Sargent County, ND

Multi-Hazard Mitigation Plan

2021 UPDATE

Sargent County Commissioners
355 MAIN STREET S, FORMAN, ND 58032

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The City Councils of the 7 Municipalities

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Chapter 1: Introduction

Hazard mitigation is defined by FEMA as, “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.” Mitigation creates safer communities by reducing loss of life and property damage. Hazard mitigation planning is the process through which hazards that threaten communities are identified and profiled, likely impacts of those hazards are assessed, and mitigation strategies to lessen those impacts are identified, prioritized, and implemented.

Purpose

This plan is the foundational document for public policy regarding the mitigation of natural and human-caused hazards in Sargent County. The plan’s primary purpose is to align community priorities related to hazard mitigation with the shared community vision. Keeping a current Hazard Mitigation Plan will also allow for Sargent County and its incorporated municipalities to access hazard mitigation assistance, such as the *Hazard Mitigation Grant Program* or *Flood Mitigation Assistance Programs*.

Authority

Sargent County and its incorporated municipalities are granted the authority to produce and implement a hazard mitigation plan by the Robert T Stafford Disaster Relief and Emergency Assistance Act amended by the Disaster Mitigation Act of 2000. The purpose of this legislation is, “to reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from natural disasters” (P.L. 106-390). Section 322 requires state and local governments to prepare multi-hazard mitigation plans as a precondition for receiving FEMA mitigation project grants.

Update: Why and What?

Multi-Hazard Mitigation Plans need to stay relevant in order to accurately reflect the community’s risks, goals, and objectives related to natural and man-made hazards. The lifecycle of a plan before an update is needed is 5 years. Community’s with plans past the lifecycle are not eligible and/or at a disadvantage for disaster mitigation assistance from

Federal and State governments. The current update of the Sargent County Multi-Hazard Mitigation Plan has an expiration date of April 2020.

There is sometimes confusion when the word “update” is used to describe the planning process. To update the plan is to go through the planning process to review risk, capabilities, and create a mitigation strategy. The results from this process is a new document that replaces the document whose lifecycle has expired.

Additionally, a concerted effort was made in this update to limit the technical discussion to what is necessary and focus more on action items. A community-wide criticism of the last plan update was that it was overly complex, which limited the document’s use and accessibility to the public. As a hazard mitigation plan is often the most comprehensive planning conducted by rural communities like Sargent County, implementing action items to improve life and safety through the mitigation of hazards often create robust, positive changes over time.

History of Hazard Mitigation Planning in Sargent County

This document is the third update of the Sargent County Multi-Hazard Mitigation Plan. The original document was produced in 2008 and went through an update process in 2015. The 2015 update is the primary reference document for the 2020 update as its contents are the items to be reviewed and updated. Importantly, it shows hazard risk and the state of hazard mitigation planning in Sargent County at the beginning of the last plan lifecycle by outlining 7 goals for the County:

Goal 1: Explore Planning and Zoning Regulations.
Goal 2: Increase recruitment of volunteer emergency services.
Goal 3: Participation of Storm Ready, Firewise and like programs.
Goal 4: Reduce effects from flooding.
Goal 5: Enhance firefighting capabilities.
Goal 6: Reduce risk of biological hazards.
Goal 7: Reduce risk of chemical hazards.

This update will build upon the work and goals set in the 2015 plan. There are also other plans that serve as important references for the 2020 update. They include:

- Sargent County Emergency Operations Plan (2019)
- Sargent County Hazardous Materials Response Plan (2019)
- City of Forman Strategic Plan (2019)

Progress, Development, and Priorities

An important component of the plan update process is to ensure the new document reflects community progress towards implementing hazard mitigation items and addressing new development in the planning area. Sargent County has implemented several action items identified in the 2015 Plan (see Chapter 4: Previous Mitigation Items), which includes the repair/replacement of 3 bridges.

While Sargent County remains a very rural agricultural community with a sparse population, there has been a new development in Milnor which has some implications to this plan. The Peterson Addition is a residential subdivision of 49 lots on the north-end town. While this has been slow to build-out- the only home in the subdivision was built in 2016- it is reasonable to suspect some new construction into the future. Growth in the Fargo metropolitan area- approximately a 75-mile drive northeast of the Sargent County, augmented by the COVID-19 Pandemic, has created demand for rural subdivisions in the outlying towns. New homes continue to be built in rural communities in counties neighboring Sargent, such as southern Cass County (Kindred, Oxbow) and Richland County (Colfax, Abercrombie, Hankinson).

While the Peterson Addition has influenced hazard preparedness and mitigation in Milnor, all the jurisdictions recognize that the increased use of virtual technology and remote workers is just one sign of a changing economic landscape for rural communities. In many respects this update is about proactivity; mitigating hazards through modernized policy so new development is more resilient and occurs more efficiently, safely, and is more resilient. This change in priority enhances the historical priorities of set in the 2015 and 2008 documents.

The Planning Process

The process to produce this plan follows the guidance outlined in FEMA's Local Mitigation Planning Handbook (2013). That publication outlines 8 steps. This document is closely aligned with these steps. The steps are:

1. Determine Planning Area
2. Build Planning Team
3. Create Outreach Strategy
4. Review Community Capabilities
5. Conduct Risk Assessment
6. Develop Mitigation Strategy
7. Update the Plan
8. Review and adopt the Plan

Summary of Project Milestones

1. **Secure Commitment from Jurisdictions (Step 1, 2)**

   Late 2018 (Nov/Dec), each municipality signed and returned a participation letter to the Sargent County Emergency Manager indicating their intent to participate in the 2020 update of the plan. In February/March 2020, each participating jurisdiction was requested to fil out and return a Memorandum of Understanding outlining their contacts and second alternates for the project. These documents can be found in Appendix B.

2. **Launch Public Survey (Step 3)**

   An online survey was opened to the public on Feb 27, 2020. It remained open to the public until the plan was sent to the State for review. The survey was made available on the County website and a link was given to each jurisdiction. The Survey only yielded 6 results- which was deemed not significant enough to discuss at length in this plan and the input was deemed low priority.

   However, the lack of results and the unwillingness of the those who did take the survey to share documentation related to flood damaged underscored the need to make Hazard Mitigation planning more transparent and accessible. The County does have plans to launch a new survey upon the first annual update (See Continued Public Involvement section of Chapter 5).

3. **Creation of Planning Team (Step 1, 2, 3)**

   The Emergency Manager worked with the consultant to create a planning team. The primary contacts of each of the municipalities, plus the unincorporated community of

Stirum were placed on the list as well as representatives from various County Departments, the North Dakota State University (NDSU) extension, and private industry.

Jurisdiction	Title	Name	Email
Sargent County	Commissioner	Bill Anderson	lawyer@drtel.net
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Adjacent County	Emergency Manager	Kim Robbins	kimberly.robbins@co.lamoure.nd.us

4. **Public Meeting Kick-Off/Planning Team Meeting #1 (Step 3, 4, 5)**

A public kick-off and planning team meeting occurred at noon on Tuesday, March 10, 2020 at the Sargent County Courthouse. Lunch was provided. The meeting was an open public forum and advertised in the Sargent County Recorder. This notice and the complete sign-in sheet can be found in Appendix C.

The following participating jurisdictions were officially represented at the meeting:

1. Sargent County
2. City of Gwinner
3. City of Havana
4. City of Milnor
5. City of Havana

At this meeting, the consultant introduced the project and led the planning team through a discussion about the plan elements. The consultant also introduced the outreach strategy, including the community worksheets, in which, individual jurisdictions would conduct their own review and documentation of mitigation capabilities and risks. Much discussion focused on how to ensure the planning process was flexible for jurisdictions, accommodating the agricultural workdays in the county, and that the plan remained local and highly actionable.

At the end of the meeting, the consultant distributed community worksheets for each of the participating jurisdictions. Worksheets for jurisdictions not present were delivered by the Emergency Manager.

5. **Community Worksheet (Step 4, 5)**

The participating jurisdictions took time to fill in their worksheets bringing local knowledge, data, and city specific action items back to the table. Jurisdictions could solicit information for their worksheets in any way they felt was appropriate for their community and were not given instruction. However, in all cases, city auditors/public works staff worked with elected officials to review the worksheet, creating a more comprehensive outlook in their response. Some communities, such as Milnor, made their worksheets available for public viewing as well.

6. **Planning Team Meeting #2 (Step 4, 5, 6)**

On Wednesday, July 17, 2020, a planning team meeting was held at Forman City Hall to discuss capabilities and action items. The consultant had synthesized community capabilities and action items from the community worksheets and the public survey and presented these to the team. In a discussion facilitated by the consultant, the Planning Team worked together to verify, modify, add, or eliminate capabilities and action items. The day after the meeting, a list new potential action items was circulated via email for comment.

At the meeting, the following jurisdictions were represented:

1. Sargent County
2. City of Gwinner
3. City of Forman
4. City of Milnor
5. City of Havana

7. **Plan Development (Step 6, 7)**

Taking the data from the public surveys, community worksheets, the Planning Team Meeting, and preliminary worksheets, the consultant built out the planning document. The County reviewed the document throughout the development process.

8. **Prioritization and Implementation (Step 6, 7)**

Once the draft document was complete and analyzed, the planning team was asked to prioritize the action items. A prioritization method was developed to best reflect the abilities of the stakeholders to implement the items. This was discussed in *Planning Team Meeting #3* on Wednesday, September 16, 2020. An Implementation framework was created from this method.

At the meeting, the following jurisdictions were represented:

1. Sargent County
2. City of Gwinner
3. City of Forman
4. City of Milnor

9. Plan Review and Adoption (Step 8)

After the final meeting, the document was finalized. It was published on the Emergency Manager's website for the public to review and comment. The plan was distributed to the planning team, county commissioners, and neighboring county emergency managers for comments. A public open house was held on Wednesday, Oct 28, 2020 at the Sargent County Emergency Managers Office. At the conclusion of the review process on Nov. 6, 2020, the Plan was submitted to the State for approval pending adoption.

Chapter 2: Planning Area Overview

Jurisdictional Overview

Sargent County is in the southeastern part of North Dakota, bordered on the south by South Dakota, on the east by Richland County, on the north by Ransom County and on the west by Dickey County. The county is 864 square miles with a total of 547,200 acres, of these 523,815 acres are farmland, (which includes 2,108 acres of Game and Fish land) 10,485 acres are owned by the U.S. Fish & Wildlife Service, the balance is in lakes, roads, town sites, airports, etc. There are 271 miles of county roads, 835.75 miles of township roads and 97 miles of state highways. There are seven incorporated cities within the county, Cayuga, Cogswell, Forman, Gwinner, Havana, Milnor, and Rutland.

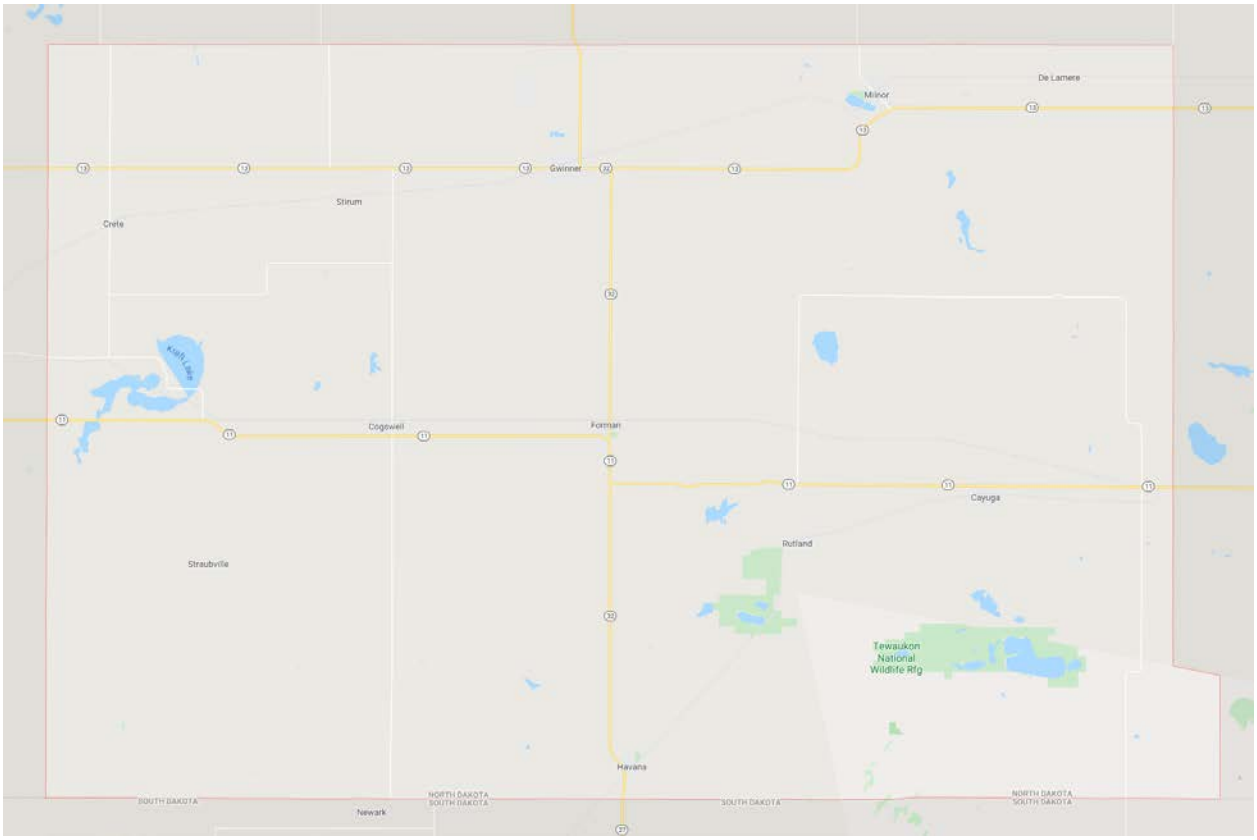

Figure 1: Sargent County

History

Prior to the arrival of Europeans, the archaeological record suggests that area now known as Sargent County was once home many different Native American tribes. When settlers arrived, only the Sioux Tribe was present in the area. From 1880 to 1890 most of the pioneers moved into the county following the building of the Soo, Great Northern and Northern Pacific railroads. Sargent County was created from the southern half of Ransom County, and named in honor of H. E. Sargent, who was an official of the Northern Pacific Railroad. The railroad built its line into Milnor in 1883, across the county and into Oakes by 1900. On July 16, 1883 Territorial Governor Ordway appointed the first commissioners and designated Milnor as the county seat. The following year, the first county election was held, and Forman was chosen as the county seat. At the turn of the century, there were 18 towns in the county and by 1920 the county's population peaked at 9,655 residents.

Figure 2: Rutland Elevator

Population

According to the 2018 ACS 5-year estimate, Sargent County has a population of 3,883 people, making up just over .5% of the population of the state of North Dakota. The population of Sargent County is considerably older than that of the State, with a median age 10 years older and more than 21% over the age of 65, compared to 15% for the state as a whole (Table 1).

Population Demographics	Sargent County	North Dakota
Total population	3,883	760,077
Male	52.8%	51.50%
Female	47.2%	48.50%
Median age (years)	45.1	35.4
Under 5 years	5.0%	6.9%
5 to 17 years	14.4%	16.1%
18 to 64 years	59.1%	61.7%
65 years and over	21.5%	15.3%

Table 1: Population Demographics

Sargent County is also more homogenous than the rest of the state in terms of race (Table 2.2). Nearly 97% of Sargent County is white, 10% more than the population of the state. The number of Hispanics or Latinos is similar to that of the state.

Race	Sargent County	North Dakota
White	96.6%	87.9%
Black or African American	2.4%	3.9%
American Indian and Alaska Native	1.9%	6.6%
Asian	0.4%	2.4%
Native Hawaiian and Other Pacific Islander	0.0%	0.2%
Some other race	0.1%	1.5%
Of Which…		
Hispanic or Latino (of any race)	3.00%	3.60%

Table 2: Race

The most recent projects from the state census office suggest the county's population will grow slowly over the next 20 years, adding approximately 600 net people by 2040.

Projected Growth	Population	Percent Growth from Previous
2018	3,883	-
2020	4,084	2.01
2025	4,212	1.28
2030	4,288	0.76
2035	4,322	0.34
2040	4,334	0.12

Table 3: Projected Growth

Economics

Sargent County is slightly wealthier than North Dakota. Table 2.4 shows that Sargent County has less percentage of people that make below $35,000 annually than the state and a higher percentage of people who make between $35,000 and $150,000. Sargent County also has a higher median income than the state despite having a lower mean income, suggesting there is less income inequality in the County versus the State. Additionally, Sargent County has significant less percentage of its population below the poverty line.

Income	Sargent County	North Dakota	Difference Sargent to ND
Total	1,834	319,355	
Less than $10,000	2.40%	5.80%	-3.40%
$10,000 to $14,999	3.20%	4.00%	-0.80%
$15,000 to $24,999	6.20%	8.10%	-1.90%
$25,000 to $34,999	5.90%	8.20%	-2.30%
$35,000 to $49,999	16.50%	13.20%	3.30%
$50,000 to $74,999	23.00%	18.30%	4.70%
$75,000 to $99,999	17.00%	13.70%	3.30%
$100,000 to $149,999	19.10%	17.50%	1.60%
$150,000 to $199,999	3.00%	6.30%	-3.30%
$200,000 or more	3.60%	5.10%	-1.50%
Median income	$67,200	$63,837	$3,363
Mean income	$80,177	$82,435	($2,258)
% Below Poverty Line	3.8%	10.9%	-7.1%

Table 4: Income

One reason for Sargent County's medium income figures being higher than the State and the percentage of the population below the poverty line being lower is the presence of Doosan Bobcat's manufacturing facility in Gwinner. Doosan Bobcat is a global firm founded in North Dakota, which makes compact construction equipment. The success of the company's Gwinner facility is directly tied to the economic well-being of the Sargent County, as it is the County's largest employer (Table 5).

Sargent County Largest Employers

Rank	Employer	Ownership	Industry
1	Doosan Bobcat	Private	Machinery Manufacturing
2	Nondisclosable	-	
3	Four Seasons Healthcare Center	Private	Nursing and Residential Care Facilities
4	Sargent Central Public-School District	Public	Educational Services
5	Milnor Central Public School District	Public	Educational Services
6	North Sargent Public School District	Public	Educational Services
7	J&M Printing	Private	Printing and Related Support Activities
8	Grotberg Electric	Private	Specialty Trade Contractors
9	Sargent County	Public	Executive, Legislative, & General Government
10	Nondisclosable	-	

Table 5: Largest Employers

Climate and Weather

Sargent County has a continental climate with bitterly cold winters and mildly hot summers. January is the coldest month in Sargent County, with an average maximum temperature of 19.8 degrees Fahrenheit while the average January minimum temperature is -.02 degrees Fahrenheit. July is typically the warmest month, with an average maximum temperature of 82.7 degrees Fahrenheit while the average minimum temperature is 59.6 degrees Fahrenheit. Sargent County experiences 22.35 inches of precipitation a year and over 38 inches of snow a year.

