

MOUNTRAIL COUNTY, NORTH DAKOTA MULTI-HAZARD MITIGATION PLAN



**Adopted by Mountrail County on September 19, 2022
Submitted to the North Dakota
Department of Emergency Services on October 3, 2022**

MOUNTRAIL COUNTY, NORTH DAKOTA
MULTI-HAZARD MITIGATION PLAN
OCTOBER 3, 2022

This document was prepared under the direction of the Mountrail County Local Emergency Planning Committee. For additional information, please contact the Mountrail County Division of Emergency Services.

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PLAN ADOPTION DOCUMENTATION

Mountrail County	09/20/2022
City of New Town	05/18/2022
City of Palermo	06/07/2022
City of Parshall	05/11/2022
City of Plaza	08/15/2022
City of Ross	08/09/2022
City of Stanley	06/14/2022
City of White Earth	06/07/2022

Mountrail County Multi-Hazard Mitigation Plan

Whereas Mountrail County recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas Mountrail County participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that Mountrail County adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 20th day of September, 2022.

Attested:

 Auditor

Signed:

 Chairperson
Mountrail County Commission

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of New Town recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of New Town participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of New Town adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 18th day of May, 2022.

CITY OF NEW TOWN

By: Daniel Ulan
Mayor

Attested: Eileen Zaun
City Auditor

RATIFICATION

The motion for the approval of the Multi-hazard Mitigation Plan made by Council Member - Baker, and seconded by Council Member - Mayer, and upon vote being taken thereon, the said Plan was approved by a vote of 4 in favor, and 0, opposed.

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of Palermo recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of Palermo participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of Palermo adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 7th day of June, 2022.

Attested: Kathyrne Muelle
City, Auditor

Signed: Walter J. DeFoor
_____, Chairperson
_____, County Commission

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of Parshall recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of Parshall participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of Parshall adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 11 day of May, 2022.

CITY OF PARSHALL

By:


Mayor

Attested:
City Auditor



RATIFICATION

The motion for the approval of the Multi-hazard Mitigation Plan made by Council Member - Robert Morenski, and seconded by Council Member - Katherine Moreno and upon vote being taken thereon, the said Plan was approved by a vote of 5 in favor, and 0, opposed.

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of Plaza recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

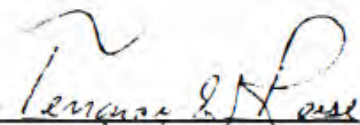
Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of Plaza participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of Plaza adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 15 day of August, 2022.

Attested: 
Terrence L. Rose
Auditor



Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of Ross recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of Ross participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of Ross adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 17th day of Aug, 2022.

Mayor

WYATT SEIBEL

Attested: _____ Signed: _____

Diane E. Seibel
Diane E. Seibel
City Auditor

Wyatt Seibel

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of Stanley recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of Stanley participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of Stanley adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 14 day of June, 2022.

Signed: Gary Weisenberger
Gary Weisenberger, Mayor
Stanley, Mountrail County, North Dakota

Attested: Allyn Sveen
Allyn Sveen, Auditor

Mountrail County Multi-Hazard Mitigation Plan

Whereas the City of White Earth recognizes the threat that natural, man-made or technological hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce and/or eliminate the potential for harm to people and property from future hazard occurrences; and

Whereas an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas the City of White Earth participated in the preparation of this plan in accordance with the Disaster Mitigation Act of 2000; and

Whereas adoption of the Mountrail County Multi-Hazard Mitigation Plan demonstrates the commitment to hazard mitigation; and

Now, therefore, be it resolved, that the City of White Earth adopts the Mountrail County Multi-Hazard Mitigation Plan as approved by the Federal Emergency Management Agency.

Signed this 7th day of June, 2022.

Attested: Shan Swain
city, Auditor

Signed: Greg Anderson
X Chairperson - Mayor
County Commission



INTRODUCTION

1 Introduction

Hazard mitigation planning, a cornerstone of emergency management, is defined as:

“... taking sustained actions to reduce or eliminate the long-term risks to people and property from hazards.”

Natural and technological/human-caused hazards can have a direct impact on residents, visitors, property, businesses, and governmental entities within Mountrail County. While it is impossible to eliminate most hazards, it is possible to mitigate the negative effects. Through hazard mitigation a community takes actions or strategies to reduce or eliminate long-term risk to human life and property.

Mitigation strategies may be implemented before, during or after a hazard-related event. They are most successful, however when based on a long-term plan developed before a disaster occurs. Successful mitigation strategies must be practical, cost-effective, politically acceptable and supported by a sound planning process.

The COVID-19 Pandemic has significantly impacted Mountrail County. This Multi-Hazard Mitigation Plan (Hazard Plan) was initiated prior to the pandemic's outbreak, was paused while the county and the rest of the country addressed more pressing issues and completed as recovery is underway. This experience has taxed the county's emergency response services as well as its economy.

1.1 BACKGROUND

Each year in the United States, natural and human-caused hazards take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the actual cost of disasters because additional expenses incurred by insurance companies and non-governmental organizations are not reimbursed by tax dollars.

Many hazards are a natural part of the environment that will inevitably continue to occur, but there is much we can do to minimize their impacts on our communities and prevent them from resulting in disasters. Every community including those within Mountrail County, faces different hazards and has different resources to draw upon in combating problems. Because there are many ways to deal with hazards and many agencies that can help, there is no one solution for managing or mitigating their effects. Planning is one of the best ways to develop a customized program that will mitigate the impacts of hazards while accounting for the unique character of a community.

In an effort to reduce the nation's mounting natural disaster losses, the U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000) to invoke new and revitalized approaches to mitigation planning. Section 322 of DMA 2000 emphasizes the need for state and local government entities to closely coordinate on mitigation planning

activities and makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for federal mitigation grant funds.

These funds include the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation (PDM) program, and the Flood Mitigation Assistance (FMA) Program, all of which are administered by the Federal Emergency Management Agency (FEMA) under the Department of Homeland Security. Communities with an adopted and federally approved hazard mitigation plan become pre-positioned and more apt to receive available mitigation funds before and after the next disaster strikes.

This Hazard Plan was prepared in coordination with the North Dakota Division of Emergency Services (NDDDES) to ensure that it meets all applicable federal and state planning requirements.

1.2 PURPOSE AND AUTHORITY

Local hazard mitigation planning is the process of organizing community resources, identifying, and assessing hazard risks, and determining how to best minimize or manage those risks. This process culminates in a hazard mitigation plan that identifies specific mitigation strategies, each designed to achieve both short-term planning objectives and a long-term community vision.

To ensure the functionality of a hazard mitigation plan, responsibility is assigned for each proposed mitigation strategies to a specific individual, department, or agency along with a schedule or target completion date for its implementation. Mitigation strategies for this Hazard Plan are found in Chapter 9: Mitigation Strategies and in the Annex for each of the cities and unincorporated Mountrail County (Annex A thru Annex H).

Communities that participate in hazard mitigation planning have the potential to accomplish many benefits, including:

- Saving lives and property,
- Saving money,
- Speeding recovery following disasters,
- Reducing future vulnerability through wise development and post-disaster recovery and reconstruction,
- Expediting the receipt of pre-disaster and post-disaster grant funding, and
- demonstrating a firm commitment to improving community health and safety.

Typically, communities that participate in mitigation planning are described as having the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. A core assumption of hazard mitigation is that the investments made before a hazard event will significantly reduce the demand for post-disaster assistance by lessening the need for emergency response, repair, recovery, and reconstruction. Furthermore, mitigation practices will enable local residents, businesses, and industries to re-establish themselves in the area of a disaster, getting the community economy back on track sooner and with less interruption.

The benefits of mitigation planning go beyond solely reducing hazard vulnerability. Mitigation measures such as the acquisition or regulation of land in known hazard areas can help achieve multiple community goals, such as preserving open space, maintaining environmental health, and enhancing recreational opportunities. Thus, it is vitally important that any local mitigation planning process be integrated with other concurrent local planning efforts, and any proposed mitigation strategies must consider other existing community goals or initiatives that will help complement or hinder their future implementation.

Developing a hazard mitigation plan brings a community together to focus on common concerns related to natural and technological/human caused hazards. This plan was developed in a cooperative manner by representatives of Mountrail County and its cities, regional and state agencies, local residents, and other stakeholders. An adopted Hazard Plan also ensures that Mountrail County remains eligible for the federal disaster assistance described above.

This Hazard Plan has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Section 104 of the Disaster Mitigation Act of 2000, (DMA 2000) Public Law 106-390. This plan will be adopted by each participating jurisdiction in accordance with standard local procedures. Once adopted, copies of adoption resolutions will be included Chapter 1: Introduction.

1.3 SCOPE

This document is the updated Hazard Plan for Mountrail County North Dakota. The planning areas includes Mountrail County's unincorporated areas and its cities: New Town, Palermo, Parshall, Plaza, Ross, Stanley, and White Earth.

The priorities of Mountrail County and its cities and the focus of this Hazard Plan are those hazards having "high" or "moderate" risk, as determined through the risk and vulnerability assessments. Lower risk hazards will continue to be evaluated but will not necessarily be a high priority for mitigation strategies in the plan.

Mountrail County followed the planning process prescribed by FEMA, conducted a risk assessment that identified and profiled hazards that pose a risk to the planning area (the county and participating jurisdiction), assessed the planning area's vulnerability to these hazards, and examined each participating jurisdiction's capabilities in place to mitigate them. The planning process is presented in Appendix 1.

The hazards profiled in this Hazard Plan include six types of natural hazards (drought, flooding, geologic hazards, severe summer weather, severe winter weather and wildland/rural fires) and nine types of technological/human caused hazards (civil disorder/terrorism events, public health incidents, dam failure, hazard materials incidents, major transportation incident, public utility interruption, shortage of critical materials, and major urban fires).

1.4 CHANGES IN DEVELOPMENT

Mountrail County has changed significantly since the 2015 Hazard Plan was adopted due to the impact of the oil and gas industry, and that impact has evolved each year in response to the regional oil production. Figure 1.4-1 illustrates the change that is the source of that evolving impact.

