250 |
| 7/6/2020 | Thunderstorm Wind | | 61 kts. EG | 30 | 1250 |
| 10/6/2020 | Drought | Moderate (D1) drought evolved to severe (D2) drought conditions due to very warm and dry conditions. | | | 750 |
| 10/24/2020 | Winter Weather | | | | |
| 11/1/2020 | Drought | | | | 3 |
| 11/10/2020 | Winter Storm | | | | |

Source: National Climatic Data Center's Storm Events Database

APPENDIX D: Community Assets

Following is a list of important community facilities and assets within the county, including those that would play a critical role in helping the community prepare for and respond to a hazard event.

Government Offices

- Yankton County Courthouse, Yankton
- Municipal Finance Office in each community

Emergency Response

- Yankton County Emergency Management Office, Yankton
- Yankton County Sheriff's Office, Yankton
- Yankton Police Department
- Fire department in Yankton, Gayville, Lesterville, and Volin
- Yankton County Highway Department, Yankton

Medical facilities

- Avera Sacred Heart Hospital, Yankton
- Yankton Specialty Hospital
- Yankton Medical Clinic

Educational Facilities

- Gayville-Volin Public School (K-12)
- Yankton Senior High School
- Yankton Middle School and elementary schools
- Mount Marty College, Yankton
- Regional Technical Education Center, Yankton

Other Important Facilities

- Gavins Point Dam (U.S. Army Corps of Engineers)
- Federal Prison Camp, Yankton

Shelters

- Disaster relief shelters are located in each community (see page 20).
- Public facilities that can provide shelter from severe weather are located in Yankton, at Lewis and Clark Lake, and at the Boy Scout Camp west of Yankton (see page 23).

Notification

- A warning siren is located in each community, and there are several in Yankton. Sirens also are located at the Lewis and Clark Recreation Area and at the Boy Scout Camp west of Yankton.

APPENDIX E: References

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- Drought impact: droughtreporter.unl.edu/map/
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