Climate data for Forman, North Dakota (1981–2010)													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °F (°C)	19.8 (−6.8)	25.3 (−3.7)	37.7 (3.2)	55.6 (13.1)	68.0 (20)	76.8 (24.9)	82.7 (28.2)	81.8 (27.7)	71.5 (21.9)	57.0 (13.9)	38.4 (3.6)	23.9 (−4.5)	53.2 (11.8)
Average low °F (°C)	−0.2 (−17.9)	5.3 (−14.8)	18.2 (−7.7)	32.1 (0.1)	44.5 (6.9)	54.7 (12.6)	59.6 (15.3)	56.8 (13.8)	46.5 (8.1)	33.8 (1)	19.7 (−6.8)	3.9 (−15.6)	31.4 (−0.3)
Precipitation inches (mm)	0.58 (14.7)	0.51 (13)	1.13 (28.7)	1.78 (45.2)	2.74 (69.6)	4.07 (103.4)	3.35 (85.1)	2.15 (54.6)	2.46 (62.5)	2.09 (53.1)	0.90 (22.9)	0.59 (15)	22.35 (567.7)
Snowfall inches (cm)	8.2 (20.8)	5.9 (15)	6.7 (17)	2.8 (7.1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (1)	6.4 (16.3)	7.8 (19.8)	38.4 (97.5)

Table 6: Climate Data for Forman, ND

Chapter 3: Hazards

Hazards Overview: How to Understand this Process

Sargent County is subject to a variety of natural and human-cause hazards. To evaluate these hazards, the planning team decided to adopt the risk classification matrix used by Ransom County, Sargent County's northernly neighbor, for its clear and concise conveyance of risk. The matrix categorizes the risk as low, moderate, or high based on the hazard's probability and magnitude. The matrix considers the hazard's probability and magnitude of occurrence as such:

- **Probability**

  Low: less than 10% probability in the next year

  Moderate: 10-99% probability in the next year

  High: Near certain probability in the next year

- **Magnitude**

  Low: less than 5% of the jurisdiction exposed

  Moderate: 5-10% of the jurisdiction is exposed

  High: More than 10% of the jurisdiction is exposed

Risk Classification Matrix				
		Magnitude		
Probability		**Low**	**Moderate**	**High**
	Low	Low	Low	Moderate
	Moderate	Low	Moderate	High
	High	Moderate	High	High

Each profiled hazard includes the following

- **Hazard Profile:** A description of the hazard
- **Local History, Risk, and Vulnerabilities:** Describes the impact the hazard on Sargent County and its municipalities both in the past and looking into the future.

- **Existing Capabilities:** Describes what Sargent County and its municipalities have in place to mitigate the risks presented by the hazard.
- **Action Items to Mitigate Hazard:** New items to address the local risk and vulnerabilities of the hazard.

As stated earlier, a reality of Sargent County, is that many of the municipalities share the same degree of risk to hazard because of their similarities. When a hazard's risk or potential mitigation item is classified as "All Jurisdictions", it is applicable in the county and each municipality. When a hazard's risk or mitigation item is specific to a municipality or the County government, it is stated as such.

Flood

All Jurisdictions:	Overall Risk: High
	Probability: Moderate
	Magnitude: High
Seasonal Pattern:	May- October
Duration:	Varies from hourly flash flooding to season long events
Speed of Onset:	Varies
Primary Impacts:	Agricultural Loss
	Blocked roads
	Property damage and loss

Hazard Profile:

Flooding is an overflow of water on land not normally covered by water. Floods are a natural phenomenon; however, human activities often intensify flood hazards because of the alteration of natural conditions. Floods often occur along rivers and streams, along closed basin lakes, in poor drainage areas, or in oversaturated soils. Several different types of flooding occur in Sargent County; they include Riverine Flooding, Closed Basin Flooding, Ice Jam Flooding, Flash Flooding, and Groundwater Flooding. The spring flood danger period was generally from March through May, but this has been lengthening over the past several years.

Riverine flooding originates from a body of water, typically a river, creek, or stream, as water levels rise onto normally dry land. Sargent County has a low risk for riverine flooding as major rivers in the area, the Red River and Sheyenne River, do not cut directly through or across Sargent County only their tributaries or creeks are in the county.

Closed Basin flooding is unique to North Dakota. In a closed basin, surface water cannot flow naturally out of the basin as a river does (until a certain elevation is reached), and therefore, during wet periods, normally dry locations can fill in with water. Sargent County has numerous small closed basins caused by glaciations which have flooding issues. Closed Basin Flooding is the primary cause of flood damages in Sargent County.

Ice Jams cause flooding as they can block culverts or drainage channels. Ice breaking up into pieces, called floes, moves along with the flowing water bunching up developing a dam like structure. Sargent County can have ice jams developing as water moves from one closed basin to another, but this is a rare occurrence.

Flash floods occur when heavy rain falls in such a short time that the soil cannot absorb it and/or drainage systems (natural or man-made) cannot carry the volume of water away as quickly as it accumulates. Flash flooding also occurs when heavy rain falls over a prolonged period and the ground becomes saturated and cannot absorb the additional moisture fast enough. In Sargent County, a flash flood is usually caused by severe thunderstorms, heavy rains on snowpack, or slow-moving storms. Flash floods can occur anywhere when a large volume of water inundates an area over a short time period. Because of the localized nature of flash floods and variables in rainfall amounts and duration, clearly defined areas prone to flash flooding are difficult to identify. These types of floods often occur rapidly with significant impacts. Rapidly moving water, only a few inches deep, can lift people off their feet, and only a depth of a foot or two, is needed to sweep cars away. Most flood deaths result from flash floods.

Groundwater Flooding occurs as groundwater levels fluctuate from season to season and from year to year. Excessive groundwater may flood basements and crawlspaces but never reach the Earth's surface. Basement flooding can cause extensive damage to homes and businesses. Often this type of flooding occurs during or following lengthy periods of heavy rainfall or melting of a heavy snowpack. All of Sargent County is subject to groundwater flooding. Numerous rural areas within Sargent County have high water tables which cause groundwater flooding.

Levee Failure is also a risk for flooding in Sargent County. Levees are earth embankments constructed along rivers and coastlines to protect adjacent lands from flooding. Floodwalls are concrete structures, often components of levee systems, designed for urban areas where there is insufficient room for earthen levees. Levees

are usually engineered to withstand a flood with a computed risk of occurrence. When a larger flood occurs and/or levees and floodwalls and their appurtenant structures are stressed beyond their capabilities to withstand floods, levee failure can result in loss of life and injuries as well as damages to property, the environment, and the economy. Sargent County has developed some levees during flooding that have remained after the flood. This includes a system in the city of Milnor.

Local History, Risk and Vulnerabilities:

- Flooding is one of Sargent County's most repetitive natural hazards. As the county is essentially flatlands with little variable topography, nearly every home and business are in theory at a flood risk. Flooding needs special attention in the Sargent County Multi-Hazard Mitigation Plan because it has caused the most hardship in the disruption of people's lives and the most financial losses for individuals, businesses, and governments. The primary impact of flooding is that it damages infrastructure; closes transportation routes, backlogs city sewer and water systems and can make rural residential property less accessible.

- Flooding has occurred to the level to necessitate a presidential disaster declaration three times in the past 5 years- Spring 2020 (DR-4553), Spring 2019 (DR-4444) and October 2019 (DR-4475). In the past 11 years, there have been three additional disaster declarations for Spring flooding- 2009 (DR-1829), 2010 (DR-1907), 2011 (DR-1981).

- There is one river that flows through Sargent County, the Wild Rice River. It runs through the City of Cayuga, but the City Government has reported that the river has caused no overland flooding over the past five years, and thus no damage due to it. There are no reports of damage caused by overland flooding of the Wild Rice River in unincorporated Sargent County.

- An increase in overland flooding due to several "wet years" is being colloquially observed by farmers in Sargent County. This is possibly driven by an increase in rainfall compounded by the flat landscape and lack of external drainage in the County.

- A primary way FEMA tracks local risk is through the Flood Insurance Rate Map (FIRM) and an inventory of repetitive loss properties. *Currently, there are no FIRM maps of Sargent County available and no identified repetitive loss properties*.

- Some jurisdictions in this plan participate in the National Flood Insurance Program (NFIP). Participation in the NFIP requires communities to adopt floodplain regulations that meet NFIP objectives, which are: New buildings must be protected from flooding damages that occur as a result of the 100-year flood, and new development must not cause an increase in flood damages to other property. A list of participating jurisdictions is seen below:

Jurisdiction	CID#	Entry Date
Sargent County	380295	05/04/98
City of Cogswell	381064	11/05/85
City of Forman	380228	12/11/85
City of Milnor	380239	03/18/86
City of Rutland	380200	01/30/84

Table 7: NFIP Participants

- General municipal flood risk is outlined in the following table:

COMMUNITY	FLOOD RISK
CAYUGA	Cayuga is located just east of the Wild Rice River which serves as an overflow for Lake Tewaukon. Overland flooding and Wild Rice River flooding occurs which affects Cayuga.
COGSWELL	Cogswell is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. The area has no external drainage so legal drains have been constructed. Legal Drain 16 runs north to south through Cogswell and connects with Legal Drain 11. During high water periods overland flooding moves massive amounts of water causing the legal drains to overflow causing flooding.
FORMAN	Forman is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. The area has no external drainage so legal drains have been constructed. Legal Drain 4 runs west

	to east through Forman. During high water periods overland flooding moves massive amounts of water causing the legal drains to overflow causing flooding.
MILNOR	Milnor is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. The area has no external drainage so legal drains have been constructed. Legal Drain 1 runs west to east through Milnor. During high water periods overland flooding moves massive amounts of water causing the legal drains to overflow causing flooding.
GWINNER	Gwinner is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. The area has an un-named natural drain that is maintained that runs from the south to north through Gwinner and connects with Drain 1. During high water periods overland flooding moves massive amounts of water causing the legal drains to overflow causing flooding.
RUTLAND	Rutland is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. The area has no external drainage; drainage is all internal. To resolve this situation legal drains have been constructed. Legal Drain 8 runs from north to south and Tri-County Drain 1 runs from north to south on the east side of the village of Delamere. During high water periods overland flooding moves massive amounts of water causing the legal drains to overflow causing flooding.
HAVANA	Havana is located in the prairie pothole region of the county. It is subject to overland flooding as small water basins or sloughs overflow and drain into larger water basins, sloughs or lakes. This area has no external drainage; drainage is all internal. There are no legal drain systems built in the vicinity of Havana, it is affected by overland flooding.

Table 8: Flood Risk Descriptions

Existing Capabilities

- All of Sargent County is classified as a Non-Special Flood Hazard Area. This makes it relatively simple to apply FEMA regulations to the county as the whole county is under a single zone.

- Constant monitoring for flooding and consistent documentation of damages helps identify recurring hot spots and allows for an up-to-date inventory of needed repairs.

- Nearly every farmer carries crop insurance, which helps financially mitigate crop losses due to flooding.

Potential Action Items to Mitigate Flood Risk

- Conduct an NFIP workshop to educate the public on the National Flood Insurance Program.

- The City of Gwinner is currently not enrolled in the NFIP program. The City should explore enrolling in the program and develop floodplain ordinances.

- Keep an updated inventory of culverts and storm drains, while working with relevant stakeholders to develop a plan for cleaning, repairing, and replacing.

- Prioritize the replacement of the following facilities in flood prone areas to help mitigate future flood hazards:
    - Cogswell Lift Station
    - Drain 16 diking and drainage
    - Flood protection for Milnor along Drain 1

- Complete a flood control study to identify mitigation projects in the Coteau de Prairie hills

Drought

All Jurisdictions:	Overall Risk: Moderate
	Probability: Low
	Magnitude: High
Seasonal Pattern:	None, but greatest impacts in the spring, summer, or fall
Duration:	Months/Years
Speed of Onset:	Slow but Predictable
Primary Impacts:	Agricultural Loss
	Water Shortage
	Economic Loss
	Increased change of fire
	Pest Infestation

Hazard Profile:

Drought is a condition of climatic dryness, which is severe enough to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems. Drought characteristics usually include precipitation levels well below normal and temperatures higher than normal. In addition to severe damage to vegetation, soil in a drought area becomes dry and crumbles. Often, topsoil is blown away by hot, dry winds. Lakes, wetlands, and wells may dry up during a drought, thus wildlife and livestock suffer and even die. Although agriculture production is the most obvious recipient of drought losses, this hazard will also attack urban areas by impacting domestic and industrial water supplies.

Droughts are categorized by the USDA into 5 categories of increasing disruption:

1. D0: Abnormally Dry
2. D1: Moderate (Some minor damage to crops)
3. D2: Severe (Likely loss of crops, water shortages/restrictions)
4. D3: Extreme (Major crop loss, widespread water shortages/restrictions)
5. D4 Exceptional (Widespread and emergent destruction and shortages)

Local History, Risk and Vulnerabilities:

- Agriculture is an important industry to the local economy and a drought could create long-term negative impacts on the County's economy.

- Sargent County is at moderate risk for a severe drought as the entire State of North Dakota is frequently in a D0 abnormally dry condition, as seen in the chart produced by the USDA below.

- The City of Forman has limited water storage capacity.

- There is no separately recorded drought history for Sargent County, which makes more concrete discussion and decision making difficult. At planning team meetings, those who work in agriculture colloquially noted that the previous years are wetter than usually observed.

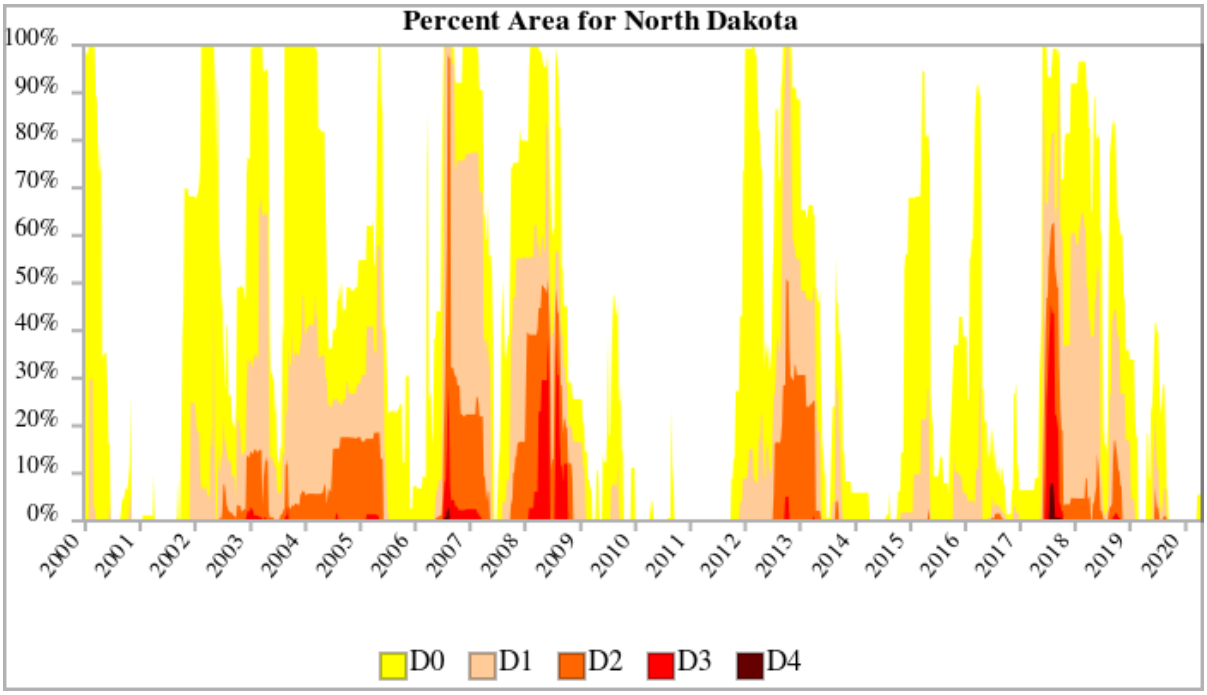

Table 9: Percent Drought Coverage and Drought Category

Existing Capabilities

- The municipalities have the authority restrict water use and at the very least encourage less water use, during drought conditions.

- North Dakota State University's Extension office in the County and can provide education on drought management.

Potential Action Items to Mitigate Droughts

- Provide for education on water conservation.

- Jurisdictions that provide drinking water can improve their storage capacity to better manage water supply in the event of a drought. The need for this is greatest in the City of Forman.

Severe Summer Weather

All Jurisdictions	Overall Risk: High
	Probability: High
	Magnitude: High
Seasonal Pattern:	April through October
Duration:	Varies
Speed of Onset:	Quick
Primary Impacts:	Property Damage
	Human life loss
	Power Loss
	Agricultural Loss

Hazard Profile

Several types of Severe Summer Weather events have been recorded in Sargent County over the past five years, including Severe Thunderstorms, Tornados, Hail, and Extreme Heat:

Severe summer storms can result in loss of life, injuries, and damage to property and crops. The general makeup of a severe thunderstorm is like that of a regular thunderstorm, except that each element is enhanced or more intense. About 10 percent of the thunderstorms that occur are classified as severe. Although thunderstorms affect relatively small areas when compared to other hazards such as winter storms, all thunderstorms are dangerous. Every thunderstorm produces lightning, which kills more people each year than tornadoes. Heavy rain from thunderstorms can lead to flash flooding. Strong winds, hail, and tornadoes are also dangers associated with some thunderstorms.

A **tornado** is a violently rotating column of air extending from a thunderstorm to the ground. A tornado is initially a cloud within the thunderstorm, composed of condensed water vapor. A tornado forms when a change in wind direction and increase in wind speed with increasing height creates a horizontal spinning effect in the lower atmosphere. This area of rotation may be two to six miles wide, extending through much of the storm. Most tornadoes form within this area of strong rotation when the

rising air within the thunderstorm updraft tilts the rotating air from horizontal to vertical. Tornadoes may appear nearly transparent until the circulating wind in the funnel reaches the ground and picks up debris that eventually darkens the whole funnel.

Hail is precipitation in the form of a lump of ice. Hail occurs when strong rising currents of air within a storm, called updrafts, carry water droplets to a height where freezing occurs. The ice particles grow in size, finally becoming too heavy to be supported by the updraft and fall to the ground. Hailstones are usually round but can be conical or irregular in shape. They can range from pea size to the size of grapefruit, and large hailstones can fall at speeds faster than 110 mph.

Extreme Heat is temperatures 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. Heat disorders generally have to do with a reduction or collapse of the body's ability to shed heat by circulatory changes and sweating or a chemical (salt) imbalance caused by too much sweating. When heat gain exceeds the level the body can remove, or when the body cannot compensate for fluids and salt lost through perspiration, the temperature of the body's inner core begins to rise and heat-related illness may develop. Elderly persons, small children, chronic invalids, those on certain medications or drugs, and persons with weight and alcohol problems are particularly susceptible to heat reactions, especially during heat waves in areas where moderate climate usually prevails.

Local History, Risk and Vulnerabilities:

- The entire County is subject to Severe Summer Weather. A record of events can be found in Appendix B. The occurrence of a least one Severe Summer Weather event each year is almost certain.

Existing Capabilities

- There are several facilities that serve as storm shelters throughout the county and within the municipalities, but these are not documented or well-signed for public view.

- The sheriff's department does welfare checks on elderly residents.
- Some jurisdictions have adopted the ND Building codes.
- Participating municipalities all have warning sirens and test these regularly.
- Farmers are encouraged to carry crop insurance.

Potential Action Items to Mitigate Severe Summer Weather

- Create an official inventory of storm shelters.
- Create an outreach program to inform the public on storm shelter locations.
- Protect visitors at the County Park on Silver Lake with the construction of a storm shelter and outdoor warning siren.
- Implement a reserve weather alert system.
- Install outdoor warning sirens
    - Cayuga
    - Havana
    - Milnor (third siren on the north side of town)

Severe Winter Weather

All Jurisdictions	Overall Risk: High
	Probability: High
	Magnitude: High
Seasonal Pattern:	October through April
Duration:	Days/Weeks
Speed of Onset:	Quickly, but Generally Predictable
Primary Impacts:	Vehicle Accidents
	Power Loss
	Property Damage
	Infrastructure Damage
	Health Risks (Frostbite, etc.)

Hazard Profile

Severe Winter Weather occurs in many forms and varies significantly in size, strength, intensity, duration, and impact. There are many elements to consider in the definition of a winter storm. Low visibility, heavy snow, and cold temperatures can combine to bring the area affected by a winter storm to a complete standstill. Utility and communications systems are often interrupted. Road systems are rendered impassible causing school, job, and commerce shutdowns.

Winter Storms are a combination of snow and wind that threatens life but are not severe enough to be a blizzard. They are characterized when hazardous winter weather in the form of heavy snow, heavy freezing rain, or heavy sleet is imminent or occurring.

A **Blizzard** occurs when sustained or gusty winds of 35 mph or more and falling or blowing snow creating visibilities at or below ¼ mile; these conditions should persist for at least three hours. A blizzard is the most dramatic and perilous of all winter storms.