Initially, its impact from oil and gas development was seen on the ground with drilling rigs appearing across many parts of the county and the ever-increasing traffic on the roads. County offices related to the oil and gas industry experienced significant increases in requests for approval of development of all kinds including massive investment in transportation facilities to ease the flow of energy to market, well permits and applications for construction of housing options, and other facilities to serve the rapidly growing population.

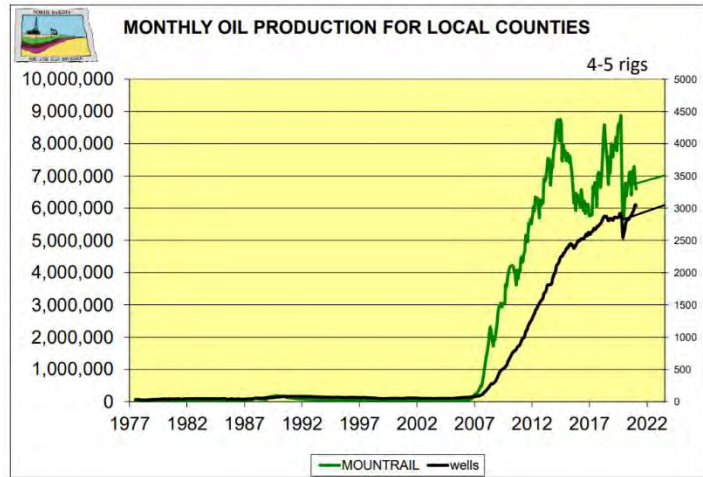


Figure 1.4-1 Monthly Oil Production for Mountrail County
Source: www.dmr.nd.gov/oilgas/stats/Mountrail.pdf

Industry leaders recognized that there would be a gradual transition from drilling jobs to production jobs and a related decrease in the number of people working in the field. In time, others recognized that this change would translate into a decreasing need for new housing and businesses. The 2016 population projections for the county, which were completed early in the oil and gas industry boom, anticipated that the county would experience significant growth well into the next decade and provided alternative growth scenarios as shown in Table 2.4-3. The 2020 population totals for Mountrail County ranged from a low of 11,551 to a high of 13,177. The 2020 Census total population was reported as 9,809 for the county.

The 2020 oil market downturn, which hit the area hard, is reflected in the 2020 Census releases. Today, many of the short-term housing options are gone or empty. Some workers have moved into more long-term housing alternatives and others have left the area permanently. There are a lot of unknowns. The Williston Herald recently reported:

Helms¹ said he will be visiting with oil and gas executives at the upcoming North Dakota Petroleum Council to better understand their plans for next year, and he remains hopeful that activity will pick up as expected in 2022.²

¹ Jesse Helms, Director of Mineral Resources, ND Industrial Commission

² Helms: North Dakota no longer No. 2 oil producer in Nation, but carbon projects take the sting out of that | Oil And Energy | willistonherald.com

1.5 WHAT'S CHANGED IN THE PLAN

This Hazard Plan is an update to the 2015 Mountrail County Multi-Jurisdictional Hazard Mitigation Plan, which included participation from all jurisdictions involved in this plan update.

This Hazard Plan update involved a comprehensive review and update of each section of the 2015 plan and an assessment of the success of the county and participating municipalities in evaluating, monitoring, and implementing the mitigation strategy outlined in the 2015 Hazard Plan. Information and data still valid were carried forward.

The following were addressed during the development of this countywide plan:

- Consider changes in hazards, vulnerability, and capabilities
- Update previous risk assessment methodology to utilize Calculated Priority Risk Index (CPRI) calculations
- Incorporate updated U.S. Census and other available data³
- Incorporate growth and development-related changes
- Incorporate recommendations or changes in mitigation strategies prioritization
- Reflect current FEMA requirements

In addition, the titles of some hazards have been adjusted (See Table 1.5-1) and text that was repeated in multiple sections has been deleted.

³ Data limitations are a challenge. Information on many hazards depend on reporting but there are few "weather spotters" or others reporting. US Census is over 10 years old, and 2020 Census data releases are on-going. Few current population details and fewer population projections are available.

**Table 1.5-1
OTHER CHANGES FROM MOUNTRAIL COUNTY'S 2015 PLAN**

HAZARD	JURISDICTION	CHANGE FROM 2015 PLAN	WHY IDENTIFIED
Natural Hazards			
Drought	All jurisdictions	No change	On-going threat of drought. Local concern increased because of recent drought experience
Flood	All jurisdictions	Previously "Flood"	Cannot exclude the threat, even if it is limited.
Geological Hazards	All jurisdictions	Previously "Geologic Hazards"	On-going limited threat from landslides
Severe Summer Weather	All jurisdictions	Use ND Plan terminology. Previously "Summer Storm"	On-going threat of tornado, hail, thunderstorms and lightning, high winds, and extreme heat
Severe Winter Weather	All jurisdictions	Use ND Plan terminology. Previously "Severe Winter Storm"	On-going threat of blizzards, severe winter storms, heavy snow, ice storms, and extreme cold
Space Weather	All jurisdictions	Additional hazard	Included in the ND Plan
Wildland/Rural Fire	All jurisdictions	Separated Wildland/Rural Fire and Major Urban Fire	On-going threat in the urban/wildland interface area
Technological/Human-Caused Hazards			
Public Health Incidents	All jurisdictions	Previously "Communicable Disease"	Recent experience with the COVID-19 pandemics Dependence on agricultural
Hazardous Materials Incident	All jurisdictions	No change	On-going threat of hazardous material incidents from truck and rail traffic through the county and fixed sites.
Dam Failure	All jurisdictions with focus on White Earth	No change	One high hazard dam in the county, the White Earth Dam. Any failure of the Fort Peck Dam in Montana would have catastrophic impact on Mountrail County.
Terrorism and Violence	All jurisdictions	Combined the previous "Civil Disorder/Terrorism" and "Homeland Security Incident"	Increasing threat and local concern.
Major Urban Fire	All jurisdictions	Separated Wildland/Rural Fire and Major Urban Fire	Increasing threat as the communities develop
Utility Interruption	All jurisdictions	Additional hazard	Increased awareness of the importance of utilities.
Major Transportation Incident	All jurisdictions	Additional hazard	History of automobile incidents and threat of rail incident

1.6 PLAN ORGANIZATION

This Hazard Plan is organized as follows:

CHAPTERS

- Chapter 1: Introduction
- Chapter 2: Community Profiles
- Chapter 3: Hazard Identification + Screening
- Chapter 4: Natural Hazards
- Chapter 5: Technological/Human-Caused Hazards
- Chapter 6: Risk Assessment
- Chapter 7: Capacity Assessment
- Chapter 8: Mitigation Goals and Strategies
- Chapter 9: Plan Maintenance

ANNEXES

- Annex A City of New Town
- Annex B City of Palermo
- Annex C City of Parshall
- Annex D City of Plaza
- Annex E City of Ross
- Annex F City of Stanley
- Annex G City of White Earth
- Annex H Unincorporated Mountrail County

APPENDICES

- Appendix 1 Planning Process
- Appendix 2 Developing the Mitigation Strategies
- Appendix 3 Community Survey
- Appendix 4 Reportable Infectious Condition
- Appendix 5 Facilities with Increased Vulnerability to Tornadoes
- Appendix 6 Plan Monitoring Forms



2

COMMUNITY
PROFILES

2 Mountrail County Profile

This chapter provides a general overview of the current conditions in Mountrail County and its participating municipalities.

2.1 GEOGRAPHY

Mountrail County, located approximately 30 miles south of the Canadian border in western North Dakota, is surrounded by Burke, Dunn, McLean, McKenzie, Ward, and Williams Counties and is to the Fort Berthold Indian Reservation. Lake Sakakawea, a reservoir on the Missouri River, forms part of the county's southern border (Figure 2.1-1). This Hazard Plan addresses the overall Mountrail County and the participating jurisdictions of New Town, Palermo, Parshall, Plaza, Ross, Stanley, and White Earth.

Figure 2.2-1 shows that part of the Fort Berthold Indian Reservation lies within Mountrail County. The Reservation has its own adopted Multi-Hazard Mitigation Plan; Mountrail County has coordinated with them during this Hazard Plan update.

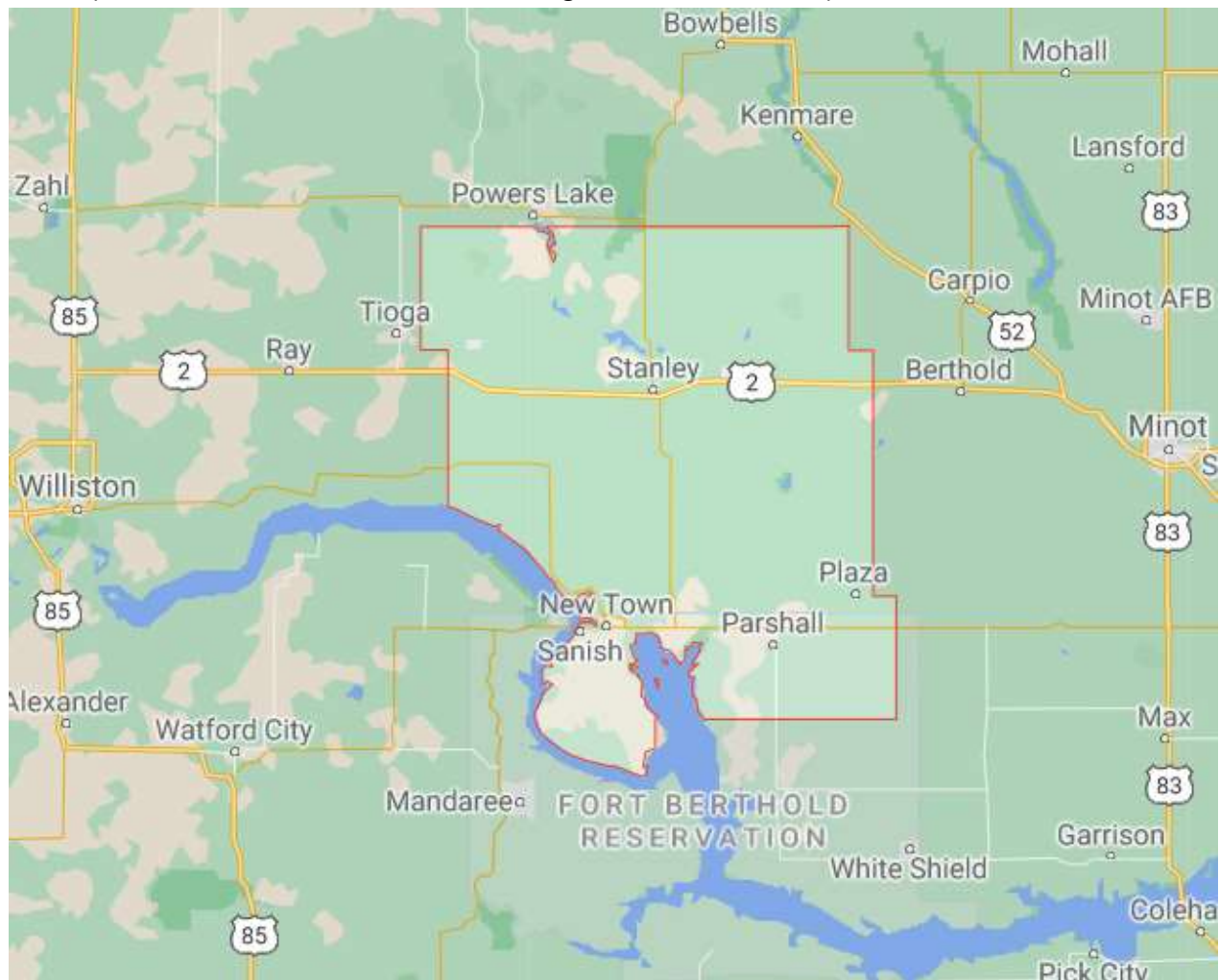


Figure 2.1-1 Mountrail County Location

2.2 ROADWAYS AND RAIL

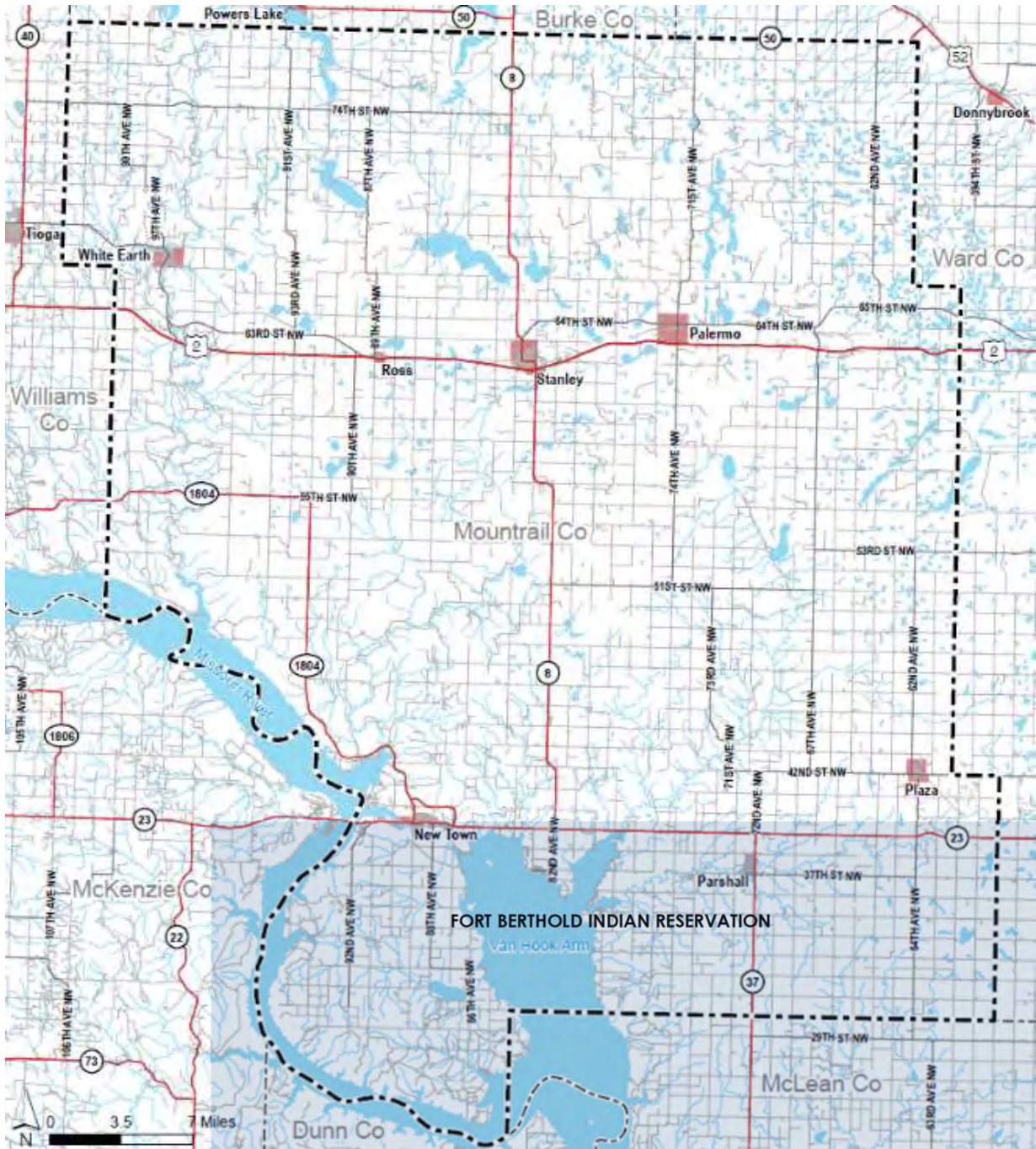


Figure 2.2-1 Mountrail County Roadways

ROADWAYS

Today, access to and through Mountrail County is provided by major highways, state, and local roads, some are paved, and others are graveled or dirt roads.

U.S. Highway 2 provides the main east-west roadway across the north part of the county. Both Stanley and Ross are bisected by this highway which provides a westerly connection to Williston and an easterly connection to Minot.

ND 23 provides the main east-west roadway across the southerly part of the county. The City of New Town is located on this roadway. Four Bears Bridge, located west of New Town, is carried by ND 23 across Lake Sakakawea (Figure 2.2-2).

Access from ND 23 to the City of Parshall is provided by ND 28 as shown on Figure 2.2-2.

RAILROADS

Two railroad lines cross Mountrail County. The Burlington Northern Santa Fe railroad (BNSF) generally parallels Highway 2, connecting White Earth, Ross, Stanley, and Palermo. Its tracks also extend from Stanley north to the county line and beyond.

Amtrak provides Chicago to Portland passenger rail service on these tracks stopping at seven stations in North Dakota including the one in Stanley that serves its Empire Builder, a once-daily train in each direction between Portland/Seattle, and Chicago. The facility, platform, parking lot and tracks are owned by BNSF Railway. The Canadian Pacific Railway (CPRS) parallels Highway 23 in southern Mountrail County, connecting New Town, Parshall, and Plaza.