Ice Storms are a condition that will produce significant and damaging accumulations of ice when heavy rains are combined with below freezing surface temperatures. Ice storms down

Severe Winter Weather can also include **extreme cold**, making it dangerous to be outside for long periods of time and an intense/early **frost/freeze** which can damage crops.

Local History, Risk and Vulnerabilities:

- The entire County is subject to Severe Winter Weather. A record of events can be found in Appendix B. The occurrence of a least one Severe Winter Weather event each year is almost certain.

- Severe winter weather has the same effect on rural Sargent County as it does on the cities. The cities are not large enough or have enough large structures to block the winds that accompany severe winter storms. The entire county, rural and urban is affected by severe winter storms.

- Townships often do not have adequate funds for snow plowing and road maintenance in the winter. Severe winter storms exacerbate this problem and can isolate property owners who do not have the ability to plow snow themselves.

Existing Capabilities

- Some jurisdictions have adopted the ND Building codes.

- Some jurisdictions, like Forman, allow for residents to trickle water in winter to prevent freezing pipes.

- All jurisdictions have snow removal operations.

Potential Action Items to Mitigate Severe Winter Weather

- Maintain a county-wide inventory of emergency generators to share capabilities and plan for replacement costs.

- Increase tree planting and creation of natural shelter belts.

- Explore ways to assist townships with the cost of plowing and winter road maintenance.

- Encourage power companies to bury lines when feasible.

- Increase redundancy in water systems to prevent freezing.

Windstorm

All Jurisdictions	Overall Risk: High
	Probability: High
	Magnitude: High
Seasonal Pattern:	Year Round
Duration:	Minutes/Hours
Speed of Onset:	Quickly
Primary Impacts:	Power Loss
	Property Damage
	Infrastructure Damage
	Human Injury and Death

Hazard Profile:

Strong winds can occur year-round in North Dakota. This section focuses on high wind events that occur separately from summer storm events that feature high winds, like tornadoes and severe thunderstorms. These winds typically develop with strong pressure gradients and gusty frontal passages. The closer and stronger two systems are, (one high pressure, one low pressure) the stronger the pressure gradient, and therefore, the stronger the winds are. Objects like trees, barns, outbuildings, high-profile vehicles, and power lines/poles can be toppled or destroyed, and roofs, windows, and homes can be damaged as wind speeds increase. Strong winds can be particularly dangerous to aviation.

Local History, Risk, and Vulnerabilities:

- The entire county is always subject to windstorms. Risk is high. A record of events can be found in Appendix B (see High Wind).

Existing Capabilities

- Some jurisdictions have adopted the ND Building Codes.

- Some jurisdictions, such as Rutland, actively remove dead and dying trees to prevent property damage.

Potential Action Items to Mitigation Windstorms

- Increase tree planting in general as well as to create wind breaks and shelter belts.
- Develop programs to encourage the demolition and repurpose of dilapidated properties.
- Encourage residents, specifically farmers and public works staff who maintain roads, to conduct best management practices for dust control.

Transportation Accidents

Sargent County	Overall Risk: High
	Probability: High
	Magnitude: Moderate
Gwinner:	Overall Risk: High
	Probability: High
	Magnitude: High
Other Municipalities:	Overall Risk: High
	Probability: High
	Magnitude: Low
Seasonal Pattern:	None
Duration:	Hours
Speed of Onset:	Quickly
Primary Impacts:	Vehicle Accidents
	Power Loss
	Property Damage
	Infrastructure Damage
	Human Death and Injury

Hazard Profile:

Transportation accidents that are possible in Sargent County include automobile collisions (including with pedestrians, bicyclist, trains, and off-highway vehicles), train derailments, and airplane crashes. Transportation accidents almost always occur suddenly and range in scale from involving a single motorist or large, disruptive event such as a plane crash.

Local History, Risk, and Vulnerabilities:

- In Sargent County, transportation accidents can almost always be expected to occur in specific areas such as roadways, railroads, or other transportation infrastructure. The exception is air transportation accidents that can occur anywhere and at any time. Sargent

County does not have a major airport and has limited exposure to commercial airlines flying over the county. However, there is significant amount of small aircraft that fly out of the local airports including agricultural chemical application planes or crop dusters.

- Sargent County is particularly vulnerable for injurious and deadly automobile accidents because much of the County's road system are high speed rural roadways. *Over half* the automobile accidents had an injury or death since the adoption of the 2015 Plan through March 2020, as reported by the Sargent County Sheriff's Office:
    - 72 total automobile accidents
    - 35 of which had at least one injury/fatality
    - 4 total fatalities

- There are no reported Aircraft or Train related incidents since the adoption of the 2015 Plan.

- The City of Gwinner is at a higher risk than other municipalities within the County for injury and death due to transportation accidents for two reasons; first, Gwinner experiences high volumes of traffic, including large trucks, as consequence of the Doosan Bobcat facility located in town. Secondly, there is an airport is located within the City limits.

Existing Capabilities

- Sheriff's Department responds to and tracks transportation accidents.

- The county is currently protected by 5 volunteer fire districts which correspond to the 7 municipalities: 1) Rutland-Cayuga, 2) Milnor, 3) Forman-Havana, 4) Gwinner, and 5) Cogswell.

- Sargent County maintains an EMS service, with ambulances stationed in Milnor and in Forman. The EMS service covers Sargent County and part of neighboring Ransom County- a total to 4,300 people in 866 square miles.

Potential Action Items to Mitigate Transportation Accidents

- Identify high risk intersections and road sections and develop a process to procure funding for projects that reduce the risk.

- Expand existing education efforts on the dangers of driving intoxicated. This could include mock DUI accidents for High Schools.

- Plan and monitor for opportunities to enhance facilities for bicycles, pedestrian, and off-highway vehicles.

Wildland Fire

All Jurisdictions	Overall Risk: High
	Probability: High
	Magnitude: High
Municipalities:	Overall Risk: Moderate
	Probability: Moderate
	Magnitude: Moderate
Seasonal Pattern:	October through April
Duration:	Hours/Days/Weeks
Speed of Onset:	Quickly
Primary Impacts:	Crop Loss
	Property Damage
	Infrastructure Damage

Hazard Profile:

A wildland fire is an unplanned fire, a term which includes grass fires, forest fires and scrub fires, be it man caused or natural in origin. Severe wild land fire conditions have historically represented a threat of potential destruction within North Dakota. Wildland fires in Sargent County generally are grassfires. Negative impacts of wildland fire include loss of life, property and resource damage or destruction, severe emotional crisis, widespread economic impact, disrupted and fiscally impacted government services, and environmental degradation. The intensity of a wildland fire has three major factors: fuel, weather, and topography.

Local History, Risk, and Vulnerabilities:

- The degree of general risk for wildland fire to occur around Sargent County area is high, albeit the Cities have lower risk. Risk is high in grasslands, dry cropland, and dried out wetlands from April through October.

- Risk increases if there is an abundance of dried grass or dead crops in fields during dry years, but agricultural land is typically not considered to have significant fuel for wildfires.

- A portion of the county is a preserved grassland in the Sheyenne National Grassland, which represents the large contiguous area in the County at high risk in the right conditions.

Existing Capabilities

- The county is currently protected by 5 volunteer fire districts which correspond to the 7 municipalities: 1) Rutland-Cayuga, 2) Milnor, 3) Forman-Havana, 4) Gwinner, and 5) Cogswell. Milnor Fire Department projects large portions of the Sheyenne National Grassland.

- The County Government has the power to enact a burn ban when necessary.

- The County's NDSU Extension Office can provide information on how the agriculture industry can reduce risk of wildfire.

Potential Action Items to Mitigate Wildland Fire

- Update and maintain a county-wide resource inventory.

- Pursue funding for more wildland fire equipment.

- Implement a reverse weather alert system.

- Find methods to attract and retain more volunteer fire fighters.

Urban Fire

Sargent County	Overall Risk: Moderate Probability: Moderate Magnitude: Low
Municipalities:	Overall Risk: High Probability: Moderate Magnitude: High
Seasonal Pattern:	October through April
Duration:	Days/Weeks
Speed of Onset:	Quickly, but Generally Predictable
Primary Impacts:	Property Damage Infrastructure Damage Human Injury and Death

Hazard Profile:

Urban fires are a concern to emergency management officials because they can result in loss of life, while they destroy property and critical resources needed for residents of both urban and rural areas. Factors that influence the potential for urban fires include: vacant/abandoned/dilapidated buildings, electrical devices, incendiary-arson, smoking materials, heating devices, fuel systems, sparks, spills, spontaneous combustion and the levels of human activity in urban areas.

Local History, Risk, and Vulnerabilities:

- Urban fire in this context refers to structure fires in any jurisdiction. All built structures are at risk for fire to some degree.

- All incorporated and unincorporated communities in the county have abandoned and dilapidated homes, which have a high risk for fire.

- The manufacturing cluster in Gwinner, anchored by Doosan Bobcat, carries a higher than normal risk for fire, including vehicle fire, because of hazardous materials and increased levels of human activity.

Current Capabilities:

- The county is currently protected by 5 volunteer fire districts which correspond to the 7 municipalities: 1) Rutland-Cayuga, 2) Milnor, 3) Forman-Havana, 4) Gwinner, and 5) Cogswell.

- Fire departments conduct live burns as training exercises on abandoned houses.

- Some municipalities such as Cogswell have indicated they are active in removing abandoned and structurally unsound buildings.

- Fire safety is taught in schools.

Action Items to Mitigate Urban Fire

- Encourage fringe properties to annex to allow for extension of hydrants.

- Encourage all jurisdictions to adopt modern, relevant zoning regulations to enable development to occur where it is most appropriate.

- Encourage all jurisdictions to adopt North Dakota building codes.

- Develop programs to encourage the demolition and repurpose of dilapidated properties.

- The City of Forman has indicated there is a need to improve hydrant coverage in the south section of town.

- Install sprinklers in all public facilities.

- Find methods to attract and retain more volunteer fire fighters.

Communicable Disease

All Jurisdictions	Overall Risk: High
	Probability: Low
	Magnitude: High
Seasonal Pattern:	Varies, as some viruses like Influenza are prevalent in winter months
Duration:	Varies
Speed of Onset:	Varies
Primary Impacts:	Public Health
	Agricultural Loss
	Economic Loss

Hazard Profile:

Diseases affect humans, animals, and plants continuously. Disease transmission to humans may occur naturally or intentionally, as in the case of bioterrorism, and infect populations rapidly with little notice. New diseases regularly emerge or mutate. Known diseases, such as influenza, can be particularly severe in any given season and new diseases, such as COVID-19, can require temporary changes in lifestyles to help manage the spread.

Disease can also be a consequence of a disaster, such as those resulting in the loss or contamination of water supplies. In fact, following most major disasters, disease is a primary concern due to the lack of sanitation. More specifically, long-term power outages can lead to household food contamination, and flooded properties often develop mold or mildew toxins. Flood water frequently contains hazardous bacteria and chemicals.

Animal and plant diseases, particularly those that infect livestock or crops, can distress the agricultural community. Such diseases could lead to food shortages and negative economic impacts, depending on the animals or plants infected and the geographic extent of the disease. The North Dakota Department of Agriculture is charged with conducting regular and emergency inspections and licensure of animal and plant producers and shippers. The effects of these regulatory activities are to mitigate any effects from contaminated or suspect products entering the food chain.

Local History, Risk, and Vulnerabilities:

- All populations are susceptible to epidemics. The rural nature of Sargent County makes rapid transmission of a communicable disease less likely than urban places but more elevated than other rural places because of many people who drive from other counties to work in the Gwinner manufacturing facilities.

- Elderly populations are at an elevated risk for communicable diseases and Sargent County is on average older than the State of North Dakota.

- Assisted living/retirement homes, hospitals, schools, and other places of high occupancy in closed-off facilities have an increased vulnerability to disease.
    - There is one assisted living facility in Sargent County, according to the North Dakota State Dept. of Human Services. The Four Seasons Villas is located in Forman and has 12 living units.
    - Students enrolled by district during the 2019-2020, according to ND State Dept of Public Instruction:
        - Milnor: 216
        - North Sargent: 210
        - Sargent Central: 155

Existing Capabilities

- The Sargent County District Health Unit (County Public Health) provides 10 essential services towards to the mitigation of communicable diseases:
    - Monitor health status to identify community health problems
    - Diagnosis and investigate health problems and health hazards in the community.
    - Inform, educate, and empower people about health issues.
    - Mobilize community partnerships to identify and solve health problems.
    - Develop policies and plans that support individual and community health efforts.
    - Enforce laws and regulations that protect health and ensure safety.
    - Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
    - Assure a competent public health and personal health care workforce.
    - Evaluate effectiveness, accessibility, and quality of personal and population based health services.

- Research for new insights and innovative solutions to health problems.

- Sargent County maintains an EMS service, with ambulances stationed in Milnor and in Forman. The EMS service covers Sargent County and part of neighboring Ransom County- a total to 4,300 people in 866 square miles.

- There are 3 clinics in Sargent County, one each in Forman, Gwinner, and Milnor.

- All nearby hospitals are classified as Critical Access Facilities. Depending on your location in Sargent County, the closest hospital is approximately a 30 min drive to either Lisbon, ND; Oakes, ND; or Britton, SD.

- The County's NDSU Agriculture Extension can provide information and assistance related to preventing and combating crops diseases and noxious weeds.

Action Items to Support the Mitigation Communicable Disease

- Explore ways for local jurisdictions to help connect small businesses to resources to help them plan for future pandemics.

- Upgrade virtual technology capabilities in all jurisdictions to make virtual meetings, public engagement, governance easier during situations where people cannot meet face-to-face.

- Implement a Next Generation 911 System.

Hazardous Materials

All Jurisdictions:	Overall Risk: High
	Probability: Low
	Magnitude: High
Seasonal Pattern:	None
Duration:	Varies
Speed of Onset:	Usually Quickly
Primary Impacts:	Public Health
	Agricultural Loss
	Economic Loss

Hazard Profile:

Hazardous materials are any substance in any quantity or form which may pose an unreasonable risk to the safety, health, environment, and property of citizens. The term "hazardous materials" covers a wide array of products, from relatively innocuous ones such as hair spray in aerosol dispensers and wash preservatives such as creosote to highly toxic or poisonous materials such as polychlorinated biphenyl (PCB's) and phosgene gas. The potential severity of hazards of these materials is varied but the primary reason for their designation is their risk to public safety.

Hazardous materials are defined and/or managed under several federal, state, and local laws, regulations, plans, and ordinances. Hazardous materials (HAZMAT) incidents can be categorized into two distinct groups. These are HAZMAT incidents of a transportation nature and those that occur at a stationary fixed facility.

Local History, Risk, and Vulnerabilities:

- Hazardous Materials represents a high risk to the county despite the low probability of occurring each year because of outside role manufacturing and agricultural sectors have on the local economy. These sectors often involve the use of hazardous materials. For example, the most common hazardous material found in Sargent County is anhydrous ammonia, which is a common agricultural application to fields.

- There is significant concentration of industry in Gwinner between the Bobcat facility and Dakota Plains Southeast propane facility.

- The Keystone Pipeline runs through western Sargent County (Figure 3).

- The transportation of hazardous materials across the County highways and through the municipalities puts the entire planning area at equal risk for hazardous materials incidents due to trucking accidents.

- Historically, Sargent County experiences 0-5 hazardous materials release per year. Most of these are small spills of liquid materials. Table 10 shows the reported hazardous materials releases in Sargent County in the last 5 years:

Date	Material Released	Amount Released	Contained	Injuries or Deaths
05/05/2015	Liquid Fertilizer	Unknown	Yes	None Reported
05/31/2015	Propane	Unknown	No	No
06/26/2015	Anhydrous Ammonia	200lbs	No	None Reported
09/15/2016	Transformer Oil	25 Gallons	Yes	None Reported
10/14/2017	Herbicide	Unknown	No	None Reported
10/25/2018	Mineral Oil	20 Gallons	Yes	None Reported
11/09/2017	Diesel Fuel	15 Gallons	No	None Reported
12/27/2017	Gasoline	2 Gallons	No	No
6/13/2018	Atrazine	12,000 Gallons	Yes	Unknown

Table 10: Hazardous Materials Releases

- Sargent County has several Tier II reporting facilities, outlined below with the facility's corporate owner's address:

Facility Name	Address	City	State	Zip Code
Dickey Rural Networks	P.O. Box 69	Ellendale	ND	584365
Western Area Power Administration	P.O. Box 1173	Bismarck	ND	58502-1173
Full Circle Ag	PO Box 58	Britton	SD	576430
Aggregate Industries	800 Holiday Drive #240 - PO Box 1036	Moorhead	MN	56561
Bobcat	210 1st Ave	Gwinner	ND	58040
TransCanada Keystone Pipeline, LP	13710 FNB Parkway Suite 300	Omaha	NE	68154
Central Power Electric Coop	525 20th Ave SW	Minot	ND	58701
Dakota Valley Electric Coop	14051 Highway 13	Milnor	ND	58060
Dakota Plains Ag- Gwinner Plant	13219 Hwy 13 SE	Gwinner	ND	58040
Dakota Plains Ag- Forman Agronomy	9137 Hwy 32 S	Forman	ND	58032
Dakota Plains Ag- Forman Bulk Plant	131 1/2 Ave SE, HWY 11 W	Forman	ND	58023
Dakota Plains Ag- Milnor Bulk Fuel and Agronomy	306 Main St	Milnor	ND	58060
Dakota Plains Ag Milnor NH Plant	13995 80th St SE	Milnor	ND	58060
Milnor Propane	310 6 ½ Ave	Milnor	ND	58060
MPC- Allegheny	11944 79th St. SE	Gwinner	ND	58040
TC Energy Ludden Pump Station	10075 119th Ave. SE	Brampton	ND	58017

Table 11: Tier II Reporting Facilities

Existing Capabilities

- The county is currently protected by 5 volunteer fire districts which correspond to the 7 municipalities: 1) Rutland-Cayuga, 2) Milnor, 3) Forman-Havana, 4) Gwinner, and 5) Cogswell.

- Sargent County maintains an EMS service, with ambulances stationed in Milnor and in Forman. The EMS service covers Sargent County and part of neighboring Ransom County- a total to 4,300 people in 866 square miles.

- The State of North Dakota has regional Hazardous Materials disposal events annually.

Potential Action Items to Mitigate Incidents Caused by Hazard Materials

- Increase hazard materials training for first responders.

- Advertise the State hazard materials disposal locations.

Shortage of Critical Materials or Infrastructure

All Jurisdictions	Overall Risk: High
	Probability: Low
	Magnitude: High

Seasonal Pattern:	None
Duration:	Varies from a few days to months/years
Speed of Onset:	Varies
Primary Impacts:	Economic Loss

Hazard Profile:

A shortage or outage of critical materials or infrastructure occurs when the demand for a life sustaining product exceeds the supply. These shortages and outages may include a wide variety of resources including energy-related products, power transmission, medical products, food and water.

The disruption of the critical material supply system may be caused by weather conditions (severe low temperatures, ice/winter storm, high winds, space weather such as solar flares), natural disasters, or regional/global conflict.

Examples of shortages or outages of critical material or infrastructure include:

- Widespread and prolonged electric power failure that impacts both day-to-day and emergency capabilities.
- A lack of transportation fuels causing surface movement gridlock and disruption of commerce.
- Diminished supplies of heating fuels during the winter causing severe economic and health impacts.
- A lack of medical supplies especially vaccines, antibiotics, and anti-viral medications posing a public health and safety threat.
- Private hoarding, compounding a shortage problem.
- A lack of adequate food, water and shelter.

Local History, Risk, and Vulnerabilities:

- There has been no reported shortages of critical materials or infrastructure in the County over the past five years.

- The rural nature of the Sargent County compounded with the flat landscape and potential for high winds year-round makes widespread and prolonged electric power outages more likely than in other parts of the country. The County's size also means that grid disruptions may take a prolonged length of time to fix.

- The rural nature of Sargent County means that automobiles are the county residents' primary way of accessing food, work, and the general economy. Oil shortages would put auto dependent residents at a risk.