Figure 2.2-2 Mountrail County Roads

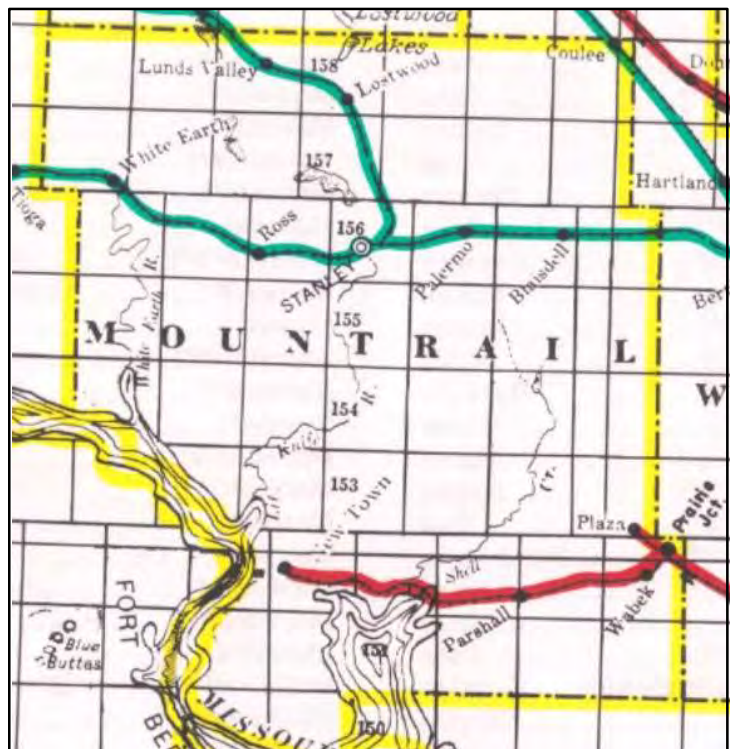


Figure 2.2-3 Mountrail County Railroads

2.3 TOPOGRAPHY

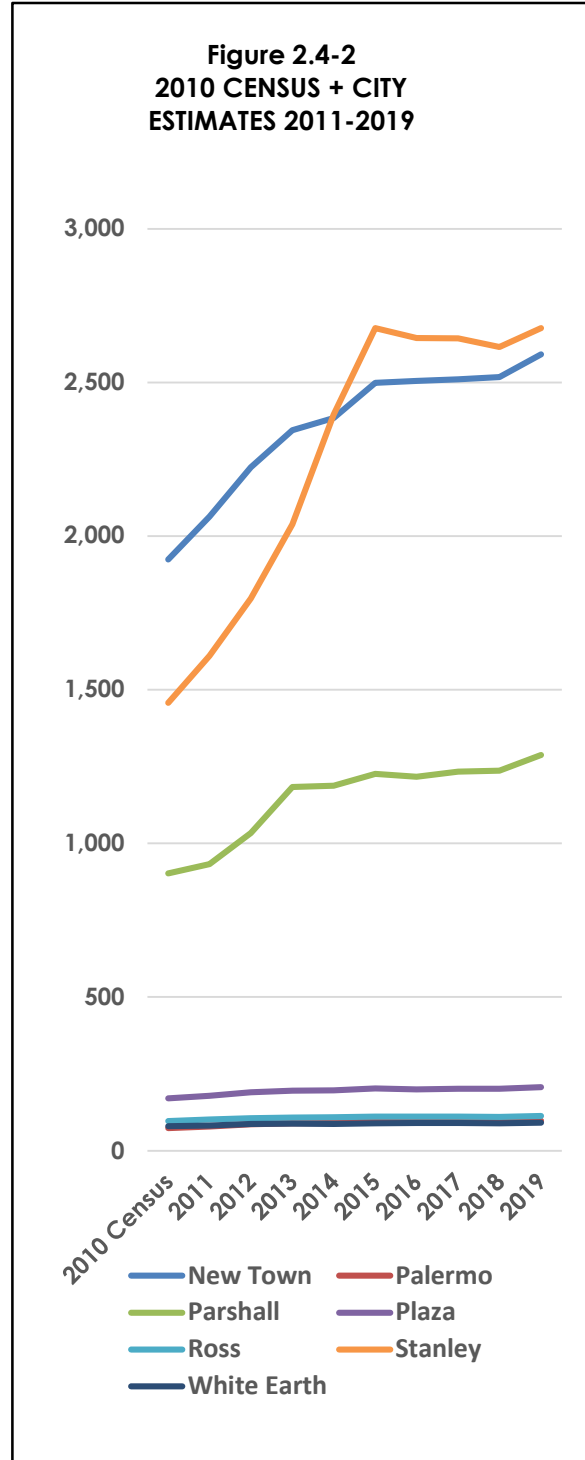
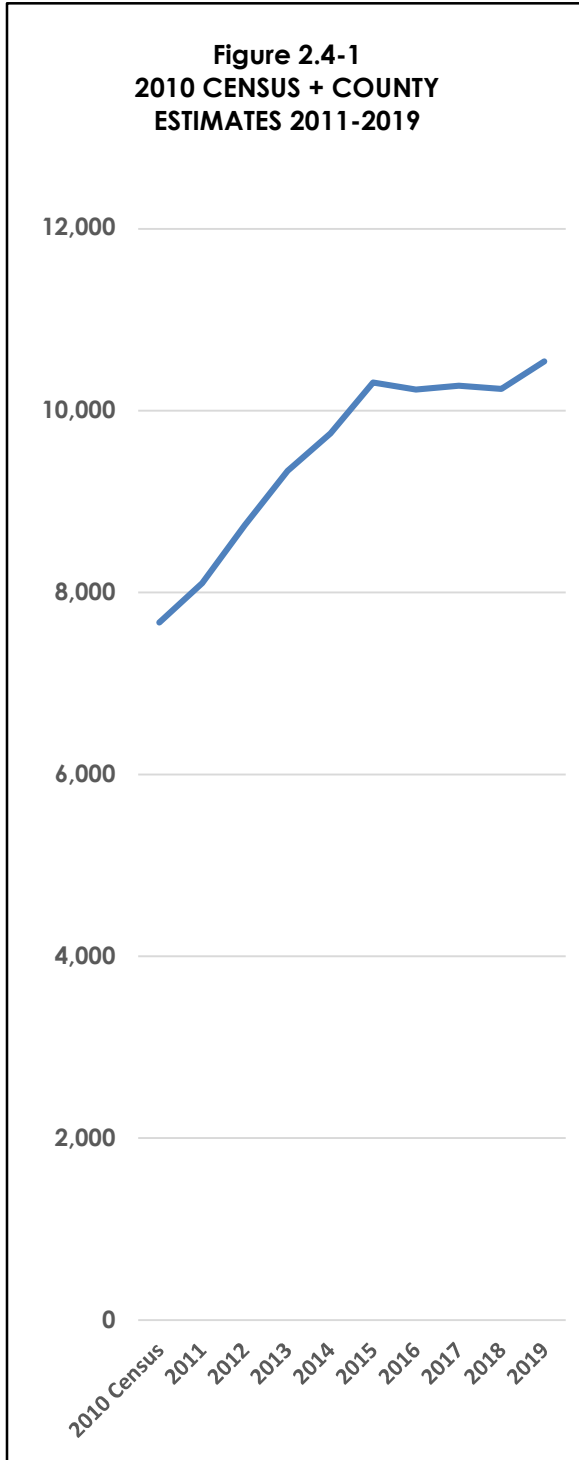
The Missouri River flows southeastward along the southern boundary line of Mountrail County. The county's terrain is characterized by rolling uplands, scattered large hills, well developed valleys with lakes and ponds, and scattered urban areas. The county has a total area of 1,842 square miles, most devoted to agriculture,



Figure 2.3-1 Mountrail County Topography

2.4 DEMOGRAPHICS

According to the most recent (2020) estimates, the total population of Mountrail County is approximately 10,918. Overall population density is lower than the state due to the rural character of much of the county. Growth has been dramatic in recent years, especially in New Town and Parshall (Figure 2.4-1, Figure 2.4-2, and Table 2.4-1) but the county is still a very rural (Figure 2.4,3) county.



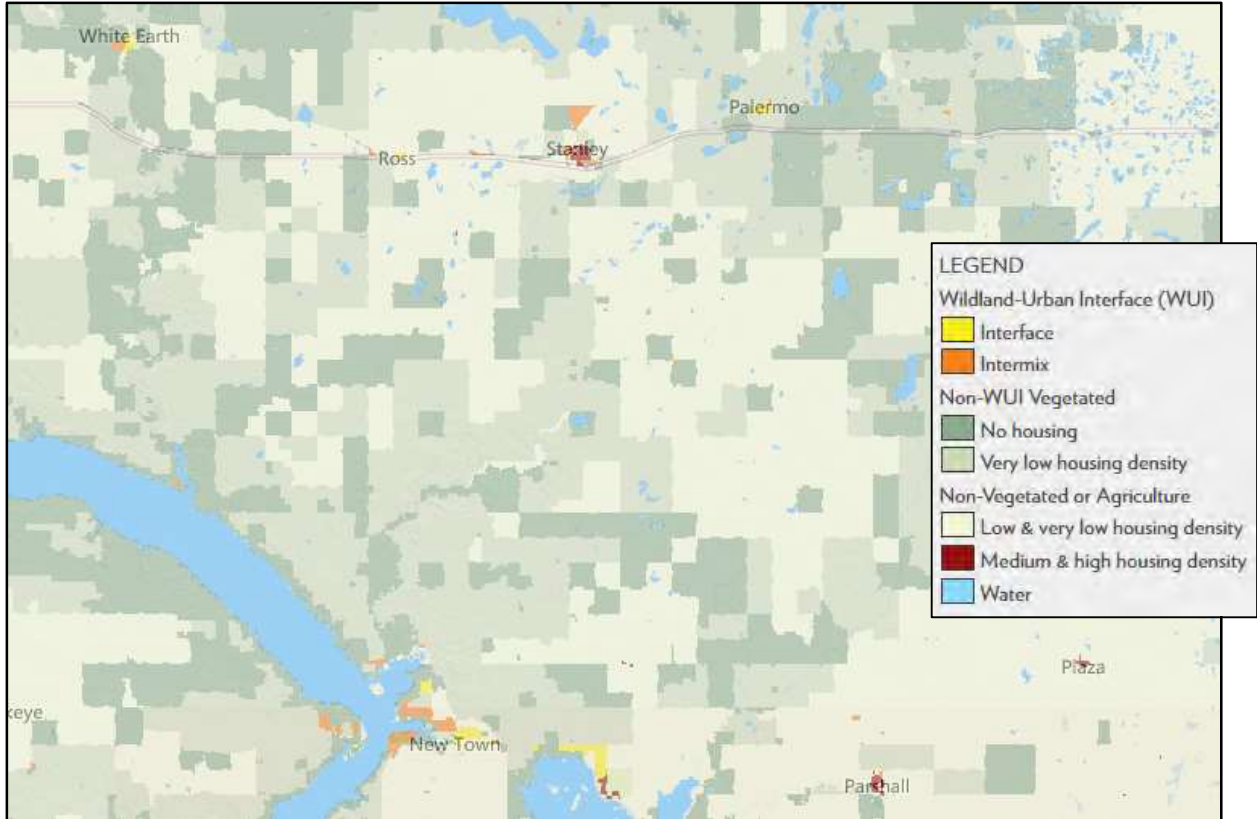


Figure 2.4-3 Wildland-Urban Interface
 Source: <http://silvis.forest.wisc.edu/data/wui-change/>

2020 CENSUS RESULTS

Results from the 2020 US Census are being released as this Hazard Plan is in the review and adoption process. Details on many census topics is expected to be available in early 2023 but data for the total population of each of the state's counties and cities is complete. The 2020 Census shows a total of 9,809 persons in Mountrail County and showed that Mountrail was the fourth-fastest growing county in the state surpassed only by McKenzie County, Williams County and Stark County.

Table 2.4-1 POPULATION AND GROWTH					
Community	2010 Census Population	% of County	2020 Census Population	Change Census 2010 to 2020	% Change Census 2010 to 2020
New Town	1,925	25.1%	2,764	839	43.6%
Palermo	74	1.0%	125	51	68.9%
Parshall	903	11.8%	949	46	5.1%
Plaza	171	2.2%	211	40	23.45
Ross	97	1.3%	95	-2	-2.1%
Stanley	1,458	19.0%	2,321	863	59.2%
White Earth	80	1.0%	100	20	25.0%
MOUNTRAIL COUNTY	7,673		9,809	2,136	27.8%

Table 2.4-3 POPULATION PROJECTED GROWTH COMPARED TO 2020 CENSUS RESULTS				
Mountrail County	2010 Census Results	2020 Census Results		
	7,673	9,809		
	2010 Population	2020 Projection	2025 Projection	2030 Projection
Low Migration Projection	7,673	11,551	12,798	13,784
Expected Migration Projection	7,673	12,364	14,191	15,587
High Migration Projection	7,673	13,177	15,584	17,390

2020 CENSUS RESULTS COMPARED TO PROJECTIONS

The 2020 Census total for Mountrail County is significantly below the state's 2016 projections⁴ or 2020 as shown in Table 2.4-2. It should be noted that all of the oil and gas producing counties missed their projected 2020 population totals. The ND Plan, using the best information available in 2018, indicated that "... the top four oil producing counties are all projected to see significant population growth through 2030. McKenzie County is projected to experience a 269% change in population from 2010 to 2030, Williams County a 165% change, Mountrail County a 103% change, and Dunn County an 88% change."⁵ Those projections, which are reflected in some of the ND Plan's recommendations will need to be revised during document updates. Specifics on Mountrail County's growth over the last decade are shown in Table 2.4-3. While the county enjoyed a 27.8% growth rate, the actual 2020 Census results are significantly lower than the low migration projections for 2020.

Table 2.4-2 GROWTH IN OIL AND GAS PRODUCING COUNTIES		
County	Projected % Growth 2010 to 2020	Actual % Growth 2010 to 2020
McKenzie County	269%	131.2%
Williams County	165%	82.8%
Mountrail County	103%	27.8%
Dunn County	88%	15.8%

VULNERABLE POPULATION

An essential element of any hazard mitigation plan is considering the community's vulnerable population, its children and elderly. Table 2.4-4 indicates that the county population has a higher percentage of persons under 18 years old and a lower percentage of persons over 65 years old. While the percentages of those under 18 years old vary from 20.4% in Ross to 59.9% in White Earth, this is a factor in the county's future growth but also contributes to its vulnerable population. The very young and the elderly are generally more vulnerable to the effects of severe weather events (severe cold and heat) especially true if exposure is extended for a period of time and hazard events that require evacuation. As seen during the COVID-19 Pandemic, the elderly, as well as those with underlying health conditions or who are immunocompromised, are more vulnerable to communicable disease.

⁴ North Dakota Census Office population projections of the state, regions, and counties 2016

⁵ ND Plan, page 195

For severe weather and other hazard events, an expanded definition of “vulnerable population” is useful. This definition would include the potentially vulnerable populations who may experience difficulty preparing for and responding to a hazard⁷. See Table 2.4-5. Lack of internet access could also be a consideration in defining the county’s vulnerable population.

Table 2.4-5 VULNERABLE POPULATION							
VULNERABLE POPULATION USING TYPICAL HAZARD PLAN DEFINITION			VULNERABLE POPULATION USING THE EXPANDED DEFINITION				
	Number	Percent ⁶		Number		Percent	
Persons over 65	1,170	11.1%	Persons over 65	1,129	±124	11.1%	±1.2%
Persons Under 18	2,721	25.8%	Families in poverty	126	±43	5.9%	±2%
			Persons w/disabilities	1,057	±171	10.5%	±1.7%
			Difficulty w/English	88	±83	0.9%	±0.9%
			Households with no car	151	±52	4.7%	±1.6%
			Mobile homes	599	±105	18.5%	±3.1%

Mountrail County is already addressing an expanded definition in making available guidance from ready.gov/ disability to assist in preparing for a hazard event on the Mountrail County Emergency Management Facebook page for people who are deaf or hard of hearing, those who are blind, have low vision, a speech disability. There is also information for those with intellectual or developmental disabilities, people with a mobility disability and people with Alzheimer’s and related dementia.

Table 2.4-4 VULNERABLE POPULATION – BY AGE AND LOCATION							
	Under 18	Over 65	Total		Under 18	Over 65	Total
NORTH DAKOTA	22.9%	14.4%	37.3%	Ross	20.4%	0.9%	21.3%
New Town	29.3%	8.4%	37.7%	Stanley	22.6%	15.8%	38.4%
Palermo	26.0%	7.5%	33.5%	White Earth	59.9%	1.4%	61.3%
Parshall	27.8%	8.5%	36.3%	MOUNTRAIL COUNTY	25.8%	11.1%	36.9%
Plaza	25.0%	11.2%	36.2%				

⁶ The 2020 Census total population and the most recent county age-distribution figures were utilized for the number of persons under 18 and over 65.

⁷ USDA Wildfire Risk to Communities wildfirerisk.org Data are from the most recent five-year rolling survey period of the U.S. Census Bureau American Community Survey.

2.5 EMPLOYMENT AND INDUSTRY



Across Mountrail County as a whole, major industry sectors include Mining, Quarrying, Oil and Gas, Government, Transportation and Warehousing, plus Retail Trade. Countywide employment by industry is shown in Table 2.5-1.

Table 2.5-1 MOUNTRAIL COUNTY EMPLOYMENT BY INDUSTRY					
NAICS Code] Industry		Q3 2020 Business Establish.	Percent Share of Total	Q3 2019 Avg Employ.	Percent Share of Total
11	Agriculture, Forestry, Fishing and Hunting	6	1.1	15	0.3
21	Mining, Quarrying, and Oil and Gas Extraction	57	10.5	1,068	21.3
22	Utilities	6	1.1	49	1.0
23	Construction	52	9.6	266	5.3
21-33	Manufacturing	2	0.4	***	***
42	Wholesale Trade	32	5.9	219	4.4
44-45	Retail Trade	42	7.7	531	10.6
48-49	Transportation and Warehousing	111	20.4	618	12.3
51	Information	8	1.5	103	2.1
52	Finance and Insurance	20	3.7	94	1.9
53	Real Estate and Rental and Leasing	11	2.0	16	0.3
54	Professional and Technical Services	43	7.9	132	2.6
55	Management of Companies and Enterprises	2	0.4	***	***
56	Administrative and Waste Services	19	3.5	65	1.3
61	Educational Services	1	0.2	***	***
62	Health Care and Social Assistance	18	3.3	278	5.5
71	Arts, Entertainment, and Recreation	4	0.7	34	0.7
72	Accommodation and Food Services	38	7.0	291	5.8
81	Other Services (except Government)	27	5.0	105	2.1
	Government	44	8.1	969	19.3
	Total, All Industries	543	100.0	5,016	100.0

Table 2-6 shows the distribution of employment by industry across the county's cities. As mentioned in the introduction, the COVID-19 Pandemic has significantly impacted Mountrail County's employment and industries. This Hazard Plan was initiated prior to the pandemic, paused while the county and the rest of the country addressed more pressing issues and completed as recovery is underway.

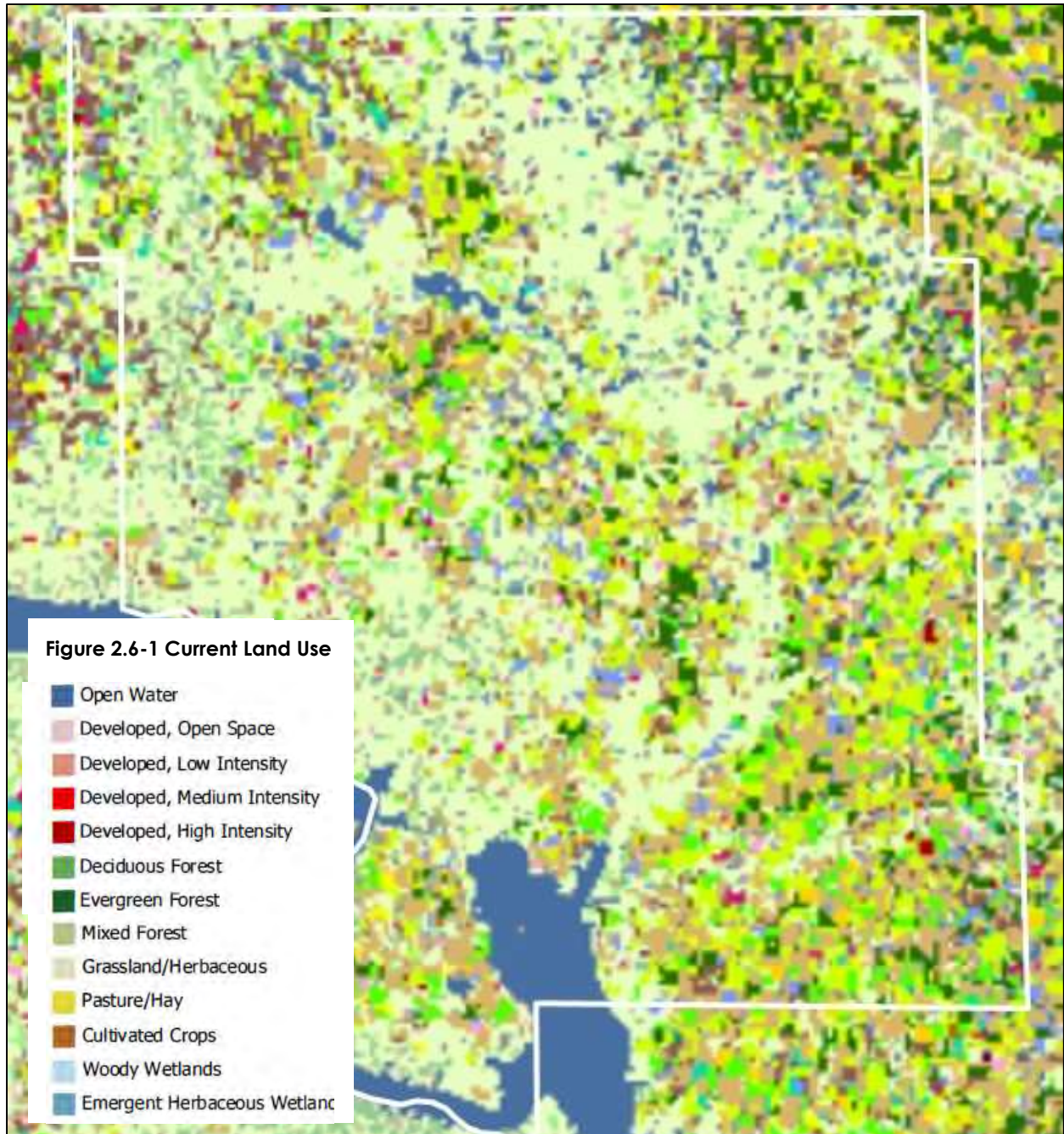
Thirty-one of North Dakota's 53 counties reported unemployment rates below the statewide March 2021 rate of 4.4%. La Moure and Sargent County tied for the lowest unemployment rate at 2.6%. Rolette County reported the highest unemployment rate at 13.1%. The unemployment rates reflect the pandemic's impact and on-going economic recovery in Mountrail County and adjacent counties. Table 2.5-3, which reflects the county's on-going recovery from the pandemic compared to the state.