Existing Capabilities

- Many communities have a surplus of critical supplies.

- All communities have emergency generators.

- The County plows major roadways during snow events to ensure supplies can make it into the county.

Potential Action Items for Mitigating a Shortage of Critical Materials or Infrastructure

- Maintain an inventory of generators.

- Work with stakeholder agencies to help increase security of the electric grid to ensure power, telephone, and internet continuity during a critical shortage event, such as space weather.

Homeland Security

All Jurisdictions	Overall Risk: Low
	Probability: Low
	Magnitude: Low
Seasonal Pattern:	None
Duration:	Varies from a few days to months/years
Speed of Onset:	Varies
Primary Impacts:	Economic Loss
	Human Death/Injury

Hazard Profile:

A homeland security incident is any intentional adversarial human-caused incident, domestic or international, that causes mass casualties, large economic losses, or widespread panic in the country. Terrorism and civil unrest are examples of human-caused hazards that are intentional and often planned. Terrorism, both domestic and international, is a violent act done to try and influence government or the population of some political or social objective. Terrorist acts can come in many recognized forms or may be more subtle using untraditional methods. The primary recognized forms of terrorism are chemical, explosive, biological, radiological/nuclear, and cyber; however, terrorism's only limitation is the human imagination.

Local History, Risk and Vulnerabilities:

- There have been no reported homeland security incidents in the County over the past five years.

- The Keystone Pipeline runs through Sargent County and would pose a significant environmental risk should it be targeted in a homeland security incident. Figure 3 shows where the pipeline is in the western portion of the county.

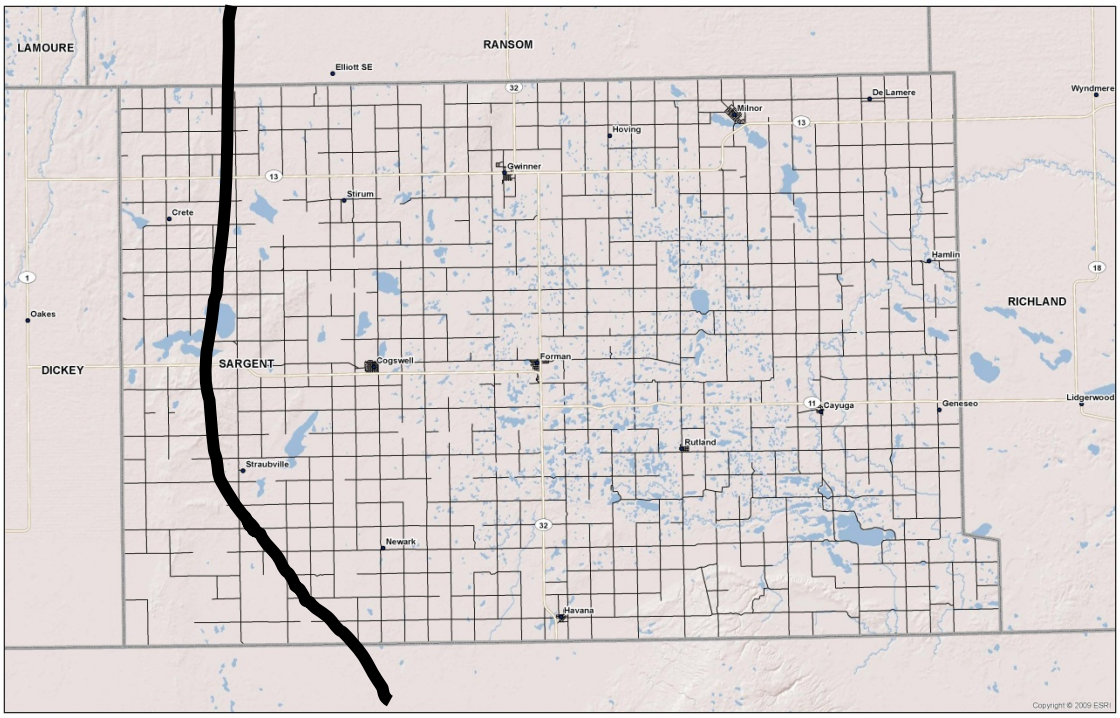

Figure 3: Keystone Pipeline

- Civil unrest is always a present threat. Rural communities in North Dakota have faced past unrest from a variety of groups, such as the anti-government militia groups Posse Comitatis or special interest protesters like the Dakota Access Pipeline Protests.

Existing Capabilities

- Public facilities, like the courthouse and school buildings for Sargent Central School District, have received Homeland Security assessments. These assessments are not available for public view, but they do contain identify opportunities to improve the safety of building occupants.

- The Sargent County Sheriff's Office trains for homeland security incidents and can call upon a range of partner agencies as needed to address the issue.

- The county is currently protected by 5 volunteer fire districts which correspond to the 7 municipalities: 1) Rutland-Cayuga, 2) Milnor, 3) Forman-Havana, 4) Gwinner, and 5) Cogswell.

Key Issues + Potential Action Items

- Implement the findings of the Homeland Security Assessments for public facilities.

- Ensure local emergency response personnel are trained for such events and have obtained the appropriate personal protective gear necessary to keep themselves safe.

Other Items

Other hazards were discussed during the public and planning team meetings, but their risk to Sargent County is very low to negligible. Those risks are discussed in brief here.

Geological Hazards

Earthquakes present a very limited threat to the County, mostly due to the County's location as one of the most inland in North America (Approximately 250 miles south of the geographic center of the continent). There are no recorded earthquakes in or around the county since the 2015 Plan. That plan references six earthquakes over the past 80 years that were theoretically felt in Sargent County. Only one of these- in 1959 at 644 miles away- recorded higher than 4.6 on the Richter scale at 7.7 but it is unclear (and unlikely) if this was felt in Sargent County. Additionally, the information in the 2015 plan might be misrepresented, as a review of United State Geological Survey (USGS) Data suggests that none of these earthquakes have been felt or resulted in damages in Sargent County.

Volcanic activity presents a very limited threat to Sargent County as well. A large eruption elsewhere could lead to a volcanic ashfall in the County, but this is unlikely to a public hazard due to the distance between Sargent County communities and volcanic activity. The USGS classifies volcanic threats of increasing severity as Unmonitored, Normal, Advisory, Watch, and Warning. According to the USGS, the closest active and monitored volcanic site is Yellowstone national park, and the closest volcanic threat (Advisory level or higher) is currently the Veniaminof Volcano on the Aleutian Islands in Alaska.

Dam Failure

Sargent County is not at risk for **Dam Failure**, as there are no Dams in the County, nor is any location in the county located downstream from a major dam.

Summary

Flood

The entire county is subject to overland flooding and mitigating this risk is a continuous effort. Most jurisdictions, with Gwinner being a notable exception, participate in the NFIP. The main focus to mitigate flooding are action items to help limit development in the flood plain.

Drought

The entire County is subject to droughts. The main focus to mitigating the effects of drought in the County is education.

Severe Summer Weather

The entire county is subject to severe summer weather. Historical events have been well documented. The main focus towards mitigating the effects of severe summer weather is to ensure the county has adequate resources to protect human life during a storm event.

Severe Winter Weather

The entire county is subject to severe winter weather. Historical events have been well documented. The main focus towards mitigating the effects of severe winter weather is to ensure the county has adequate resources to protect human life during a storm event.

Windstorm

The entire county is subject to windstorms. Historical events have been well documented. The main focus towards mitigating the effects of severe summer weather is to ensure the communities across the county have the means to implement design solutions, such as building codes, zoning, and the construction of shelter belts.

Transportation Accidents

Transportation accidents are possible across Sargent County, with elevated risk on the high-speed rural highways and in the City of Gwinner. Over half of automobile accidents have an injury or death. To mitigation transportation accidents, the county and municipalities will focus on identifying important safety projects and pursuing funding to implement best practices.

Wildland Fire

The entire County is subject to wildfire, but risk is moderated within and around the municipalities. The Sheyenne National Grasslands, in which a portion is in Sargent County, represents the most significant wildfire risk. Historical events have not been well documented, likely because there has never been a major-scale wildland fire in the county. The main focus towards the mitigation of wildland fire is education and funding increase for fire departments.

Urban Fire

All communities are subject to urban fire. The main focus toward mitigating the effects of urban fire is increasing the number of volunteer first responders and finding opportunities to upgrade their equipment. Additionally, jurisdictions can continue to raze substandard and dilapidated structures

Communicable Disease

Communicable disease can affect the entire County. The COVID-19 pandemic will likely have a lasting impact in the county for the duration of this plan. There historically have been few pandemics in the County. The main focus in mitigating communicable diseases is enhance communications throughout the county to better convey information between agencies and citizens as well as making business planning more accessible.

Hazardous Materials

There are several documented hazardous materials incidents and Tier II facilities located in Sargent County. The County tracks this information and communicates with first responders, who conduct trainings for Hazardous Materials incidents.

Shortage of Critical Materials or Infrastructure

There has been no shortage of critical materials or infrastructure documented in Sargent County over the past 5 years. Some historical incidents over the past 50 years include the 1970's oil embargo. The focus towards mitigating a shortage of critical materials or infrastructure is working with stakeholders to secure the electrical grid from a solar flare event.

Homeland Security

Homeland security incidents are unlikely to occur in Sargent County. The Keystone Pipeline running through the County could represent the most significant homeland security threat. The focus towards mitigating homeland security threats is conducting regular security assessments. For example, the County and school districts have performed homeland security audits.

Chapter 4: Mitigation Strategies and Monitoring

Mitigation Capabilities

There are many different agencies within Sargent County that have the capabilities to mitigate natural and man-made hazards.

1. **Sargent County:**
    - **County Commissioners:** Create legislature and policies for hazard mitigation, approval of purchasing items for mitigation.
    - **Emergency Manager:** Program management, coordinate emergency planning and response, implement county policy related to hazard mitigation.
    - **Extension Office:** Education, resource coordination, general advisement on agricultural issues.
    - **Heath District:** Provide program support for mitigation actions ranging from water treatment and pollution, communicable diseases, air quality, etc.
    - **Highway Department:** Road maintenance, snow plowing, identify safety issues.
    - **Sheriff Department:** Peacekeeping, emergency response, monitoring conditions.
    - **Water Board:** Maintenance of legal drains.

- **The Municipalities:** There are 7 municipalities- Cayuga, Cogswell, Gwinner, Forman, Havana, Milnor, and Rutland. All of these are small towns, the largest being Gwinner (pop. 900). However, their status as incorporated municipalities gives them autonomy to work with the County's emergency manager to implement this plan within their jurisdiction. All municipalities have the same general mitigation capabilities, which include
    - Create policy
    - Inventory, document and relate issues to relevant agencies
    - Apply for grants,
    - Implement projects
    - Coordinate with other stakeholders

- **The Fire Districts**: General fire suppression, rescue, hazardous materials response, public awareness and educational programs. The fire department responds to spills and releases of hazardous materials with limited tactical involvement. For hazardous

materials response, their main role is procuring resources and being trained to the proper level to respond to the incident.

- **Other Agencies with Mitigation Capabilities in Sargent County:**
  - ~~o~~ **Sargent County Ambulance Services**: Emergency response, patient care, transport, and public awareness and continuing education programs.
  - o **Dakota Valley Electric Cooperative, Cass County Electric, Ottertail Electric:** Provide engineering expertise, heavy equipment, and damage assessment. (Utilities)
  - o **Dickey Service Network:** Telephone, Internet, and Cable Television Services.
  - o **Army Corps of Engineers**: Water management within the county. Provide technical expertise, sandbags, and heavy equipment.
  - o **North Dakota Highway Patrol**: Situation and damage assessment; provide transportation resources for movement of state personnel, supplies, and equipment to include air and ground reconnaissance; traffic control.
  - o **State Fire Marshal:** Hazmat route utilization; hazmat technical assistance; situation and damage assessment.
  - o **North Dakota Forestry Service**: Debris removal from recreational facilities; technical assistance; situation and damage assessment.
  - o **North Dakota Game and Fish**: Technical assistance; debris removal from recreational facilities; facility improvements; situation and damage assessment.
  - o **State Radio Communications**: Exercise readiness of warning systems and communication support.
  - o **Department of Agriculture:** Assists with situation and damage assessment; coordination with USDA; hazmat technical assistance; state land use program.
  - o **Job Service:** Situation assessment and administration of disaster unemployment assistance programs.

Previous Mitigation Items

The following chart shows the action items from the 2015 Update. Sargent County and the participating municipalities reviewed these items and provided comment on their status. The incomplete items where incorporated into this document, except in circumstances where the lead jurisdiction indicated it no longer had a desire to pursue the project. Completed projects are indicated in blue, incomplete in red, and abandoned projects in grey.

	Lead Agency	**Project**	**Completed?** Y/N	**Next Steps**
1	Cayuga	Lift Station Generator	N/A	No plans to pursue
2	Cayuga	Removal of abandoned – structurally unsound buildings	Yes	Completed
3	Cayuga	Cayuga outdoor warning siren	N/A	No plans to pursue
4	Cogswell	Lift Station Generator	No	Incorporated into update
5	Cogswell	Removal of abandoned – structurally unsound buildings	Yes	Completed
6	Cogswell	City of Cogswell community overland flood protection system (Diking and Drainage along Legal Drain #16)	No	Incorporated into update
7	Cogswell	Cogswell outdoor warning siren	Yes	Completed
8	County	County Shop Generator	Yes	Completed
9	County	Storm Shelter at County Park located at Silver Lake	No	Incorporated into update

10	County	County Park at Silver Lake outdoor warning siren	No	Incorporated into update
11	County	Evaluate the county and township road grade height, fabric and rip-rap placement, culvert/bridge size and placement and determine actions to take to prevent road washouts.	Yes	Completed
12	County	Bridge repair/replacement – County Road 5	Yes	Completed
13	County	Bridge repair/replacement – Hamlin Grove – south of Delamere	Yes	Completed
14	County	Bridge repair/replacement – South of County Road 3, Sprague Lake	Yes	Completed
15	County	Maintain legal drains by removing silt and vegetation to allow free flow of water near the cities of Cayuga, Cogswell, Forman, Havana, and Milnor.	Yes	Completed
16	County	Communication - County Repeater	Yes	Completed
17	County	Communication – Bank 5 Training	No	Incorporated into update
18	County	Training (Awareness and Operational Level) and Exercise	No	Incorporated into update

19	County	Update Hazardous Materials Plan	Yes	Completed
20	County	County-wide emergency notification telephone system	No	Incorporated into update
21	County	Fire Fighting equipment for Fire Districts to serve larger federal land mass such as at the Tewaukon National Wildlife Refuge	No	Incorporated into update
22	County	Public Awareness campaign for Severe Weather Awareness weeks (Winter and Summer)	No	Incorporated into update
23	County	Computer Aided Dispatch equipment and system for Fire-Rescue Departments	No	Incorporated into update
24	County	Due to the lack of DFirm Maps, cities should zone areas known to be prone to flooding for non-residential and non-commercial use such as parks, parking lots and the like.	No	Incorporated into update
26	County	Conduct a NFIP Seminar for the public.	No	Incorporated into update
27	County	Conduct a Seminar on the benefits of NFIP participation for public officials	No	Incorporated into update
28	County	County Culvert replacement schedule development and implementation	Yes	Completed

29	County	Develop a strategy to enforce the North Dakota State Building Code such as hiring a County-Wide Building Inspector.	No	Incorporated into update
30	County	Flood control study and project completion of viable projects at Coteau de Prairie hills	No	Incorporated into update
31	Forman	Transfer Switches to accept generator	Yes	Completed
32	Forman	City of Forman community overland flood protection system (Diking and Drainage along Legal Drain #4)	Yes	Completed
33	Gwinner	Meet with Gwinner City officials to have them sign up for the NFIP and develop flood plain ordinances.	No	Incorporated into update
34	Gwinner	Transfer Switches to accept generator	No	Incorporated into update
35	Havana	Havana outdoor warning siren	No	Incorporated into update
36	Havana – Forman Fire	Havana-Forman Fire-building for emergency response equipment and shelter	No	Incorporated into update
37	Milnor	City of Milnor community overland flood protection system (Diking and Drainage along Legal Drain #1)	No	Incorporated into update

38	Milnor	Transfer Switches to accept generator	No	Incorporated into update
39	Rutland	Transfer Switches to accept generator	Yes	Completed
40	Rutland	Rutland outdoor warning siren	N/A	City indicated they just needed the siren painted, and this is complete
41	Rutland	Planning, identification and marking Rutland Community Safe routes	No	Incorporated into update

2021-2026 Goals

In anticipation for new development, the Planning Team has developed the following goals for the 2021-2026 hazard mitigation efforts.

1. Increase Collaboration between Jurisdictions
2. Provide the municipalities more tools to mitigate hazards
3. Reduce the effects from flooding through floodplain studies, diking projects, and new ordinances
4. Continued implementation of planning activities, zoning ordinances, and building codes.
5. Develop methods to mitigate the impact of diseases on public life.
6. Increase the recruitment of volunteer and emergency services.

2021-2026 Action Items

The following chart is a list of all the action items generated by jurisdictions on their project worksheets, evaluated and edited by the planning group. Additionally, items not completed during the last planning cycle that are to be incorporated into this update are included in this list of action items. The action items span a range of cost and timeline.

Costs are broken down in the following way

$ = Staff Time or an expenditure up to $10,000

$$ = Action item costs between $10,000 and $250,000

$$$ = Action item costs over $250,00

Project Timeline is broken down the following way:

Short Range: Action Item be completed in 0-6 months

Medium Range: Action Item can be completed in less than 2 years

Long Range: Action Item will take at least 2 years to complete

On-going: Action Item does not have a discrete deliverable

	Action	Hazard(s)	Primary Jurisdiction(s)	Cost	Range
1	Host an NFIP Workshop	Flood	Sargent County	$	Short-Term
2	Gwinner to enroll in the NFIP and develop flood plain ordinances	Flood	City of Gwinner	$	Medium-Term
3	Monitor/maintain/update culverts and storm drains	Flood	Sargent County	$	On-Going
4	New Lift Station Generator in Cogswell	Flood	City of Cogswell	$$	Medium-Term
5	Diking and Drainage Along Drain 16	Flood	Sargent County Water Board	$	Medium-Term
6	Flood Control study and completion of viable projects at the Coteau de Prairie hills	Flood	Sargent County Water Board	$$	Medium Term
7	Milnor community flood projection: Diking and Drainage along Legal Drain 1.	Flood	City of Milnor	$$$	Long-Term
8	Expand Education on water conservation efforts	Drought	County- Extension Office	$	Short-Term
9	Upgrade water storage capacities	Drought	All Municipalities	$$$	Long-Term
10	Milnor-Loop/Redundancy in Water System	Drought, Urban Fire	Milnor	$$$	Long-Term

11	Create an official inventory of storm shelters	Severe Summer Weather	All, County Managed	$	Short-Term
12	Create an outreach program to inform the public on storm shelter locations	Severe Summer Weather	All Jurisdictions	$	Short-Term
13	Storm Shelter at County Park located at Silver Lake	Severe Summer Weather	Sargent County	$$	Medium-Term
14	County Park at Silver Lake outdoor warning siren	Severe Summer Weather	Sargent County	$$	Medium-Term
15	Implement a reverse weather alert system	Severe Summer Weather	Sargent County	$$	Long-Term
16	Cayuga-Outdoor Warning Siren	Severe Summer Weather	City of Cayuga	$$	Short-Term
17	Havana- Outdoor Warning Siren	Severe Summer Weather	City of Havana	$$	Short-Term
18	Maintain a county-wide inventory of emergency generators to share capabilities and plan for replacement costs.	Severe Winter Weather, Shortage of Critical Materials	County Managed	$	Short-Term
19	Milnor- New Generator, transfer switches to accept generators,	Many	Milnor	$$	Medium-Term
20	Increase tree planting and creation of natural shelter belts	Severe Winter Weather, High Wind	All Jurisdictions	$$	On-Going
21	Explore ways to assist townships with the cost of plowing and winter road maintenance.	Severe Winter Weather	All Jurisdictions	$$	On-Going

22	Milnor- Install a Third Siren	Severe Summer Weather	City of Milnor	$$	Medium-Term
23	Develop programs to encourage the demolition and repurpose of dilapidated properties.	Windstorm, Urban Fire	All Jurisdictions	$$	On-Going
24	Encourage residents, specifically farmers and public works staff who maintain roads, to conduct best management practices for dust control.	Windstorm	Sargent County	$	On-Going
25	Identify high risk intersections and road sections and develop a process to procure funding for projects that reduce the risk	Transportation	Sargent County	$	On-Going
26	Expand existing education efforts on the dangers of driving intoxicated	Transportation	All Jurisdictions	$	On-Going
27	Plan and monitor for opportunities to enhance facilities for bicycles, pedestrian, and off-highway vehicles.	Transportation	All Jurisdictions	$ - $$	On-Going
28	Update fire-fighting equipment for fire districts to serve larger federal land mass such as at the Tewaukon National Wildlife Refuge	Wildland Fire	Fire Districts	$$$	Long-Term

29	Develop methods to recruit more volunteer fire fighters	Wildland, Urban Fire	All Jurisdictions	$$	On-Going
30	Encourage fringe properties to annex to allow for extension of hydrants	Urban Fire	Incorporated Communities	$	Long-Term
31	Modernize zoning codes	Urban Fire, Windstorm	All Jurisdictions	$$	Medium-Term
32	Adopt ND Building Codes County-Wide and develop a strategy to enforce	Urban Fire, Windstorm	All Jurisdictions	$	Medium-Term
33	Forman- Improve hydrant coverage	Urban Fire	City of Forman	$$$	Long-Term
34	Put sprinklers in public facilities	Urban Fire	All Jurisdictions	$$$	Long-Term
35	Increase business planning to mitigate impacts of a pandemic on local employers	Communicable Disease	All Jurisdictions	$-$$	Medium-Term
36	Upgrade virtual technology to ensure government remains accessible and transparent during pandemics	Communicable Disease	All Jurisdictions	$-$$	Medium-Term
37	Support the development of NextGeneration 911 System	Many	Sargent County	$$	Long-Term
38	Increase HAZMAT Trainings	Hazmat	Fire Departments	$-$$	On-Going

39	Advertise state hazard materials disposal locations	Hazmat	All Jurisdictions	$	Short-Term
40	Work with stakeholder agencies to help increase security of the electric grid to ensure power, telephone, and internet continuity during a critical shortage event, such as space weather.	Shortage of Critical Materials	Sargent County-Led	$$-$$$	Medium-Term

Action Items Prioritization

There are many ways to prioritize the items in this plan. The Planning Team felt that while they understood their respective communities well, the consensus was that collectively they did not have the expertise in project implementation to utilize common prioritization criteria- such as the STAPLEE process used in the previous update of this plan. Instead, looking at the relationship between cost and timeline to implement, the following prioritization schedule was developed:

Priority Class 1: Low Cost, Short/On-Going

Priority Class 2: Point-in-time project/expenditure, funding dependent

Priority Class 3: Multi-Jurisdictional, often requiring partnerships and/or ordinance updates

Priority Class 1:

This items in this list outline items in which the County and stakeholders can begin immediately and implement as staff time allows. These are all low cost and short-term or on-going action items:

Item #	
1	Host an NFIP Workshop.
3	Monitor/maintain/update culverts and storm drains.
8	Expand education on water conservation efforts.
11	Create an official inventory of storm shelters.
12	Create an outreach program to inform the public on storm shelter locations.
18	Maintain a county-wide inventory of emergency generators to share capabilities and plan for replacement costs.
20	Increase tree planting and creation of natural shelter belts.
24	Encourage residents, specifically farmers and public works staff who maintain roads, to conduct best management practices for dust control.
25	Identify high risk intersections and road sections and develop a process to procure funding for projects that reduce the risk.
26	Expand existing education efforts on the dangers of driving intoxicated.
27	Plan and monitor for opportunities to enhance facilities for bicycles, pedestrian, and off-highway vehicles.
39	Advertise state hazard materials disposal locations.

Priority Class 2:

The items of Priority Class 2 are point-in-time projects that can be completed as funding becomes available

Item #	
4	New Lift Station Generator in Cogswell.
5	Improve Diking and Drainage Along Drain 16.
6	Flood Control study and completion of viable projects at the Coteau de Prairie hills
7	Milnor community flood projection: Diking and Drainage along Legal Drain 1.
10	Milnor- Loop/Redundancy in Water System.
13	Storm Shelter at County Park located at Silver Lake.
14	County Park at Silver Lake outdoor warning siren.
15	Implement a reverse weather alert system.
16	Cayuga- Outdoor Warning Siren.
17	Havana- Outdoor Warning Siren.
19	Milnor- New Generator, transfer switches to accept generators.
22	Milnor- Install a Third Siren.
28	Update fire-fighting equipment for fire districts to serve larger federal land mass such as at the Tewaukon National Wildlife Refuge.
37	Support the development of a Next Generation 911 System.

Priority Class 3:

The items of Priority Class 3 are long range projects that either require changes in ordinances or the maturation of partnerships to implement. On-going multi-jurisdictional projects are also part of priority class 3. These are some of the longest range, socially or politically difficult projects to implement.

Item #	
2	Gwinner to enroll in the NFIP and develop flood plain ordinances.
9	Upgrade water storage capacities.
21	Explore ways to assist townships with the cost of plowing and winter road maintenance.
23	Develop programs to encourage the demolition and repurpose of dilapidated properties.
29	Develop methods to recruit more volunteer fire fighters and EMS personnel.
30	Encourage fringe properties to annex to allow for extension of hydrants.
31	Modernize zoning codes.
32	Adopt ND Building Codes County-Wide and develop a strategy to enforce.
33	Forman- Improve hydrant coverage.
34	Put sprinklers in public facilities.
35	Increase business planning to mitigate impacts of a pandemic on local employers
36	Upgrade virtual technology to ensure government remains accessible and transparent during pandemics
38	Increase HAZMAT Trainings.
40	Work with stakeholder agencies to help increase security of the electric grid to ensure power, telephone, and internet continuity during a critical shortage event, such as space weather.

Chapter 5: Plan Monitoring and Maintenance

Keeping the Plan Current

The 2021 Hazard Mitigation Plan will also be reviewed annually, or as deemed necessary by knowledge of new hazards, vulnerabilities, or other pertinent reasons. This is necessary to ensure that plan is addressing current and expected conditions. The review will determine whether a plan update is needed prior to the required five-year update.

The plan review will identify new mitigation projects and evaluate the effectiveness of mitigation priorities and existing programs. The Emergency Manager, in conjunction with the LEPC, will review the plan in a scheduled meeting and generate recommendations for the County Board of Commissioners to consider.

The emergency manager will then be responsible for meeting with the Sargent County Board of Commissioners to review the recommendations. The meeting will be open to the public and advertised in the local newspaper to solicit public input. The board will review recommendations from the Emergency Manager and the LEPC to determine if and when the County should amend the plan for changing situations and new developments, as well as changes in state or federal policy.

Implementation through Existing Programs

Communities across Sargent County, including the County itself, are engaged in community development activities to improve the quality-of-life, safety, and economic opportunities across the region. The County Emergency Manager has begun working with the LEPC on identifying accident prone intersections and roadways. The City of Milnor received funding for a downtown street reconstruction project and a Comprehensive plan, both of which are scheduled to occur within the lifespan of this plan. The City of Forman has a Strategic Plan to guide community growth.

This document will serve as an enabling tool for community initiatives as the County and the Municipalities continue to develop into the future. It is next step towards a more coordinated, global approach in regional planning. The adoption of the plan by each jurisdiction provides

the framework to work with Emergency Manager and County Commissioners when pursuing development initiatives. This is important because the rural nature of the County, augmented by the small population, means that there are limited resources beyond normal course of business. Continued collaboration of communities will ensure existing and new planning programs incorporate and build upon the shared vision of mitigating hazards.

Continued Public Involvement

Sargent County is dedicated to involving the public directly in review and updates of the multi-hazard mitigation plan. The plan has been updated as to be more direct and accessible to members of the public. The plan will be made available online at the County website, and copies of the plan will be made available at each jurisdiction. The existence and location of these copies will be publicized in the county newspaper.

The public will also be notified and invited to participate in the annual update recommendations of the plan given by the Emergency Manager to the County Commissioners. In conjunction, the County intents to roll out a new online survey to reengage the public leading up to the annual recommended changes.

Appendix A: Severe Weather Data (Summer/Weather/Windstorm)

BEGIN_DATE	EVENT_TYPE	SOURCE	EPISODE_NARRATIVE
11/18/2016	Blizzard	Mesonet	A Colorado Low moved into the Central Plains during the evening of November 17th, eventually tracking through central Iowa and into western Wisconsin on the 18th. This set up a strong southwest to northeast temperature gradient and even resulted in a few strong thunderstorms over southern Minnesota. Three to five inches of snow fell across the southern Red River Valley in combination with very gusty north winds, which resulted in whiteout conditions. A 48 mph wind gust was reported at the Wahpeton airport. Several vehicles slid into ditches and a few schools closed for the day. As the snow ended, visibilities quickly improved.
12/6/2016	Blizzard	Mesonet	As northwest winds increased from west to east on the Tuesday the 6th, whiteout conditions quickly developed. Wind gusts as high as 55 mph were recorded. The worst conditions occurred over the Devils Lake region and northeast North Dakota, which had just picked up heavy amounts of snow. However, as the wind surge spread southward, even the southern Red River Valley, which had not picked up much snow, saw ground blizzard conditions. Many schools, which had closed on Tuesday the 6th, also closed on Wednesday the 7th. Interstate 29 was closed from Fargo to the Canadian border, Interstate 94 was closed west of Fargo, and United States Highway 2 was closed from Grand Forks to Devils Lake.
12/26/2016	Blizzard	Mesonet	Blizzard conditions eventually spread a little further south into areas that had picked up more ice than snow, as the strong northwest winds and colder temperatures pushed south and east.
12/27/2018	Blizzard	Mesonet	North to northwest winds quickly increased on the morning of the 27th, resulting in blizzard or ground blizzard conditions over eastern North Dakota by afternoon. Since snow continued to fall south of a Valley City to Hillsboro to Fosston to Waskish line, conditions were the worst there, especially after dark. North of that line, ground blizzard conditions were reported in open country. Conditions were better in sheltered areas and within cities and towns. As wind

			speeds decreased in the Devils Lake region late in the evening of the 27th, the blizzard conditions ended. Winds held up over the rest of eastern North Dakota until the early morning hours of the 28th. Peak wind speeds ranged from 40 to 60 mph, with the Grand Forks airport reporting the 60 mph gust.
12/31/2018	Blizzard	Mesonet	A cold front moved through the area on the 30th, bringing 1 to 5 inches of snow and a strong push of cold air behind it. This resulted in north winds of 30 to 50 mph and ground blizzard conditions by the early morning hours of the 31st, lasting through noon in the northern Red River Valley and through the late afternoon in the southern Red River Valley. With the strong wind and below zero temperatures on the 31st, wind chill readings also dipped to 30 below to 50 below zero.
1/23/2019	Blizzard	Mesonet	From January 21st to 22nd, one to eight inches of fluffy snow fell across the area. On January 23rd, a strong cold front swept southeast out of Canada, bringing a period of gusty north-northwest winds to most of eastern North Dakota into the Red River Valley, that continued into the 24th. At 3 P. M. CST on the 23rd, temperatures were generally in the teens. By the morning of the 24th, temperatures had fallen to the single digits below zero. Wind speeds gusted up to 56 mph in the immediate Red River Valley, but were slightly lower to the east and west. Very little snow fell during this time, so the blizzard was called a ground blizzard. The worst visibilities occurred in open country, with conditions being better in sheltered areas and cities. Towner County in North Dakota had received no snowfall from the January 21st and 22nd event, so there was no snow to blow during this blizzard event.
1/27/2019	Blizzard	Mesonet	Falling snow combined with strong winds to cause areas of near zero visibility in open country. Winds gusted from 40 to 55 mph, with the Grand Forks airport the highest at 56 mph.
2/7/2019	Blizzard	Mesonet	As the area of surface low pressure tracked into the Great Lakes on Thursday, February 7th, wind speeds increased even more. In the Red River Valley, wind speeds gusted up to 45 mph. Combined with the light, fluffy fresh snow, visibilities dropped to near zero in open country, and even near zero at times in the sheltered cities. The North Dakota DOT closed Interstate 29 from Grand Forks to the South Dakota border and Interstate 94 from Jamestown to Fargo. The Minnesota DOT closed Interstate 94 from Fergus

			Falls to Moorhead and portions of state highways near the Red River Valley. Schools were closed, flights were cancelled, and other activities were shut down.
2/24/2019	Blizzard	Mesonet	A strong Colorado Low lifted into the Great Lakes on Sunday, February 24th. Not much snow fell over eastern North Dakota or the northwest quarter of Minnesota, but strong northwest winds lasted for much of the day, which produced ground blizzard conditions in open country. Winds gusted up to 50 mph for many locations. Interstate 29 was closed from Grand Forks to the Canadian border.
3/13/2019	Blizzard	Mesonet	A Colorado Low tracked into the Central Plains during the evening of Wednesday, March 13th, with an inverted trough extending northward along the Red River of the North. To the east of the trough, temperatures ranged in the middle 30s. Along the trough in the Red River Valley, temperatures ranged either side of 32 degrees. To the west of the Red River Valley, temperatures held in the mid to upper 20s. North winds became quite gusty during the early morning hours of Thursday, March 14th, and remained that way through the day, as the low pushed into the Great Lakes. Gusts up to 60 mph were recorded. Snowfall totals of 6 to 9 inches were reported over most of eastern North Dakota into far northwest Minnesota, with the exception of the Fargo-Moorhead to Wahpeton-Breckenridge corridor, which received more rain than snow. The combination of snow and wind resulted in whiteout conditions in open country and huge drifts of snow. This blizzard produced the greatest impacts of any of the numerous 2018-19 blizzards. Flights were cancelled at the Fargo and Grand Forks airports and many schools were closed on the 14th, and even the 15th. Interstate 29 was closed from Fargo to the Canadian border and Interstate 94 was closed from Bismarck to Fargo. Many other roads across the eastern half of North Dakota were closed and remained that way into the 15th before they could be cleared. Some motorists who tried to travel on these roads got stuck and had to be rescued. Ice accumulated on some power lines, and when the winds hit, they galloped, causing sporadic power outages.
4/11/2019	Blizzard	Mesonet	From Thursday night into Friday, April 12th, the low finally turned northeast and tracked toward Duluth. Wind speeds were not intensely strong during this

			blizzard event, as most sites only gusted into the 40 to 45 mph range. This event did occur during the spring snowmelt flood, when many rivers and ditches were filled with water. This brought an additional threat of vehicles sliding off slippery roads into water filled ditches. Interstate 29 was closed in eastern North Dakota and Interstate 94 was closed from Jamestown, North Dakota, to Osakis, Minnesota. Many other roads were either closed or had travel not recommended.
10/11/2019	Blizzard	Mesonet	Wind speeds cranked up on the morning of the 11th and continued through the morning of the 12th. Winds gusted up to 60 mph just west of the Red River Valley, from the Devils Lake region down to Valley City. In the immediate Red River Valley, the wind gusts were a little lower, but they were still around the 50 mph range. On top of the heavy snow that just fell, these winds produced whiteout conditions and huge impacts. Interstate 29 was closed from the Canadian border to Fargo, Interstate 94 was closed from Fargo to Bismarck, and U. S. Highway 2 was closed west of Grand Forks. Across the Devils Lake region, some snow drifts were as tall as one story roof tops. Some motorists became stranded, and had to be rescued. The agricultural impacts were also devastating. Combined with the recent wet conditions (including the 1 to 2 inches of rain from this winter storm), the snow and cold temperatures made it difficult to impossible for farmers to finish their sugar beet and potato harvest.
7/20/2016	Excessive Heat	Mesonet	Afternoon temperatures in the low 90s combined with dew points in the mid 70s to produce heat indices just above 105.
1/16/2016	Extreme Cold/Wind Chill	Mesonet	Clouds moved out of the Devils Lake region during the morning hours of the 16th, which allowed temperatures to drop into the 20 below to 25 below zero range. With steady winds around 10 mph, wind chill readings dipped to 40 below to 50 below zero. Later that night into the morning of the 17th, temperatures dropped to the 20 below to 35 below zero range across the entire area. Combined with steady winds of 5 to 10 mph, wind chill readings dipped into the 40 below to 50 below zero range again.
12/17/2016	Extreme Cold/Wind Chill	Mesonet	The coldest temperatures were recorded on Sunday morning (the 18th), when most sites reported 20 below to 30 below zero minimum temperatures. When combined with steady winds of 5 to 15 mph, wind chill readings ranged from 40 below to 50 below zero.

12/25/2017	Extreme Cold/Wind Chill	Mesonet	A frigid air mass settled over the Northern Plains, with morning lows on the 25th ranging from 10 below to 25 below zero. On the morning of the 26th, temperatures ranged from 15 below to 30 below zero. Winds throughout the period ranged from 5 to 15 mph, which resulted in wind chill values from 40 below to 45 below zero at times.
12/29/2017	Extreme Cold/Wind Chill	Mesonet	A frigid air mass dropped southward out of Canada, bringing some of the coldest air of the year. The morning of the 31st was the coldest, with many stations getting down to 25 below to 35 below zero. The coldest wind chill readings dipped to around 55 below zero.
1/1/2018	Extreme Cold/Wind Chill	Mesonet	This event began on Friday, December 29, 2017. A frigid air mass dropped southward out of Canada, bringing some of the coldest air of the year. The morning of December 31, 2017 was the coldest, with many stations getting down to 25 below to 35 below zero. The coldest wind chill readings dipped to around 55 below zero.
1/15/2018	Extreme Cold/Wind Chill	Mesonet	Surface high pressure moved over eastern North Dakota and the northwest quarter of Minnesota, resulting in mainly clear skies and low wind speeds. Low temperatures both mornings very highly variable, but many stations dipped to 15 below to 25 below zero.
12/31/2018	Extreme Cold/Wind Chill	Mesonet	Surface high pressure built into the region the night of December 31st. Wind speeds of 5 to 15 mph, combined with temperatures of 10 below to 20 below zero, produced wind chills of 40 below to 50 below zero.
1/1/2019	Extreme Cold/Wind Chill	Mesonet	Frigid surface high pressure built into the area during the early morning hours of January first. Combined with winds of 5 to 15 mph, wind chills dipped to 40 below to 50 below zero.
1/28/2019	Extreme Cold/Wind Chill	Mesonet	A fairly rare multi-day wind chill warning was issued for eastern North Dakota and the northwest quarter of Minnesota. Morning temperatures on the 29th ranged from 15 below to 25 below zero, while afternoon temperatures ranged in the 20s below zero. On the 30th, morning temperatures ranged in the 30s below zero, while afternoon temperatures ranged from the teens below to 20s below zero. Finally, on the morning of the 31st, temperatures ranged in the 20s below to low 40s below zero. Combined with wind speeds of 5 to 15 mph, wind chill values ranged from 40 below to 65 below zero.