Table 2.5-2 EMPLOYMENT IN THE LARGEST INDUSTRIES							
	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
Agriculture, Forestry, Fishing and Hunting				23			
Mining, Quarrying, and Oil and Gas Extraction		14				156	
Construction		16				132	
Retail Trade		23					9
Transportation and Warehousing					12		
Finance and Insurance					10		
Administrative and Waste Services					10		
Educational Services	133		81	22			8
Health Care and Social Assistance			57	22		116	8
Accommodation and Food Services	134						
Government and Public Admin.	109		50				
Total, All Industries	987	96	450	114	53	1130	47

Table 2.5-3 MOUNTRAIL COUNTY EMPLOYMENT 2020 AND 2021 COMPARED TO THE STATE						
	Labor Force March 2021	Employed March 2021	Unemployed March 2021	Unemployed March 2021	Unemployed Feb 2021	Unemployed March 2020
North Dakota	400,457	381,109	19,348	4.8%	5.5%	3.2%
Mountrail County	6,284	5,998	286	4.6%	4.9%	2.0%

2.6 EXISTING LAND USE

Two figures reflect Mountrail County land uses. Figure 2.6-1 focuses on vegetation and land use intensities. Vegetation of the western and southern areas of the county is mainly grassing western wheat grass, little blue stem, blue gama, sand reed grass, plains muhly, green needle grass, and needle and thread (U.S. Dept. Of Interior 1971:5). In the gullies, berries from shrub trees, such as June berry, buffalo berry, and choke cherry are natural food sources. Trees are noncommercial species of burr oak, green ash, and cottonwood. The north, east and northeast areas are comprised of rolling grasslands which is used as crop land.



Source: Land Use Land Cover 2017 ND Hub Explorer

Figure 2.6-2, a figure in the recently adopted Mountrail County Comprehensive Plan, indicates the actual uses of the developed areas within the county. Agricultural areas are colored white. -

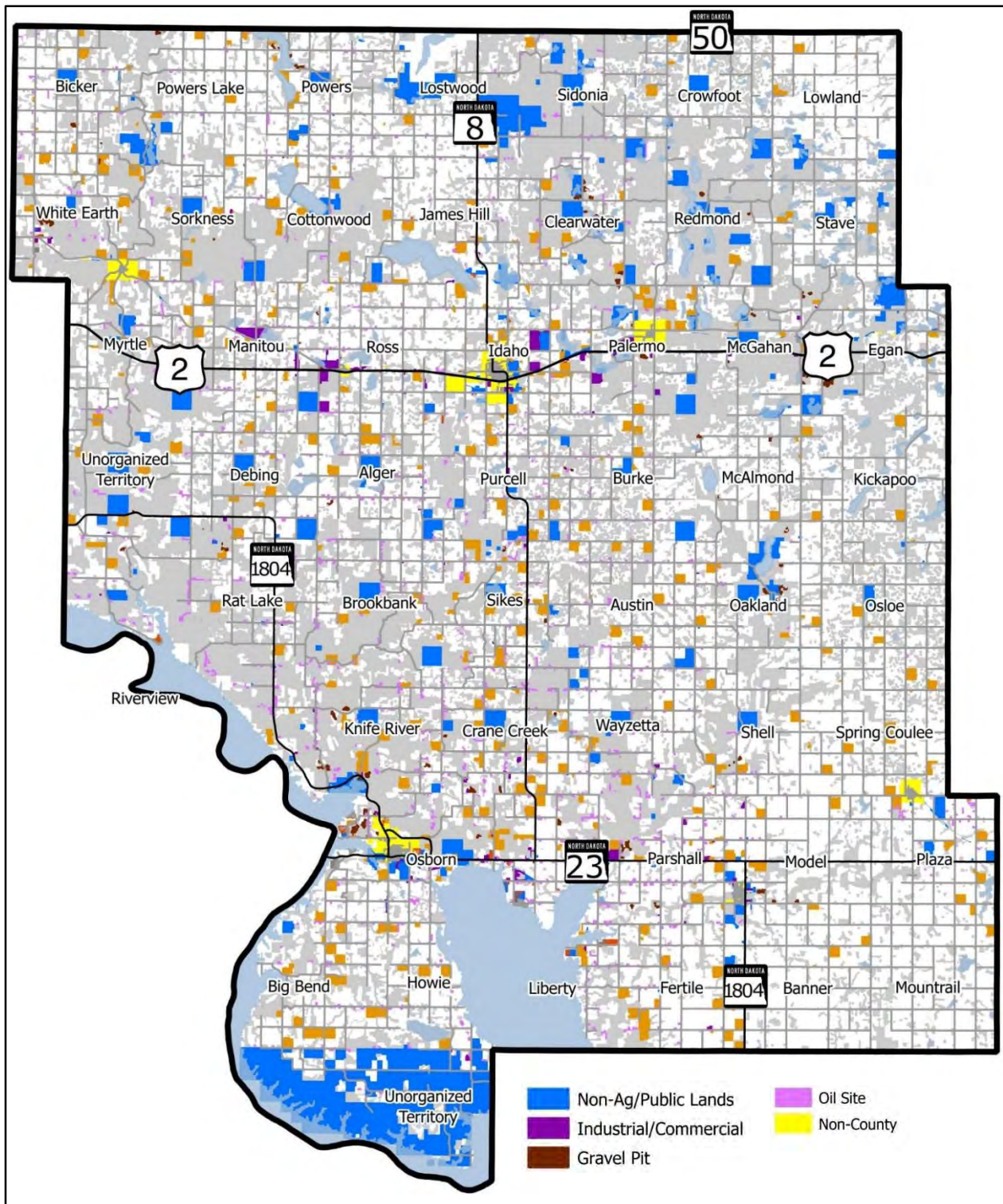


Figure 2.6-2 Actual Land Use 2018
 Source: Mountrail County Comprehensive Plan

2.7 FORT BERTHOLD RESERVATION

LOCATION

The Fort Berthold Reservation is home to the Mandan, Hidatsa, and Arikara Nation (MHA) also known as Three Affiliated Tribes, includes approximately one million acres, occupies areas of six counties: including Mountrail County. See Figure 2.7-1.

The City of New Town and the City of Parshall are located within the Reservation. A number of key community facilities, which are located in these cities, are operated by MHA.

ADOPTED PLAN

The Multi-Hazard Mitigation Plan for the Fort Berthold Reservation was adopted by the tribal government in December 2019.

COORDINATION

MHA actively participates on the Mountrail County LEPC and coordinate with the county in emergency responses and in training exercises. MHA is also a NFIP participating community. See Table 4.3-1

The Three Affiliated Tribes Fire Management program provides wildland/rural fire protection services on the Fort Berthold Indian Reservation and responds when needed to Wildland/rural fires that are close and threatening to county rural-urban interface area



Figure 2.7-1 Mountrail County and the Fort Berthold Reservation



Figure 2.7-2 Four Bears Bridge crossing Lake Sakakawea.

2.8 FUTURE LAND USE AND DEVELOPMENT CONSIDERATIONS

Mountrail County recently adopted a Comprehensive Plan for the year 2030 which considered both the county's growth potential and development limitations in identifying priority growth areas. Many of the elements considered for that plan need to be addressed in this Hazard Plan including the zoning and certain existing land uses of both the cities and unincorporated areas of the county, U.S. military facilities, oil and gas development, water source protection, hazardous materials in place and in transit, pipelines, and railroads. This Hazard Plan considers these and other elements.