2/7/2019	Extreme Cold/Wind Chill	Mesonet	Surface high pressure built into western North Dakota during the early morning hours of February 8th. Steady northwest winds of 15 to 25 mph combined with temperatures mainly in the 20s below zero to produce wind chills of 40 below to 60 below zero.
3/2/2019	Extreme Cold/Wind Chill	Mesonet	Surface high pressure built into eastern Montana and western South Dakota on the morning of Sunday, March 3rd. This kept a decent pressure gradient over eastern North Dakota and the northwest quarter of Minnesota, which led to steady west-northwest winds of 10 to 20 mph, from the 2nd into the 3rd. A frigid air mass had settled over the area as well, with morning lows on the 3rd generally from 15 below to 25 below zero. Combined with the steady winds, wind chills dipped to the 40s below zero. The coldest wind chill was Wahpeton, at 49 below zero.
4/8/2019	Flood	Emergency Manager	The winter snow melted first on the Minnesota side of the southern Red River Valley. Visible satellite imagery confirmed this fact, showing a distinct snow free north to south band that extended roughly 20 or so miles east of the Red River from Grant to Wilkin to Clay counties. In Fargo, the snow depth fell to zero on April 6th. However, a blizzard from April 10th to 12th brought more snow to the area. This snow finally melted by April 16th. As the snow melted, it flooded low lying areas and roads. Numerous sections of land pooled with water from the snow melt. Conditions were particularly bad from Mapleton to Harwood, where drone footage showed many sections of land under water. In Fargo, the 12th avenue north and north Broadway bridges were closed due to high water in the Red River. The typical low lying areas in city parks and green areas along the Red River were also flooded.
5/18/2015	Frost/Freeze	Mesonet	High pressure built into North Dakota on the morning of May 19th, with very dry and cold air for mid May. Temperatures dipped into the upper 20s at many locations outside of the immediate Red River Valley. Inside the valley, temperatures fell to 30 to 32 degrees.
5/17/2015	Funnel Cloud	Broadcast Media	During the late morning and early afternoon of May 17th, the Red River Valley region was ahead of a vertically stacked low pressure system, which was located over northeast South Dakota. Winds above the surface layer were fairly strong. A few showers formed, which helped to mix these stronger winds down to the surface in a few locations. Due to the proximity of the low, the atmosphere was favorable for rotation.

6/13/2017	Funnel Cloud	Trained Spotter	During the late afternoon and evening of the 13th, another round of severe thunderstorms fired up, mainly affecting southeast North Dakota into west central Minnesota. These storms started out producing large hail and a few funnel clouds, then transitioned to bow echoes and 60 to 70 mph winds. These strong winds hit the Fargo-Moorhead area as well as the Fergus Falls, Minnesota area.
7/8/2018	Funnel Cloud	Public	By the early evening of July 8th, a frontal boundary was draped from International Falls to southwest of Jamestown. South of this boundary, temperatures were in the mid to upper 80s with dew points in the middle 70s. Thunderstorms initially fired over Becker County, Minnesota, but other storms soon moved into southeast North Dakota as well. The storms over southeast North Dakota tracked into west central Minnesota by mid evening. These storms produced both damaging winds and hail.
8/17/2019	Funnel Cloud	Public	Late in the afternoon of August 17th, a cold front extended from the Lake of the Woods region back into central South Dakota. Thunderstorms broke out along the front and continued into the early evening, producing numerous funnel clouds, as well as large hail and damaging winds.
8/17/2019	Funnel Cloud	Social Media	Late in the afternoon of August 17th, a cold front extended from the Lake of the Woods region back into central South Dakota. Thunderstorms broke out along the front and continued into the early evening, producing numerous funnel clouds, as well as large hail and damaging winds.
6/2/2015	Hail	Public	Several boundaries set up across the Northern Plains during the evening of June 2nd. A cold front was located from Hallock, Minnesota, to just south of Devils Lake, North Dakota. A little further south, a weak area of surface low pressure was located west of Aberdeen, South Dakota, with a trough extending northward toward Jamestown, North Dakota, then east-northeast toward Waskish, Minnesota. These boundaries provided the focus for thunderstorm development.
5/25/2016	Hail	Public	During the afternoon of May 25th, a line of thunderstorms formed over western North Dakota. This line continued to move east through the early evening, resulting in a few severe weather reports across south central ND. By mid to late evening, the storms still kept an eastward track, and affected the Cogswell to Mooreton (ND) area.

8/10/2016	Hail	Public	Late in the morning of August 10th, an east to west oriented warm front was located across central South Dakota into the southern half of Minnesota. Thunderstorms formed quickly north of the warm front, mainly along the North and South Dakota border. These storms initially produced large hail. However, as the storms pushed east of the North and South Dakota border region and into portions of west central Minnesota, they began to display more a bowing shape. At that point, the storms produced more damaging winds.
8/10/2016	Hail	Public	Late in the morning of August 10th, an east to west oriented warm front was located across central South Dakota into the southern half of Minnesota. Thunderstorms formed quickly north of the warm front, mainly along the North and South Dakota border. These storms initially produced large hail. However, as the storms pushed east of the North and South Dakota border region and into portions of west central Minnesota, they began to display more a bowing shape. At that point, the storms produced more damaging winds.
8/10/2016	Hail	Social Media	Late in the morning of August 10th, an east to west oriented warm front was located across central South Dakota into the southern half of Minnesota. Thunderstorms formed quickly north of the warm front, mainly along the North and South Dakota border. These storms initially produced large hail. However, as the storms pushed east of the North and South Dakota border region and into portions of west central Minnesota, they began to display more a bowing shape. At that point, the storms produced more damaging winds.
9/7/2016	Hail	Public	Cloud cover helped to hold down afternoon temperatures on August 7th, so highs stayed mainly in the low to mid 70s with dew points around 60. However, there was a decent upper level disturbance that worked into the area as well. Thunderstorms across western and central North Dakota spread east through the late morning and early afternoon, and formed several bowing segments as they did so. One bowing segment started in northwest Sargent County, ND, then tracked northeast into southern Cass County, ND, and northern Wilkin County, MN. This storm produced very strong winds, large hail, and brief heavy rain.

9/7/2016	Hail	Public	Cloud cover helped to hold down afternoon temperatures on August 7th, so highs stayed mainly in the low to mid 70s with dew points around 60. However, there was a decent upper level disturbance that worked into the area as well. Thunderstorms across western and central North Dakota spread east through the late morning and early afternoon, and formed several bowing segments as they did so. One bowing segment started in northwest Sargent County, ND, then tracked northeast into southern Cass County, ND, and northern Wilkin County, MN. This storm produced very strong winds, large hail, and brief heavy rain.
6/13/2017	Hail	Public	Severe thunderstorms moved along the North Dakota/South Dakota border before sunrise, affecting portions of southeast North Dakota.
6/13/2017	Hail	Trained Spotter	During the late afternoon and evening of the 13th, another round of severe thunderstorms fired up, mainly affecting southeast North Dakota into west central Minnesota. These storms started out producing large hail and a few funnel clouds, then transitioned to bow echoes and 60 to 70 mph winds. These strong winds hit the Fargo-Moorhead area as well as the Fergus Falls, Minnesota area.
9/19/2017	Hail	Public	Late in the afternoon of September 19th, a frontal boundary pushed into the Devils Lake to Jamestown (ND) corridor. Due to fairly extensive cloud cover throughout the day, late afternoon temperatures only ranged in the low 60s over the Devils Lake region, to the lower 70s over southeast North Dakota into west central Minnesota. Even though temperatures remained on the cool side, a strong moisture surge occurred. Cloud cover decreased somewhat over southeast North Dakota during the late afternoon, where thunderstorms flared up south of Jamestown. As this large thunderstorm cell moved into southwest Barnes County (ND), it produced a tornado near Litchville. This cell evolved into a larger storm complex, which moved east-northeast through the evening. This storm complex produced large hail, strong winds, and a second tornado along the Norman/Polk (MN) county border in Minnesota.
7/2/2018	Hail	Broadcast Media	By the early evening of July 2nd, a stationary frontal boundary had set up in an east-west fashion along the North Dakota and South Dakota border. A weak low level jet helped ignite storms after 7 pm CDT, which lasted until the late evening. These storms produced quite a few reports of hail.

7/2/2018	Hail	Public	By the early evening of July 2nd, a stationary frontal boundary had set up in an east-west fashion along the North Dakota and South Dakota border. A weak low level jet helped ignite storms after 7 pm CDT, which lasted until the late evening. These storms produced quite a few reports of hail.
7/8/2018	Hail	Public	By the early evening of July 8th, a frontal boundary was draped from International Falls to southwest of Jamestown. South of this boundary, temperatures were in the mid to upper 80s with dew points in the middle 70s. Thunderstorms initially fired over Becker County, Minnesota, but other storms soon moved into southeast North Dakota as well. The storms over southeast North Dakota tracked into west central Minnesota by mid evening. These storms produced both damaging winds and hail.
9/20/2019	Hail	Public	During the pre-dawn hours of the 20th, a stationary boundary extended from Devils Lake to Fergus Falls. Temperature and dew point temperatures were generally in the 60s along and south of the boundary, quite mild for late September. As the low level jet strengthened, thunderstorms broke out across northeast South Dakota and southeast North Dakota. One particularly strong cluster of storms from northeast South Dakota tracked up through Havana, Forman, and Lisbon, before weakening over western Cass County. These storms produced large hail.
12/26/2018	Heavy Snow	COOP Observer	A Colorado Low moved out into the Central Plains in several pieces. As the event began on the afternoon of the 26th, temperatures ranged from 10 to 20 degrees, with east winds of 5 to 15 mph. The first wave of snow spread over the area that afternoon and night, dropping 2 to 6 inches of snow. By the morning of the 27th, a strong thermal gradient set up from northwest to southeast, with Langdon around 10 degrees and Fergus Falls around 30 degrees. Winds had switched to the north, and quickly increased. Snow continued to fall, but mainly south of a line from Valley City to Hillsboro to Fosston to Waskish. The most snow fell across southeast North Dakota, where Fargo had 8.5 inches and Forman had 13.5 inches.
1/27/2019	Heavy Snow	COOP Observer	An Alberta Clipper tracked from northern Alberta during the very early morning hours of January 27th to near Bismarck by the late afternoon. By the late evening of the 27th, it had shifted down into east central South Dakota. Typically, Alberta Clippers track toward the Great Lakes, so this further south track was a bit of an anomaly. The other odd thing with this

			Clipper track is that winds during the event were gusty from the southeast until the early morning hours of the 28th, when they turned northeast. With the typical Clipper track toward the Great Lakes, winds typically turn to the northwest and become gusty. Snowfall amounts ranged from one to nine inches, but there was a smaller area from Cavalier to Crookston to Park Rapids and Wadena where 6 to 9 inches of snow fell.
2/22/2019	Heavy Snow	COOP Observer	Most of eastern North Dakota and the northwest quarter of Minnesota saw 2 to 6 inches of snow from this event. However, there was a stationary surface boundary that set up from near Aberdeen, South Dakota, northeast to just south of the Fargo-Moorhead area. Bands of steady snow kept rotating along this line, resulting in a fairly narrow band of 6 to 8 inches of snow from Oakes to Lisbon, North Dakota, to Sabin, Minnesota.
3/9/2019	Heavy Snow	COOP Observer	A Colorado Low moved into Kansas on Saturday morning, March 9th. An inverted trough extended northward from the low into the Red River Valley. Temperatures were mild for early in the day, generally ranging in the 20s. Dew points were also in the 20s, so decent moisture was in place. By the afternoon of the 9th, a cold front began to push into eastern North Dakota. However, ahead of the front, temperatures had risen into the upper 20s to low 30s. The cold front swept through the rest of the area by the evening into the early morning hours of the 10th, causing temperatures to slowly fall. However, during most of the event, heavy wet snow fell. Snowfall totals generally ranged from 6 to 16 inches. One of the biggest impacts during the event was collapsing roofs. There were multiple reports of roof collapses around the area.
4/10/2019	Heavy Snow	COOP Observer	A strong early April Colorado Low took shape over the Central Plains late Wednesday afternoon, April 10th. The surface low tracked nearly straight northward on Thursday, April 11th, reaching the Sioux Falls, South Dakota, area late in the afternoon. As it lifted northward, bands of heavy snow spread into southeast North Dakota and west central Minnesota. Some of these bands of snow produced snow rates of 1 to 2 inches per hour. Generally most of this area received 6 to 12 inches of snow, but the Havana, North Dakota, and Bemidji, Minnesota, areas received 14 to 18 inches.

10/12/2015	High Wind	Mesonet	For most of eastern North Dakota, Sunday, October 11th, was a hot day with steady south winds. However, a cold front pushed through the Devils Lake region by late afternoon. Just ahead of the front, winds took on a bit of a southwest to west direction, which is a good warming wind. Temperatures along the Red River Valley from Grand Forks southward surged into the 90s. Fargo hit 97 degrees, which was its warmest temperature of the year. Behind the front, temperatures would quickly fall with strong northwest winds. These strong winds caused a wildfire near Dwight, North Dakota, between mile markers 23 and 26 on Interstate 29. Low visibilities and the fire itself caused Interstate 29 to be shut down in this area for about two hours. Elsewhere, freshly plowed fields and the wind resulted in areas of blowing dust and low visibilities. These strong winds dropped off a little overnight, but quickly picked up again Monday morning. Langdon reported a peak wind of 68 mph and Gwinner hit 64 mph.
11/18/2015	High Wind	Mesonet	As an area of surface low pressure moved into southern Ontario, strong northwest winds spread into eastern North Dakota. Many locations saw gusts above 58 mph.
2/7/2016	High Wind	Mesonet	An Alberta Clipper tracked across southern Canada and into western Lake Superior by late in the afternoon of February 7th. Strong northwest winds occurred from Devils Lake down through Lisbon and Forman throughout the day and into the early evening before subsiding.
3/7/2017	High Wind	Mesonet	An area of surface low pressure tracked from near Mobridge, South Dakota, on Monday, morning March 6th, to south of Winnipeg, Manitoba, Canada, by early Monday evening. The low continued to strengthen as it lifted north-northeast into northeast Manitoba by Tuesday morning, March 7th. A low pressure reading of 980.4 millibars was measured by the ASOS at the Fargo airport, which was just shy of the March record low of 979.3 millibars, which occurred on March 15, 1920. This low track resulted in a prolonged period of gusty west to northwest winds, with the highest gust, 66 mph, measured by the AWOS at Gwinner, North Dakota. Devils Lake recorded 64 mph, Fargo and Cooperstown recorded 62 mph, Wahpeton, Grand Forks, and Grafton recorded 61 mph, and McLeod recorded 58 mph. The strong wind blew multiple semi trucks off roads, damaged the roof of a business west

			of Grand Forks, and knocked over a light pole in north Fargo.
10/26/2017	High Wind	Mesonet	During the early evening of Wednesday, October 25, 2017, an area of low pressure was located over northwest North Dakota. Ahead of the low, temperatures ranged in the mid 40s to low 50s with southeast winds. Just after midnight on the 26th, the low had moved right over the Grand Forks area, surrounded by fairly light winds. However, just to the west, around the Devils Lake region, winds had switched around to the north to northwest and quickly increased. These gusty north winds spread into the rest of eastern North Dakota and the Red River Valley in the early morning hours and remained high throughout most of the day. Winds gusted up to 65 mph with high sustained wind speeds as well.
12/25/2016	Ice Storm	Public	Very light freezing drizzle fell across southeast North Dakota and west central Minnesota during the early morning hours of the 25th, producing slick roads in spots. As a strong low pressure system moved out of Colorado and tracked to the north-northeast, temperatures rose from just below freezing to just above freezing across southeast North Dakota and west central and northwest Minnesota. This resulted in periods of rain, freezing rain, and/or sleet for these areas through the afternoon of the 25th into the early morning hours of the 26th. The surface low eventually tracked right over the Fargo-Moorhead area around sunrise on the morning of December 26th. This kept early morning temperatures on the 26th in the lower 30s over southeast North Dakota into west central Minnesota, while northwest of the surface low, the temperature at Devils Lake on the morning of the 26th was about 20 degrees colder. Significant accumulations of ice occurred over southeast North Dakota and west central Minnesota, with tree damage and numerous power outages. Meanwhile, heavy amounts of snow fell across the Devils Lake region into the northern Red River Valley, where there were reports of 12 to 18 inches of snow. Less snow fell across northwest Minnesota, but it combined with freezing rain and sleet. As the surface low tracked into north central Minnesota during the late morning of the 26th, northwest winds strengthened and gusted up to 50

			mph. This resulted in blizzard conditions across the Devils Lake and Red River Valley regions. Interstate 94 was closed in North Dakota, Interstate 29 was closed from Grand Forks to the Canadian border, and U. S. Highway 2 was closed from Grand Forks to Minot. Many schools and airports closed during the storm.
7/10/2016	Thunderstorm Wind	Mesonet	Thunderstorms fired up by the afternoon of the 9th, over western Benson County, North Dakota. This area had managed to get slightly better afternoon heating and humidity, although just a little further to the east, the Devils Lake airport only topped out at 74F at 3 pm CST. It did not take long for these storms to become severe, and they initially tracked to the east-northeast. As the evening wore on, additional storms developed between Devils Lake and Grand Forks, and these storms began showing more of a southward track. Therefore with time, they shifted into east central and southeast North Dakota, then eventually through the lakes country of west central Minnesota. There were a lot of large hail reports, but as the event wound on there were more strong wind reports.
8/3/2016	Thunderstorm Wind	Trained Spotter	By mid to late afternoon of August 3rd, a cold front had moved into central North Dakota. Ahead of the cold front, a warm front extended out to the east, or along the Canadian border. This put all of eastern North Dakota and the northwest quarter of Minnesota in the warm sector, where afternoon highs reached into the 80s to around 90, with dew point readings well into the 60s. A ribbon of extreme instability pooled from north to south just ahead of the cold front, with a lot of low level twisting evident in the wind field. Thunderstorms flared up in a northeast to southwest line around Rugby, North Dakota, then slowly tracked eastward during the evening. Some of the initial thunderstorms resulted in tornadoes in the Bisbee, North Dakota, area, as well as very large hail. In addition, these storms dropped large amounts of rain in the Bisbee area. As these initial storms moved east, they gradually weakened and became more disorganized. Meanwhile, storms along the southern edge of the line strengthened, gradually affecting the Devils Lake, North Dakota, area. Once again, several tornadoes were reported, with large hail as well. By late evening into the early morning hours of August

			4th, the line over Devils Lake joined a line that blew up southwest of Jamestown, North Dakota, to form a continuous line of storms. This line of storms continued to move east, pushing through the central and southern Red River Valley, and into portions of west central Minnesota. By the time it reached west central Minnesota, the storms mainly produced damaging wind gusts.
8/10/2016	Thunderstorm Wind	Mesonet	A line of thunderstorms tracked along the North and South Dakota border during the early morning hours of August 10th. These storms produced very strong winds, which resulted in quite a bit of tree damage.
8/10/2016	Thunderstorm Wind	COOP Observer	A line of thunderstorms tracked along the North and South Dakota border during the early morning hours of August 10th. These storms produced very strong winds, which resulted in quite a bit of tree damage.
8/10/2016	Thunderstorm Wind	AWOS	A line of thunderstorms tracked along the North and South Dakota border during the early morning hours of August 10th. These storms produced very strong winds, which resulted in quite a bit of tree damage.
8/18/2016	Thunderstorm Wind	Mesonet	Just after sunrise, a line of thunderstorms was located around the Jamestown, North Dakota, area. This line quickly took on a bowing structure and tracked from Jamestown down into far southeast North Dakota. These storms produced some large hail, but mainly strong wind gusts.
8/18/2016	Thunderstorm Wind	Public	Just after sunrise, a line of thunderstorms was located around the Jamestown, North Dakota, area. This line quickly took on a bowing structure and tracked from Jamestown down into far southeast North Dakota. These storms produced some large hail, but mainly strong wind gusts.
9/7/2016	Thunderstorm Wind	NWS Storm Survey	Cloud cover helped to hold down afternoon temperatures on August 7th, so highs stayed mainly in the low to mid 70s with dew points around 60. However, there was a decent upper level disturbance that worked into the area as well. Thunderstorms across western and central North Dakota spread east through the late morning and early afternoon, and formed several bowing segments as they did so. One bowing segment started in northwest Sargent County, ND, then tracked northeast into southern Cass County, ND, and northern Wilkin County, MN. This storm produced very strong winds, large hail, and brief heavy rain.

6/16/2018	Thunderstorm Wind	Public	A bow shaped complex of thunderstorms lifted north-northeast out of northeast South Dakota and produced several reports of strong winds over southeast North Dakota and west central Minnesota.
6/29/2018	Thunderstorm Wind	Social Media	The early morning hours of Friday, June 29th, remained warm and muggy. Just after midnight, temperatures were still in the 70s with dew points around 70. A line of thunderstorms moved into the Devils Lake area around 2 am CDT. This line of storms had several bowing segments, which are indicative of strong winds. The most obvious bowing segment between highway 2 and Interstate 94, where the most amount of damage occurred. The main bowing segment exited into north central Minnesota around 6 am CDT. Well behind the bowing thunderstorm complex, a mesoscale convective vortex (MCV) formed, and produced another round of widespread damaging winds.
7/4/2018	Thunderstorm Wind	Trained Spotter	During the early morning hours of July 4th, surface low pressure had set up over north central South Dakota, with an east-to-west warm front extending eastward from the low along the North Dakota/South Dakota border into west central Minnesota. Temperatures across eastern North Dakota and the northwest quarter of Minnesota ranged in the 70s with dew points in the upper 60s to low 70s. The mid level winds (500mb) were from the south-southwest. A bowing line of thunderstorms, stretching from south of Rugby to the North Dakota/South Dakota border moved into portions of the southwest Devils Lake region just after 130 am CDT. Following the mid level wind flow, the storms tracked to the east-northeast, reaching the Red River Valley around 4 am CDT. At this point, the bowing line of storms stretched from southern Manitoba down into northeast South Dakota. This bowing line of storms tracked through the northwest quarter of Minnesota in the 4 to 6 am CDT time frame, so these storms were moving quite quickly. Most of the storms had exited the Baudette to Park Rapids corridor by 7 am CDT. These storms produced widespread damaging winds.
7/4/2018	Thunderstorm Wind	Public	During the early morning hours of July 4th, surface low pressure had set up over north central South Dakota, with an east-to-west warm front extending eastward from the low along the North Dakota/South Dakota border into west central Minnesota. Temperatures across eastern North Dakota and the northwest quarter of Minnesota ranged in the 70s with dew

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7/8/2018	Thunderstorm Wind	NWS Storm Survey	By the early evening of July 8th, a frontal boundary was draped from International Falls to southwest of Jamestown. South of this boundary, temperatures were in the mid to upper 80s with dew points in the middle 70s. Thunderstorms initially fired over Becker County, Minnesota, but other storms soon moved into southeast North Dakota as well. The storms over southeast North Dakota tracked into west central Minnesota by mid evening. These storms produced both damaging winds and hail.
7/8/2018	Thunderstorm Wind	Public	By the early evening of July 8th, a frontal boundary was draped from International Falls to southwest of Jamestown. South of this boundary, temperatures were in the mid to upper 80s with dew points in the middle 70s. Thunderstorms initially fired over Becker County, Minnesota, but other storms soon moved into southeast North Dakota as well. The storms over southeast North Dakota tracked into west central Minnesota by mid evening. These storms produced both damaging winds and hail.
7/3/2019	Thunderstorm Wind	Public	By the early evening of July 3rd, a stationary boundary set up from near Oakes, North Dakota, to near Bemidji, Minnesota. The boundary was mainly a wind shift line, with south winds to the south of the boundary, and north winds to the north of the boundary. Thunderstorms broke out along the boundary, and also to the north of the boundary. The storms were slow movers, tracking slowly to the east-northeast. These storms mainly produced large hail and damaging wind gusts.

7/3/2019	Thunderstorm Wind	Public	By the early evening of July 3rd, a stationary boundary set up from near Oakes, North Dakota, to near Bemidji, Minnesota. The boundary was mainly a wind shift line, with south winds to the south of the boundary, and north winds to the north of the boundary. Thunderstorms broke out along the boundary, and also to the north of the boundary. The storms were slow movers, tracking slowly to the east-northeast. These storms mainly produced large hail and damaging wind gusts.
7/3/2019	Thunderstorm Wind	Trained Spotter	By the early evening of July 3rd, a stationary boundary set up from near Oakes, North Dakota, to near Bemidji, Minnesota. The boundary was mainly a wind shift line, with south winds to the south of the boundary, and north winds to the north of the boundary. Thunderstorms broke out along the boundary, and also to the north of the boundary. The storms were slow movers, tracking slowly to the east-northeast. These storms mainly produced large hail and damaging wind gusts.
8/5/2019	Thunderstorm Wind	Trained Spotter	The afternoon of August 4th was very hot and humid. Most areas topped out in the 80s, but several locations in the northern Red River Valley made it to around 90 degrees. This, along with dew point values around 70 degrees in some areas, made for a very muggy afternoon. By evening, a weak stationary boundary set up from the Lake of the Woods region over into central North Dakota. Thunderstorms finally broke out over northwest and north central North Dakota around midnight. These storms tracked to the east-southeast into the early morning hours of August 5th, mainly affecting the Devils Lake region down into southeast North Dakota.
9/20/2019	Thunderstorm Wind	Public	During the pre-dawn hours of the 20th, a stationary boundary extended from Devils Lake to Fergus Falls. Temperature and dew point temperatures were generally in the 60s along and south of the boundary, quite mild for late September. As the low level jet strengthened, thunderstorms broke out across northeast South Dakota and southeast North Dakota. One particularly strong cluster of storms from northeast South Dakota tracked up through Havana, Forman, and Lisbon, before weakening over western Cass County. These storms produced large hail.
7/8/2018	Tornado	NWS Storm Survey	By the early evening of July 8th, a frontal boundary was draped from International Falls to southwest of Jamestown. South of this boundary, temperatures were in the mid to upper 80s with dew points in the

			middle 70s. Thunderstorms initially fired over Becker County, Minnesota, but other storms soon moved into southeast North Dakota as well. The storms over southeast North Dakota tracked into west central Minnesota by mid evening. These storms produced both damaging winds and hail.
1/2/2017	Winter Storm	Public	Surface low pressure moved from southwest Minnesota on the evening of Monday January 2nd to near Bemidji by the early morning hours of Tuesday January 3rd. This brought a period of steady snowfall to most of eastern North Dakota and portions of the northwest quarter of Minnesota. Many locations in this area saw 8 to 12 inches of snow, however, some spots around the Lake of the Woods region did pick up around 18 inches of snow. As the low pushed off to the east, northwest winds were rather gusty into the day on January 3rd. This resulted in periods of reduced visibility due to blowing and drifting snow. Many schools were closed for both days.
3/5/2018	Winter Storm	COOP Observer	Surface low pressure tracked out of Colorado on Sunday, March 4th, deepened over southwest Minnesota by the evening of Monday, March 5th, before finally sliding off to the east. This brought a prolonged period of easterly winds to eastern North Dakota and the northwest quarter of Minnesota. East winds are generally not high impact winds, and that was the case with this storm too. Temperatures started out quite mild in the late afternoon and evening of March 4th, with most locations in the mid to upper 30s. Rain showers, with isolated thunder, developed over southeast North Dakota by the late afternoon, then spread north-northeast during the evening. As this activity lifted north-northeast, it changed over to freezing rain, sleet, and snow. During the early morning hours of the 5th, intense bands of snow developed over the southern Red River Valley and lifted north-northwest. Snowfall rates within these bands were about one to three inches per hour, from the Fargo-Moorhead area up toward Mayville and Northwood. Areas of freezing rain or mixed precipitation also fell in other areas too. However, for most of the daytime hours of the 5th, the precipitation type remained snow. Within the broad area of snow, intense thin snow bands remained. Therefore, snow totals remained highly variable, even across short distances.

3/30/2018	Winter Storm	COOP Observer	A hybrid surface low pressure system tracked across South Dakota on Friday evening (March 30th), before shifting into southern Minnesota by the early morning hours of Saturday the 31st. This storm produced four to ten inches of snow along with 35 mph wind gusts.
2/6/2019	Winter Storm	COOP Observer	From Wednesday, February 6th to Thursday, February 7th, the main surface low passed from the Southern Plains up to the Great Lakes. However, there was plenty of forcing to create areas of heavy snow over the Northern Plains as well. The snow fell in three distinct periods, but the heaviest snow fell on Wednesday in a narrow band. This band may only have been 10 miles wide, but within this band, from 6 to 10 inches of snow occurred. This narrow band fell from Litchville to just north of West Fargo in North Dakota, then from Georgetown to Ada to Fosston to the Lower Red Lake in Minnesota. Combined with the other two periods of snow, most areas picked up a total of 4 to 12 inches of snow. Generally, wind speeds slowly increased on the Wednesday, with most stations reporting sustained 20 to 25 mph winds by the very early morning hours of Thursday.
10/10/2019	Winter Storm	COOP Observer	By the early afternoon of Thursday, October 10th, surface low pressure was located near Wadena, Minnesota. A stationary boundary extended northward from the low, up toward Baudette, Minnesota. As a result, there were wide temperature differences across the area, with low 50s along the stationary boundary to the lower 30s from Devils Lake to Jamestown. Steady snow fell west of the Red River Valley, while rain or mixed precipitation fell along and east of the Red River Valley. As the low slowly moved toward north central Minnesota by Friday morning, winds turned to the northwest along and west of the Red River Valley, and temperatures dropped to around or below 32 degrees. East of the Red River Valley, winds stayed southwest with temperatures holding in the low to mid 30s. Therefore, snow became the predominant precipitation type for all areas except around the Lake of the Woods region, where it remained rain or mixed precipitation. For the rest of Friday into early Saturday, the low actually spun back westward, or back into northwest Minnesota. This kept steady snow over most of the area, but the least from the Lake of the Woods region to Bemidji to Wadena. As far as storm totals (covering from the 10th to the 12th), areas just west of the Red River Valley into the Devils Lake region had the most snow, up to 30 inches in spots. The

			Forman to Fargo to Grand Forks to Hallock corridor picked up 1 to 2 inches of rainfall before it turned to snow. Because of this initial rain, snow totals were lower, but this corridor still managed to get 4 to 24 inches of snow, with some mixed precipitation as well. This had huge impacts on the area, including tree damage, power outages, river flooding, and basement flooding.

Appendix B: Participation Letters

Sargent County, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

Sargent County Emergency Management would like to inform you of important information regarding the Sargent County Multi Hazard Mitigation Plan (MHMP). FEMA regulations for local and tribal governments require that MHMP's be updated and resubmitted to FEMA for approval every five years.

As you are aware, local governments and tribes acting as sub grantees must have a FEMA approved MHMP in order to apply for and/or receive project grants under the following hazard mitigation assistance programs:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PMD)
- Flood Mitigation Assistance (FMA)

Project grants obligated under any of these programs prior to the expiration of a FEMA approved mitigation plan are not affected by this policy, and will continue to be administered under the terms of the grant award. To maintain eligibility for these grants, regulations require that a local government and tribe acting as sub grantee must have an approved MHMP at the time it receives the grants. Therefore, if any MHMP's lapse (i.e., expires before the new or updated plan is approved by FEMA), those jurisdictions will not be eligible for, and FEMA will not award, grant funds for projects under any of the above programs during the lapse. The fact that the local government or tribe had a FEMA approved MHMP when a declaration occurred, or when a PDM or FMA grant application was submitted, is not sufficient to receive funds after the plan has expired.

Sargent County's Multi Hazard Mitigation Plan expires in April 2020 and we will begin our update process soon. This signed letter serves as your jurisdictions letter of intent to participate in the Hazard Mitigation Plan update by having at least one person be the voice of the city for at least 2 to 3 meetings and collaboration through electronic communication for several other meetings. **Please return no later than October 15th.**

City/County/Tribe: Sargent

Mike Walstead
Name and title of City/County/Tribal Official
Sargent County commission chairman

Wendy Willprecht
[County/Tribe Name} Emergency Manager

Mike Walstead
Signature Date of City/County/Tribal Official
Sargent County commission chairman

Wendy Willprecht 11-19-18
Signature Date of Emergency Manager

Cayuga, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

Mary Saunders, Mayor
Name and title of City/County/Tribal Official

Wendy Willprecht
[County/Tribe Name] Emergency Manager

Mary Saunders 11/13/18
Signature Date of City/County/Tribal Official

Wendy Willprecht 11/13/18
Signature Date of Emergency Manager

Cogswell, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

Jesse Anderson
Name and title of City/County/Tribal Official

Wendy Willprecht
[County/Tribe/Name} Emergency Manager

10/1/18
Signature Date of City/County/Tribal Official

Wendy Willprecht 10/1/19
Signature Date of Emergency Manager

Forman, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

Kevin E. Bopp - Mayor
Name and title of City/County/Tribal Official

Wendy Willprecht - EM
[County/Tribe Name] Emergency Manager

K.E.Bopp 10-9-18
Signature Date of City/County/Tribal Official

Wendy Willprecht 10-10-18
Signature Date of Emergency Manager

Gwinner, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

DAN MCKEEVER - MAYOR
Name and title of City/County/Tribal Official

10-8-18
Signature Date of City/County/Tribal Official

Wendy Willprecht
[County/Tribe Name] Emergency Manager

Wendy Willprecht 10-8-18
Signature Date of Emergency Manager

-+

Havana, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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***City/County/Tribe:* Sargent**

Name and title of City/County/Tribal Official
Travis Bergh, Mayor

10-15-18
Signature Date of City/County/Tribal Official

Wendy Willprecht
[County/Tribe Name] Emergency Manager

Wendy Willprecht 10-15-18
Signature Date of Emergency Manager

Milnor, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

Terry J. Dusek
Name and title of City/County/Tribal Official

Signature Date of City/County/Tribal Official

Sargent County - Wendy Willprecht
[County/Tribe Name] Emergency Manager

Wendy Willprecht
Signature Date of Emergency Manager

Rutland, ND

Sargent County Emergency Management
355 Main St. S.
Forman, ND 58032

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City/County/Tribe: Sargent

Deborah Barnish, City Auditor
Name and title of City/County/Tribal Official

Wendy Willprecht
[County/Tribe Name] Emergency Manager

Deborah J Barnish 10/1/18
Signature Date of City/County/Tribal Official

Wendy Willprecht 10/1/18
Signature Date of Emergency Manager

Appendix C: Memorandums of Understanding

SARGENT COUNTY

Wendy Willprecht, 911
Emergency Management / Homeland Security

355 Main ST S Ste 3
Forman ND 58032-4149
701)724-6241 x113 office 701)678-4212 cell
wendy.willprecht@co.sargent.nd.us
www.sargentnd.com

January 27, 2020

To: Sargent County Citizens

Sargent County is currently in the process of updating/reviewing its Multi-Hazard Mitigation Plan (MHMP) that is on record. As part of the process, a Memorandum of Understanding is being distributed to each of the cities, within Sargent County, for consideration of participation. It is requested that each city designate one or two individuals that can speak on behalf of your city council as well as keep your council updated with the progress of the MHMP over the duration of the plan update.

We will be looking for representation on the main steering committee as well as representation for sub committees to participate in other aspects. It can be the same person, but it does not have to be.

What is the purpose of the Multi-Hazardous Mitigation Plan?

The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Mitigation plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction and repeated damage. The planning process is important as the plan itself. It creates a framework for risk-based decision making to reduce damages to lives, property and protect the economy from future disasters.
State, Local and Tribal governments benefit from mitigation planning by:

- Identifying cost effective actions for risk reduction that are agreed upon by stakeholders and the public
- Focusing resources on the greatest risks and vulnerabilities
- Building partnerships by involving people, organizations and businesses
- Increasing education and awareness of hazards and risks
- Communicating priorities to state and federal officials
- Aligning risk reduction with other community objectives through zoning, building permits, ordinances and economic growth strategies

Hazard Mitigation Assistance

Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards. State, Tribal and Local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance.

If you would like to discuss this or have questions regarding the understanding of this planning process, please contact me at the number listed below. It is requested that the signed Memorandum of Understanding be sent to the address listed above.

Sincerely,

Wendy Willprecht
EM/911 Coordinator

Memorandum of Agreement

2020 Sargent County Multi-Jurisdictional Planning Team

I. Purpose

A Memorandum of Agreement (MOA) is hereby executed between the participating jurisdictions in the 2020 update of the Sargent County Multi-Hazard Mitigation Plan. "Participating jurisdictions" in this MOA are as follows:

- Sargent County
- City of Cayuga
- City of Cogswell
- City of Forman
- City of Gwinner
- City of Havana
- City of Milnor
- City of Rutland

The purpose of this MOA is to establish commitment from and a cooperative working relationship between all Participating Jurisdictions in the development and implementation of the 2020 Sargent County Multi-Hazard Mitigation Plan. In addition, the intent of this MOA is to ensure that the multi-jurisdictional hazard mitigation plan is developed in accordance with Title 44 of the Federal Code of Regulations (CFR) Part 201.6; that the planning process is conducted in an open manner involving community stakeholders; that it is consistent with each participating jurisdiction's policies, programs and authorities; and it is an accurate reflection of the community's values.

This MOA sets out the responsibilities of all parties. The MOA identifies the work to be performed by each participating jurisdiction. Planning tasks, schedules, and finished products are identified in the Work Program and Schedule. The plan created as a result of this MOA will be presented to the governing body of each participating jurisdiction for adoption.

II. Background

Mitigation plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The Participating Jurisdictions in a mitigation planning process would benefit by:

- identifying cost effective actions for risk reduction;
- directing resources on the greatest risks and vulnerabilities;
- building partnerships by involving people, organizations, and businesses;
- increasing education and awareness of hazards and risk;
- aligning risk reduction with other community objectives; and
- providing eligibility to receive federal hazard mitigation grant funding.

Sargent County has received a grant from the Federal Emergency Management Agency to prepare a multi-jurisdictional hazard mitigation plan in accordance with 44 FEMA requirements at 44.C.F.R. 201.6.

III. Purpose

Sargent County will act as the Lead Community, and will assign a Chairperson of the Planning Team for the 2020 Sargent County Multi-Hazard Mitigation Plan. The Participating Jurisdictions authorize the Lead Community to manage and facilitate the planning process in accordance with the Work Program and Schedule.

The Participating Jurisdictions understand that representatives must engage in the following planning process, as more fully described in the Local Mitigation Planning Handbook (FEMA, 2012), including, but not limited to:

- Develop the Work Program and Schedule with the Planning Team
- Organize and attend regular meetings of the Planning Team.
- Assist the Planning Team with developing and conducting an outreach strategy to involve other planning team members, stakeholders, and the public, as appropriate to represent their Jurisdiction.
- Identify community resources available to support the planning effort, including meeting spaces, facilitators, and media outlets.
- Provide data and feedback to develop the risk assessment and mitigation strategy, including a specific mitigation action plan for their Jurisdiction.
- Submit the draft plan to their Jurisdiction for review.
- Work with the Planning Team to incorporate all their Jurisdiction's comments into the draft plan.
- Submit the draft plan to their respective governing body for consideration and adoption.
- After adoption, coordinate a process to monitor, evaluate, and work toward plan implementation.

IV. Planning Team

The following points of contacts and alternatives are authorized on behalf of the governing bodies to participate as members of the Planning Team for the 2020 Sargent County Multi-Hazard Mitigation Plan:

Sargent County:

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

Sargent County (Alternate):

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

City of Havana:

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

City of Havana (Alternate):

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

City of Cayuga:

Name

_____

Title

_____

Address

_____

Phone Number

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Email

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City of Cayuga (Alternate):

Name

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Title

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Address

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Phone Number

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Email

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City of Cogswell:

Name

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Title

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Address

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Phone Number

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Email

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City of Cogswell (Alternate):

Name

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Title

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Phone Number

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City of Forman:

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City of Gwinner (Alternate):

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City of Milnor:

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City of Milnor (Alternate):

Name

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Address

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Phone Number

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Email

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City of Rutland:

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

City of Rutland (Alternate):

Name

_____

Title

_____

Address

_____

Phone Number

_____

Email

_____

V. MOA Implementation

This MOA will be in effect from the date of signature by all parties, will remain in effect through the duration of the planning process, and will terminate after adoption of the final FEMA-approved mitigation plan by all participating jurisdictions, or 5 years after FEMA approval, whichever is earlier. It may be terminated prior to that time for any Participating Jurisdiction by giving 60 days written notice. This MOA is to be implemented through the attached Work Program and Schedule, and any addendums that describe specific activities, programs, and projects, and if necessary, funding by separate instrument.