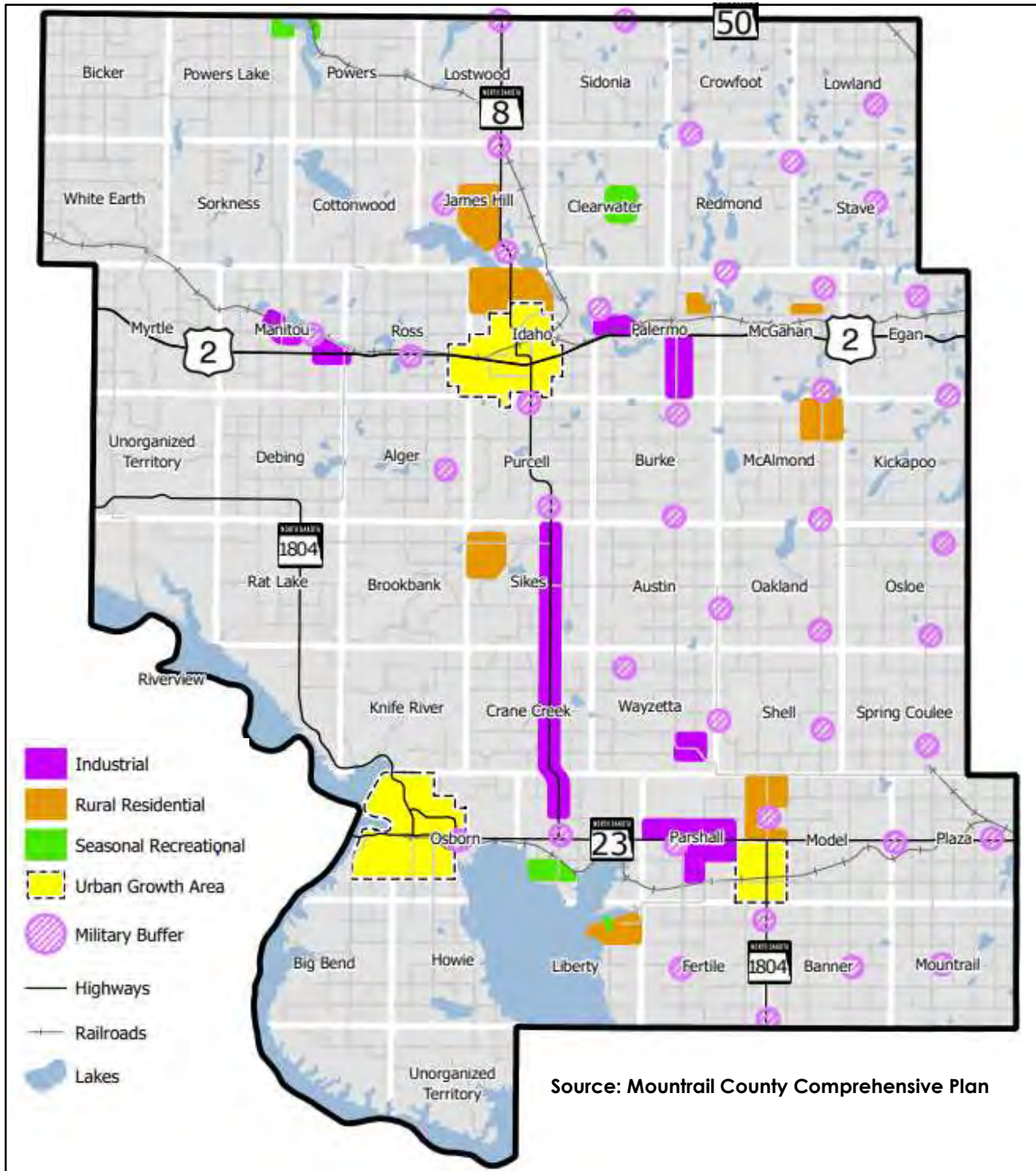


Figure 2.8-1 Mountrail County Future Growth Areas

2.9 HISTORIC PROPERTIES

Mountrail County has five listings on the National Register of Historic Places, detailed in Table 2.9-1. Listing on the National Register signifies that these structures and districts have been determined to be worthy of preservation for their historical or cultural values.

Table 2.9-1 NATIONAL REGISTER OF HISTORIC PLACES LISTINGS IN MOUNTRAIL COUNTY		
Assyrian Muslim Cemetery July 17, 2018		Ross Vicinity 1/4 mi. S of US 2 on 87th Ave. NW
Evans Site February 8, 1980		New Town Address Restricted
Great Northern Railway Underpass		Stanley BNSF Railway tracks over ND 8
Mountrail County Courthouse December 22, 1978		Stanley N. Main St.
Wabek Consolidated School⁸ October 22, 2019		Plaza vicinity 3825 64th Ave. NW

Source: www.nps.gov/subjects/nationalregister

⁸ Photo: By History N.D. - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=97181840>



3

HAZARD IDENTIFICATION + SCREENING

3 Hazard Identification + Screening

3.1 OVERVIEW

The goal of mitigation is to reduce the future impacts of a hazard including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation practices are based on sound risk assessments. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure, and people.

As defined by FEMA, risk is a combination of hazard, vulnerability, and exposure. “It is the impact that a hazard would have on people, services, facilities, and structures in a community and refers to the likelihood of a hazard event resulting in an adverse condition that causes injury or damage.”

The risk assessment process identifies and profiles relevant hazards and assesses the exposure of lives, property, and infrastructure to these hazards. The process allows for a better understanding of the potential risk to natural and technological/human-caused hazards in the county and provides a framework for developing and prioritizing mitigation strategies to reduce risk from future hazard events. This risk assessment followed the methodology described in the FEMA publication “Understanding Your Risks—Identifying Hazards and Estimating Losses,” which breaks the assessment down to a four-step process.



3.2 HAZARD IDENTIFICATION

Identifying the hazards to be addressed in this Hazard Plan began with a review of hazards included in the ND Plan, the previous Mountrail County Hazard Plan, and the plans of adjacent counties. Information about the community's experience with hazards, the Presidential Disaster Declarations, NOAA Storm Events Database excerpts for the cities and the unincorporated areas of the county (see Annex A thru Annex H), local records, news accounts, and recollections of experience with hazards.

The chapter first addresses which hazards to include in this Hazard Plan. The chapter also presents an overview of the concept of the critical, strategic, and key facilities plus the range of CPRI scores for the hazard risks and vulnerabilities.

HAZARD SCREENING

The preliminary list of hazards to include in this Hazard Plan was established by first reviewing the list of hazards included in the county's 2015 plan, the North Dakota Enhanced Mitigation Plan, (ND Plan), plans of adjacent counties (Table 3.2-1), and the hazard incidents included in the Presidential Declarations. since adoption of the 2015 plan. In addition, the NOAA Storm Events Database was consulted. This research indicated that the most serious natural hazard risks and vulnerabilities for the county include severe winter storms, severe summer storms and wildland/rural fires.



Figure 3.2-1 Hazards from the ND Plan

Some hazards were divided into sub-categories to better reflect the differences among the cities. For example, because there are different risk levels involving hazardous

Table 3.2-1 PRELIMINARY CONSIDERATION OF HAZARDS TO ADDRESS									
HAZARDS	North Dakota	Mountrail County	Adjacent Counties					MHA Nation	
			Burke	Dunn	McKenzie	McLean	Ward		Williams
Drought									
Flood									
Geologic Hazards									
Severe Summer Weather									
Severe Winter Weather									
Wildland/Rural Fires									
Extreme Wind									
Public Health Incident									
Dam Failure									
Hazardous Materials Incident									
Homeland Security Incident									
Shortage of Critical Materials									
Transportation Incident									
Urban/Structural Fire									
Space Weather									

materials across the county and among the cities, this hazard was subdivided into multiple sub-categories.

3.3 PRESIDENTIAL DISASTER DECLARATIONS

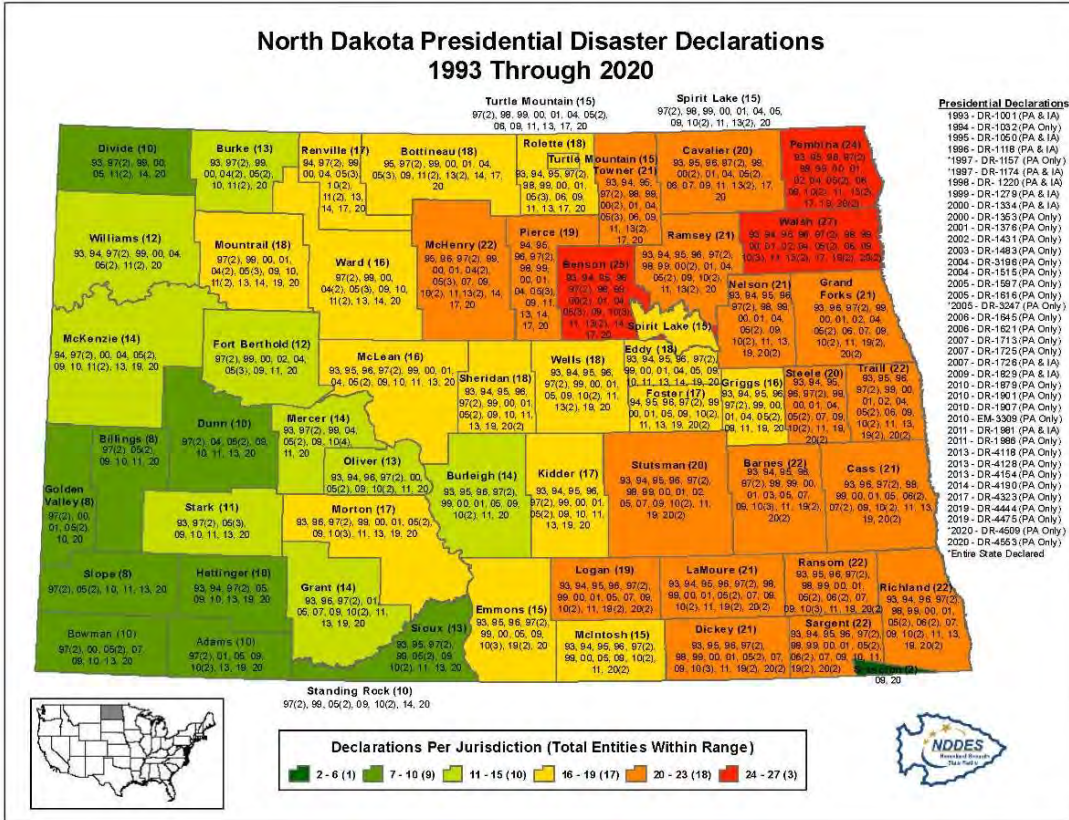


Figure 3.2-2 North Dakota Presidential Disaster Declarations

There have been four Presidential Declarations since adoption of the county's last hazard plan. The two statewide declarations, EM-3477-ND and DR-4509-ND were related to the COVID-19 Pandemic.

North Dakota FLOODING (DR-4475-ND)

Incident Period: October 9, 2019 - October 26, 2019
Major Disaster Declaration declared on January 21, 2020



Figure 3.2-3 DR-4475-ND

North Dakota SEVERE STORMS AND FLOODING (DR-4565-ND)

Incident Period: June 29, 2020 - July 1, 2020
Major Disaster Declaration declared on October 2, 2020