Signature

_____

Name of Authorized Government Official

_____

Mayor, City of

_____

Date

_____

V. MOA Implementation

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Signature

Name of Authorized Government Official

Jerry Waswick

~~Mayor, City of~~ Chairman, County Commission

Date

2-4-2020

City of Cayuga

V. MOA Implementation

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Signature

Mary Saunders

Name of Authorized Government Official

Mary Saunders Mayor

Mayor, City of

Cayuga

Date

2/25/20

City of Cayuga:

Name

Mary Saunders

Title

Mayor

Address

14395 Hwy 11

Phone Number

(701-724-3945) (701-640-1226)

Email

mayor.saunders3945@gmail.com

City of Cayuga (Alternate):

Name

Title

Address

Phone Number

Email

V. MOA Implementation

This MOA will be in effect from the date of signature by all parties, will remain in effect through the duration of the planning process, and will terminate after adoption of the final FEMA-approved mitigation plan by all participating jurisdictions, or 5 years after FEMA approval, whichever is earlier. It may be terminated prior to that time for any Participating Jurisdiction by giving 60 days written notice. This MOA is to be implemented through the attached Work Program and Schedule, and any addendums that describe specific activities, programs, and projects, and if necessary, funding by separate instrument.

Signature

Name of Authorized Government Official

Mayor, City of CLIFTON A BROWN
COGSWELL N.D.

Date

2/10/20

City of Cogswell:

Name

Clifton L Bhe...

Title

MAYOR

Address PO Box 56,
COGSWELL ND 58017

Phone Number

701 680 2748 701 724 3112

Email

City of Cogswell (Alternate):

Name

Title

Address

Phone Number

Email

City of Forman

-

V. MOA Implementation

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Signature

K E Bopp

Name of Authorized Government Official

Kevin Bopp

Mayor, City of

Forman

Date

2-11-2020

City of Forman:

Name
TRISH PEARSON

Title
CITY AUDITOR

Address
Po BOX 122 Forman

Phone Number
724-3673 680-2377

Email
City@formannd.com

City of Forman (Alternate):

Name
Kevin Bopp

Title
Mayor

Address
Po Box 122 Forman

Phone Number
680-1638

Email
Kevin.Bopp@Doosan.com

City of Gwinner

V. MOA Implementation

This MOA will be in effect from the date of signature by all parties, will remain in effect through the duration of the planning process, and will terminate after adoption of the final FEMA-approved mitigation plan by all participating jurisdictions, or 5 years after FEMA approval, whichever is earlier. It may be terminated prior to that time for any Participating Jurisdiction by giving 60 days written notice. This MOA is to be implemented through the attached Work Program and Schedule, and any addendums that describe specific activities, programs, and projects, and if necessary, funding by separate instrument.

Signature

Name of Authorized Government Official

City of Gwinner

Mayor, City of Gwinner

Dan McKeever

Date

Feb. 10th, 2020

City of Gwinner:

Name Jaimie Gavin

Title City Council

Address PO Box 425 Gwinner ND 58040

Phone Number 612-670-6654 (cell)

Email jaimie.gavin@gmail.com

City of Gwinner (Alternate):

Name Linda Johnson

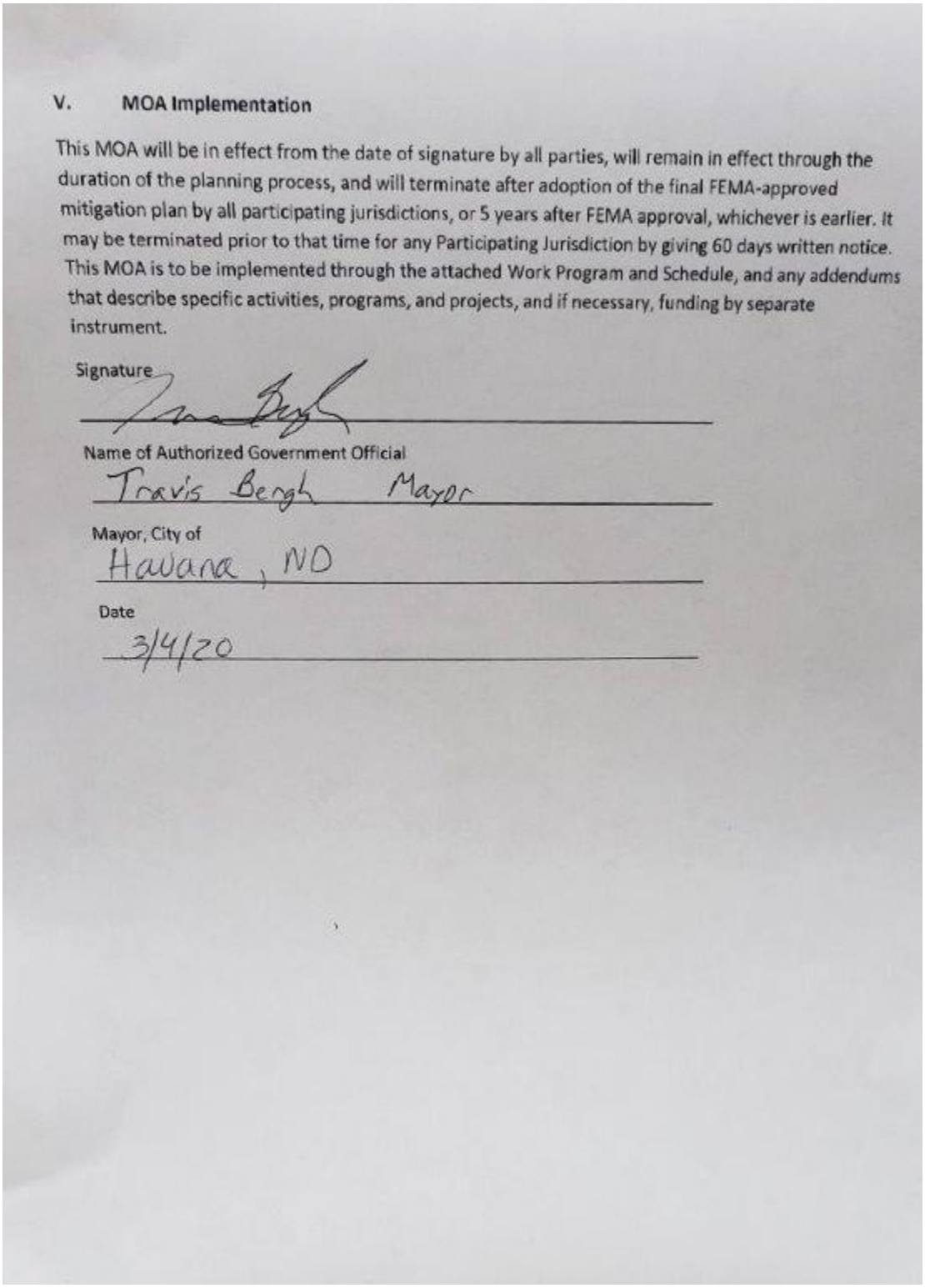
Title City Council

Address PO Box 425 Gwinner ND 58040

Phone Number 701-212-3992 (cell)

Email Lmjohnson1958@gmail.com

City of Havana



V. **MOA Implementation**

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Signature

Name of Authorized Government Official

Travis Bergh Mayor

Mayor, City of

Havana, ND

Date

3/4/20

City of Havana:

Name Dean Nelsen

Title Councilman

Address 67 Weber St S Havana ND 58043

Phone Number 701-308-0593

Email Kean.Nelsen@k12.nd.us.

City of Havana Alternate:

Name Travis Bergh

Title Mayor

Address tlbergh@gmail.com

Phone Number 701-680-9873

Email Havana ND 58043

City of Milnor

V. MOA Implementation

This MOA will be in effect from the date of signature by all parties, will remain in effect through the duration of the planning process, and will terminate after adoption of the final FEMA-approved mitigation plan by all participating jurisdictions, or 5 years after FEMA approval, whichever is earlier. It may be terminated prior to that time for any Participating Jurisdiction by giving 60 days written notice. This MOA is to be implemented through the attached Work Program and Schedule, and any addendums that describe specific activities, programs, and projects, and if necessary, funding by separate instrument.

Signature

Name of Authorized Government Official

Jenny J. Dusek

Mayor, City of

Milnor, ND

Date

3/4/2020

City of Milnor:

Name
Carol Peterson

Title
Economic Development Coordinator

Address
PO Box 70 Milnor, ND (city)

Phone Number
701-678-5415

Email
milnoreconomicdev@hotmail.com

City of Milnor (Alternate):

Name
Monty Haugen

Title
Council person

Address

Phone Number
701-427-5534

Email
bhaugen@dtel.net

V. MOA Implementation

This MOA will be in effect from the date of signature by all parties, will remain in effect through the duration of the planning process, and will terminate after adoption of the final FEMA-approved mitigation plan by all participating jurisdictions, or 5 years after FEMA approval, whichever is earlier. It may be terminated prior to that time for any Participating Jurisdiction by giving 60 days written notice. This MOA is to be implemented through the attached Work Program and Schedule, and any addendums that describe specific activities, programs, and projects, and if necessary, funding by separate instrument.

Signature

Ronald Narum

Name of Authorized Government Official

RONALD NARUM

Mayor, City of

RUTLAND

Date

2-3-2020

City of Rutland:

Name: Ron Narum

Title: Mayor

Address: PO Box 81 Rutland

Phone Number: 701-680-9377 cell

Email: n/a

City of Rutland (Alternate):

Name: Deborah Banish

Title: City Auditor

Address: PO Box 181 Rutland

Phone Number: 701-680-2458

Email: rutlandnd@drtel.net

Appendix D: Meeting Attendance

Planning Team Meeting 1: March 10, 2020 (Sargent County Court House)

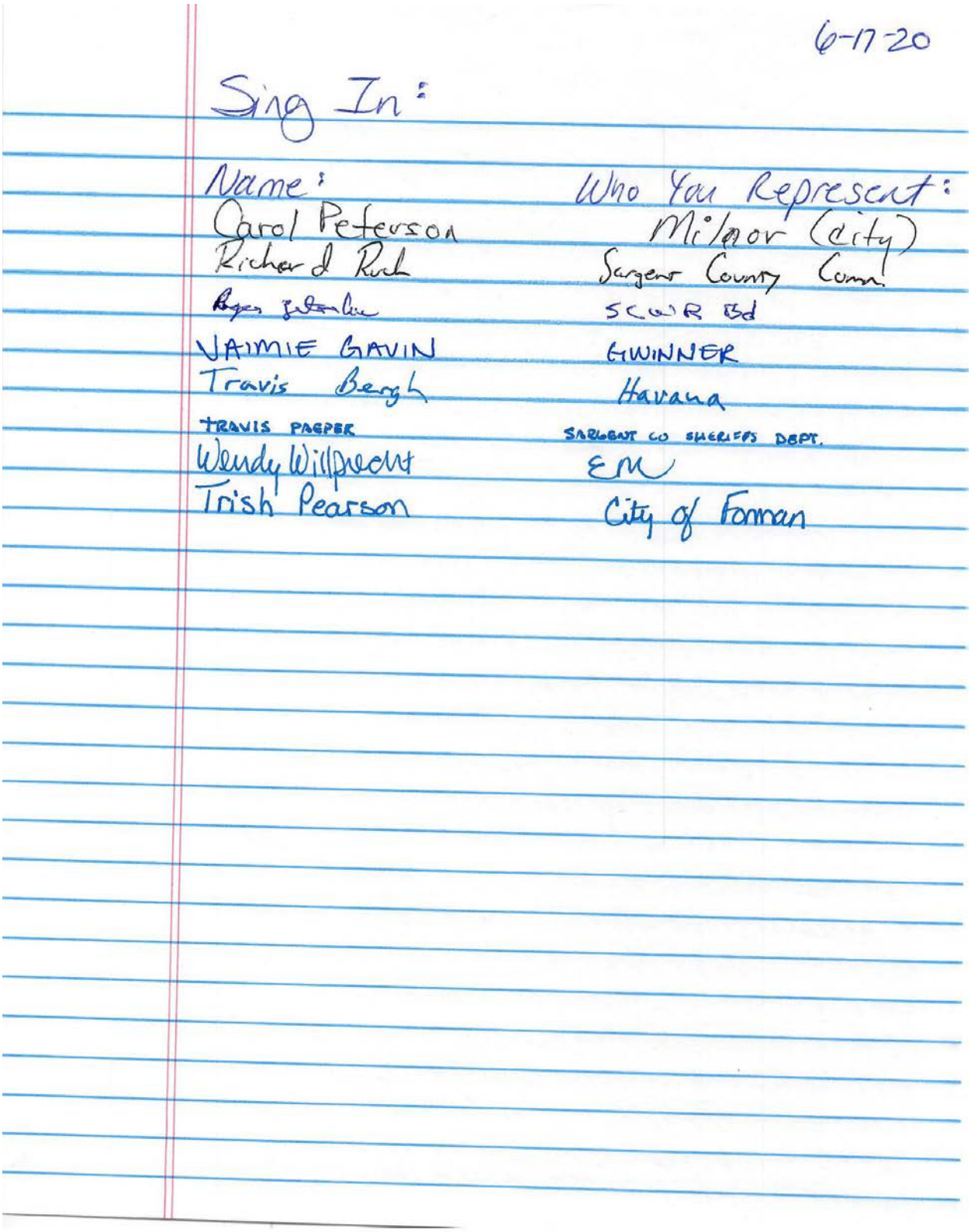
MEETING SIGN-IN SHEET

Project:	Sargent County Hazard Mitigation Meeting 1	**Meeting Date:**	10 March 2020
Facilitator:	Matt Lower	**Place/Room:**	Sargent County Court House

Name	Jurisdiction	Phone	E-Mail
Roger Zetocha	SARGENT Co Water Resource Bd	701-678-2568	
Wendy Willprecht	Sargent Cty	701-678-4212	
Trent Mahler	Sargent Cty EMS	701 680 3974	
TRAVIS PAEPER	SC SHERIFF	724 3302	
Carol Peterson	City of Milnor	701-427-9414	
Monty Haugen	City of Milnor	701-427-5534	
Nancy Planteen	City of Forman	7016783339	nplanteen@drtel.net
Linda Johnson	City of Gwinner	701-212-3992	Lmjohnson1958@gmail.com
Travis Bergh	City of Havana	701 680-9873	tlbergh@gmail.com
JAIMIE GAVIN	CITY OF GWINNER	612-670-6654	jaimiegavin@gmail.com
Cindy Hagen	Milnor	701-680-8521	
Alison Toepke	Forman		
Melissa Seykora	Sargent Cty Extension	724-3355	melissa.seykora@ndsu.edu
Brenda K Peterson	SCDHU : Coroner	701 680-2040	brenda.peterson@co.sargent.nd.us

Page 1 of 2

Planning Team Meeting 2: June 17th, 2020 (Forman City Hall)

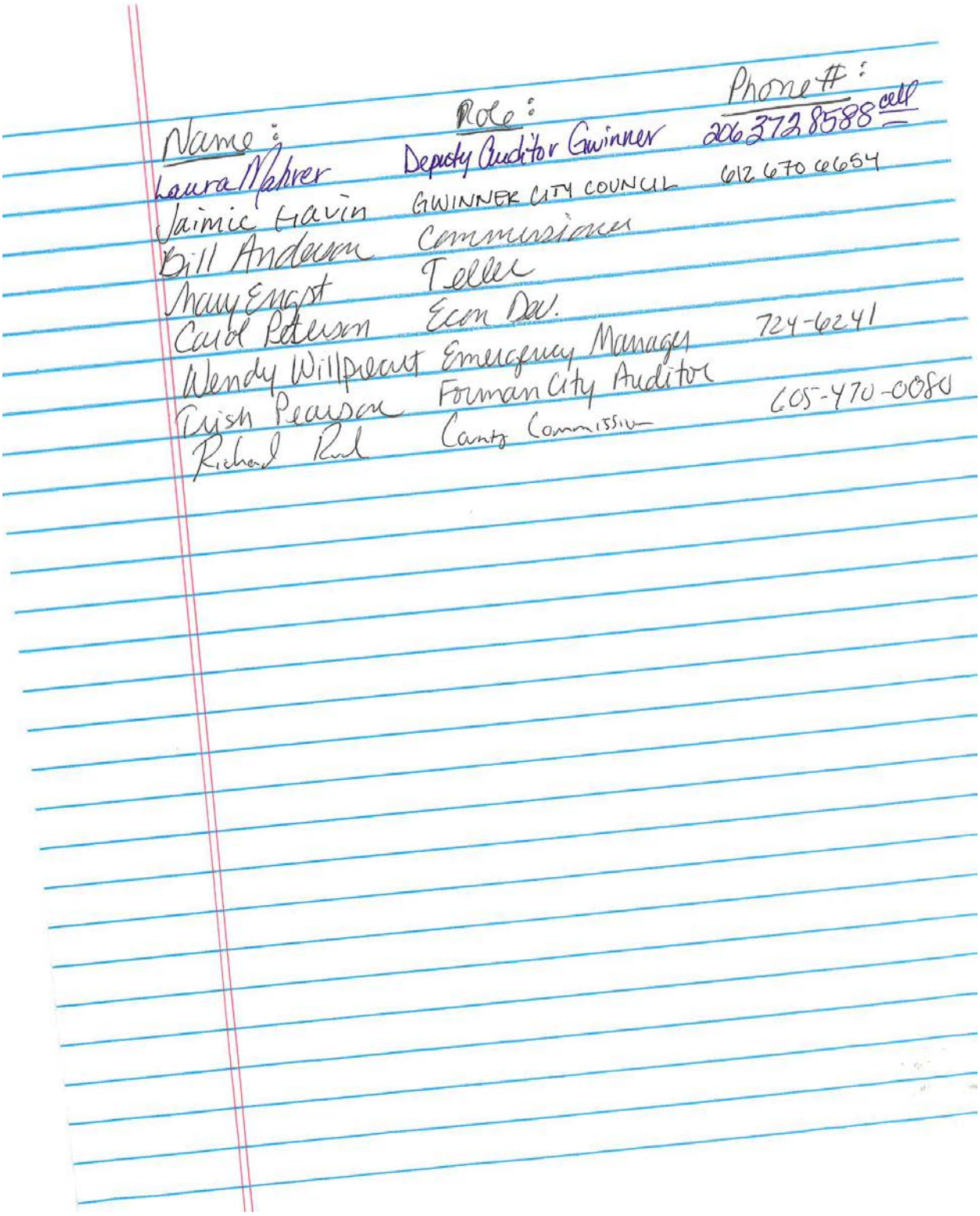


6-17-20

Sing In:

Name:	Who You Represent:
Carol Peterson	Milnor (city)
Richard Rud	Sargent County Comm.
[illegible]	SCWR Bd
JAIMIE GAVIN	GWINNER
Travis Bergh	Havana
TRAVIS PAEPER	SARGENT CO SHERIFFS DEPT.
Wendy Willprecht	EM
Trish Pearson	City of Forman

Planning Team Meeting 3: June 17th, 2020 (Forman City Hall)



Name:	Role:	Phone #:
Laura Mehrer	Deputy Auditor Gwinner	206 372 8588 cell
Jaimie Gavin	GWINNER CITY COUNCIL	612 670 6654
Bill Anderson	Commissioner	
Mary Engst	Teller	
Carol Peterson	Econ Dev.	
Wendy Willprecht	Emergency Manager	724-6241
Trish Pearson	Forman City Auditor	
Richard Rud	County Commission	605-470-0080

Appendix E: Review Documentation and Resolutions of Adoption

Appendix G: Figure References

Figure 1: Google Maps

Figure 2: Interstate Engineering/Mike Foertsch

Figure 3: 2015 Sargent County Hazard Mitigation Plan

Tables: 1-4: American Community Survey

Table 5: https://www.ndlmi.com/gsipub/index.asp?docid=362

Tables 6-7: Sargent County 2015 Hazard Mitigation Plan Update

Table 8: https://www.drought.gov/drought/states/north-dakota?places=Forman%2C%20ND%2C%20USA

Table 9: ND Dept of Emergency Services

Table 10: Sargent County 2015 Hazard Mitigation Plan Update