Figure 3.2-4 DR-4565-ND

3.4 RECORDED WEATHER EVENTS

**Table 3.4-1
MOUNTRAIL COUNTY RECORDED WEATHER EVENTS**

LOCATION	DATE	WEATHER EVENT TYPE							LOCATION	DATE	WEATHER EVENT TYPE						
		Extreme Cold	High Wind	Heavy Snow	Blizzard	Thunderstorm	Hail	Funnel Cloud or Tornado			Extreme Cold	High Wind	Heavy Snow	Blizzard	Thunderstorm	Hail	Funnel Cloud or Tornado
COUNTY	2/22/2015								NEW TOWN ARPT	7/31/2016							
COUNTY	7/28/2015								NEW TOWN ARPT	7/31/2016							
COUNTY	10/11/2015								PALERMO	6/25/2015							
COUNTY	11/18/2015								PALERMO	6/9/2016							
COUNTY	2/6/2016								PALERMO	6/9/2016							
COUNTY	11/28/2016								PALERMO	7/20/2016							
COUNTY	12/5/2016								PALERMO	8/3/2019							
COUNTY	12/25/2016								PARSHALL	9/6/2015							
COUNTY	1/2/2017								PARSHALL	6/29/2017							
COUNTY	1/30/2017								PARSHALL	6/10/2018							
COUNTY	3/6/2017								PARSHALL ARPT	7/4/2015							
COUNTY	12/20/2017								PARSHALL ARPT	6/10/2018							
COUNTY	3/5/2018								PLAZA	6/1/2015							
COUNTY	3/23/2018								PLAZA	6/25/2015							
COUNTY	1/27/2019								PLAZA	6/9/2016							
COUNTY	1/29/2019								PLAZA	6/1/2018							
COUNTY	2/3/2019								PLAZA	6/10/2018							
COUNTY	4/28/2019								ROSS	7/31/2016							
COUNTY	3/1/2020								ROSS	6/14/2020							
COUNTY	12/22/2020								ROSS	6/14/2020							
COUNTY	1/13/2021								ROSS	7/20/2020							
COUNTY	1/20/2021								SANISH	7/31/2019							
COUNTY	2/5/2021								SANISH	7/31/2019							
BELDEN	7/31/2016								SANISH	6/14/2020							
BELDEN	7/31/2019								SANISH	6/14/2020							
BELDEN ARPT	7/31/2019								SANISH	6/29/2020							
BLAISDELL	6/9/2016								SANISH	6/29/2020							
BLAISDELL	6/24/2016								SANISH	6/29/2020							
BLAISDELL	6/14/2018								SANISH	6/21/2016							

LOCATION	DATE	WEATHER EVENT TYPE						LOCATION	DATE	WEATHER EVENT TYPE					
		Extreme Cold	High Wind	Heavy Snow	Blizzard	Thunderstorm	Hail			Funnel Cloud or Tornado	Extreme Cold	High Wind	Heavy Snow	Blizzard	Thunderstorm
BLAISDELL	6/14/2018							SANISH	7/31/2016						
BLAISDELL	9/20/2019							SANISH	7/31/2016						
BLAISDELL	7/7/2020							SANISH	7/18/2018						
EPWORTH	5/25/2016							SANISH	6/14/2020						
EPWORTH	9/19/2019							SANISH	6/14/2020						
LOSTWOOD	6/9/2016							SANISH	6/29/2020						
LOSTWOOD	8/3/2019							SANISH	6/29/2020						
LOSTWOOD	8/10/2019							STANLEY	7/4/2015						
MANITOU	6/29/2017							STANLEY	7/31/2016						
MANITOU	7/29/2017							STANLEY	8/4/2019						
MANITOU	7/7/2020							STANLEY	6/14/2020						
NEW TOWN	6/24/2016							STANLEY ARPT	6/25/2015						
NEW TOWN	7/31/2016							STANLEY ARPT	6/9/2016						
NEW TOWN	7/31/2016							STANLEY ARPT	6/24/2016						
NEW TOWN	6/10/2018							STANLEY ARPT	7/12/2019						
NEW TOWN	6/10/2018							STANLEY ARPT	6/14/2020						
NEW TOWN	9/3/2018							STANLEY ARPT	7/7/2020						
NEW TOWN	9/20/2019							TAGUS	6/1/2015						
NEW TOWN	6/16/2020							TAGUS	7/20/2016						
NEW TOWN	6/29/2020							WHITE EARTH	6/21/2019						
NEW TOWN	6/29/2020							WHITE EARTH	6/14/2020						
NEW TOWN	7/7/2020							WHITE EARTH	8/4/2020						
NEW TOWN ARPT	7/31/2016							WHITE EARTH	8/4/2020						
NEW TOWN ARPT	7/31/2016							WHITE EARTH	8/4/2020						

Source: www.ncdc.noaa.gov

3 5 COMMUNITY SURVEY

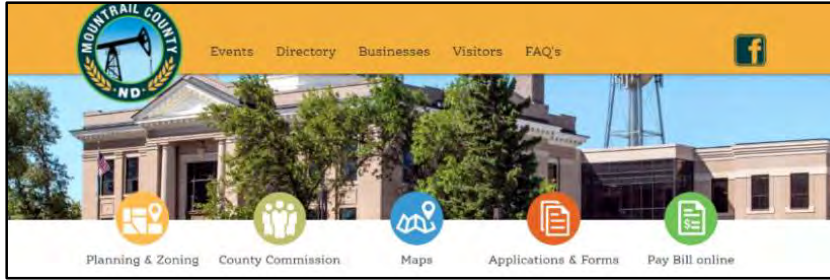


Figure 3.5-1 Mountrail County Website link to the Community

The Community Survey was designed to provide an overview of community concerns, a better understanding of how much experience the community has with hazards and what community members are doing to prepare their homes and their families for a future hazard event. In this Hazard Plan, the sections on the hazards often include survey results in discussion on probability of the hazard occurring. A copy of the survey questions and an overview of the responses is provided in Appendix 3.

Table 3.5-1 COMMUNITY SURVEY RESULTS					
HAZARDS		Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
NATURAL HAZARDS	DROUGHT	21%	61%	18%	0%
	FLOOD	0%	29%	41%	29%
	LANDSLIDE	0%	3%	9%	88%
	SEVERE WINDSTORM/ TORNADO	44%	29%	9%	18%
	EARTHQUAKE	15%	3%	18%	64%
	SEVERE HAILSTORM	44%	32%	6%	18%
	EXTREME HEAT	38%	38%	12%	12%
	SEVERE SNOWSTORM	65%	26%	6%	3%
	SEVERE ICE STORM	60%	33%	3%	3%
	WILDLAND/RURAL FIRE	17%	40%	27%	17%
OTHER HAZARDS	FORT PECK DAM FAILURE	6%	6%	41%	47%
	WHITE EARTH DAM FAILURE	6%	12%	39%	42%
	PUBLIC HEALTH INCIDENT	35%	32%	24%	9%
	OIL SPILL	35%	53%	3%	9%
	SALTWATER SPILL	35%	50%	3%	12%
	HAZ MAT RELEASE In Transit	29%	47%	12%	12%
	HAZ MAT RELEASE Minot AFB Missile Launch Facilities	6%	24%	44%	26%
	HAZ MAT RELEASE Fixed Site	0%	52%	39%	9%
	CRITICAL MATERIALS SHORTAGE	15%	47%	29%	9%
	ACTIVE ATTACKER	0%	41%	38%	21%
	CYBER ATTACK	12%	47%	26%	15%
	MAJOR URBAN FIRE	12%	47%	32%	9%
MAJOR TRANSPORTATION INCIDENT	29%	31%	26%	14%	

3.6 HAZARDS OVERVIEW

The list of profiled hazards evolved with input from the LEPC, meetings with county and city leaders and information from the community survey. Hazards were added, and others were divided into sub-categories to better reflect the differences across the county and among the cities. For example, because there are different risk levels involving hazardous materials across the county and among the cities, this hazard was subdivided into multiple sub-categories. Table 3.6-1 reflects the profiled hazards.

Table 3.6-1 MOUNTRAIL COUNTY HAZARDS	
NATURAL HAZARDS	TECHNOLOGICAL/HUMAN-CAUSED HAZARDS
<ul style="list-style-type: none"> • DROUGHT • FLOOD • GEOLOGIC HAZARDS <ul style="list-style-type: none"> Earthquake Landslide • SEVERE SUMMER WEATHER <ul style="list-style-type: none"> Extreme Heat Thunderstorms and Lightning Hailstorms Severe Windstorms Tornado • SEVERE WINTER WEATHER <ul style="list-style-type: none"> Extreme Cold Blizzards, Heavy Snow and Ice Storms • WILDLAND/RURAL FIRE 	<ul style="list-style-type: none"> • PUBLIC HEALTH INCIDENT • HAZARDOUS MATERIALS RELEASE <ul style="list-style-type: none"> Pipeline Roadway In Transit (road rail) Minot AFB Missile Silo Facilities Other Fixed Sites Oil Spill/ Saltwater Spill • INFRASTRUCTURE FAILURE <ul style="list-style-type: none"> Dam Failure Electric Interruption Potable Water Interruption • SHORTAGE OF CRITICAL MATERIALS • TERRORISM AND VIOLENCE <ul style="list-style-type: none"> Active Attacker Cyber Attack • MAJOR URBAN FIRE • MAJOR TRANSPORTATION INCIDENT

Some of these hazards are interrelated (for example, drought events can exacerbate wildland/rural fire activity), and discussion of these hazards may overlap where necessary throughout the risk assessment. Also, some hazards consist of hazardous elements that are not listed separately above (for example, blizzards, heavy snow, and ice storm activity is considered together). Hazards are grouped into Natural Hazards (Chapter 4) and Technological/Human-Caused Hazards (Chapter 5). Other than Space Weather (See Section 4.7), each profiled hazard addresses the following:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Hazard Profile • Past Occurrences • Vulnerability • Extent and Magnitude | <ul style="list-style-type: none"> • Impact • Probability of a Future Occurrence • Changes in Development • Existing Capabilities |
|---|---|

Not all hazards are relevant to all of the participating jurisdictions. Specific information for unincorporated Mountrail County and each of the cities (See Annex A thru Annex H). The level of detail for each hazard profile is generally limited by the amount of data available.



4

NATURAL HAZARDS

4 Natural Hazards

4.1 OVERVIEW

This chapter includes detailed profiles of natural hazards including drought, flooding, geologic hazards, severe summer weather, severe winter weather, and wildland/rural fires. Each hazard profile includes a general description of the hazard, its location and extent, notable historical occurrences, the probability of future occurrences, and a brief consequence analysis that outlines potential impacts on people, the built environment, the economy, and the natural environment.

4.2 DROUGHT

HAZARD PROFILE

Drought typically covers a large area and cannot be confined to any geographic or political boundaries. Drought is a normal part of virtually all climatic regions, including areas with high and low average rainfall. Drought is normally defined as a deficiency of precipitation over an extended period of time. If severe enough, this deficiency has potential to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems. It is a normal, recurrent phenomenon that takes place in nearly all climate zones. Drought is one of the most complex of all-natural hazards, as it is difficult to determine a precise beginning or end. In addition, drought can lead to or be exacerbated by other hazards, such as extreme heat. See also the Extreme Heat discussion in Section 4.5 Severe Summer Weather.

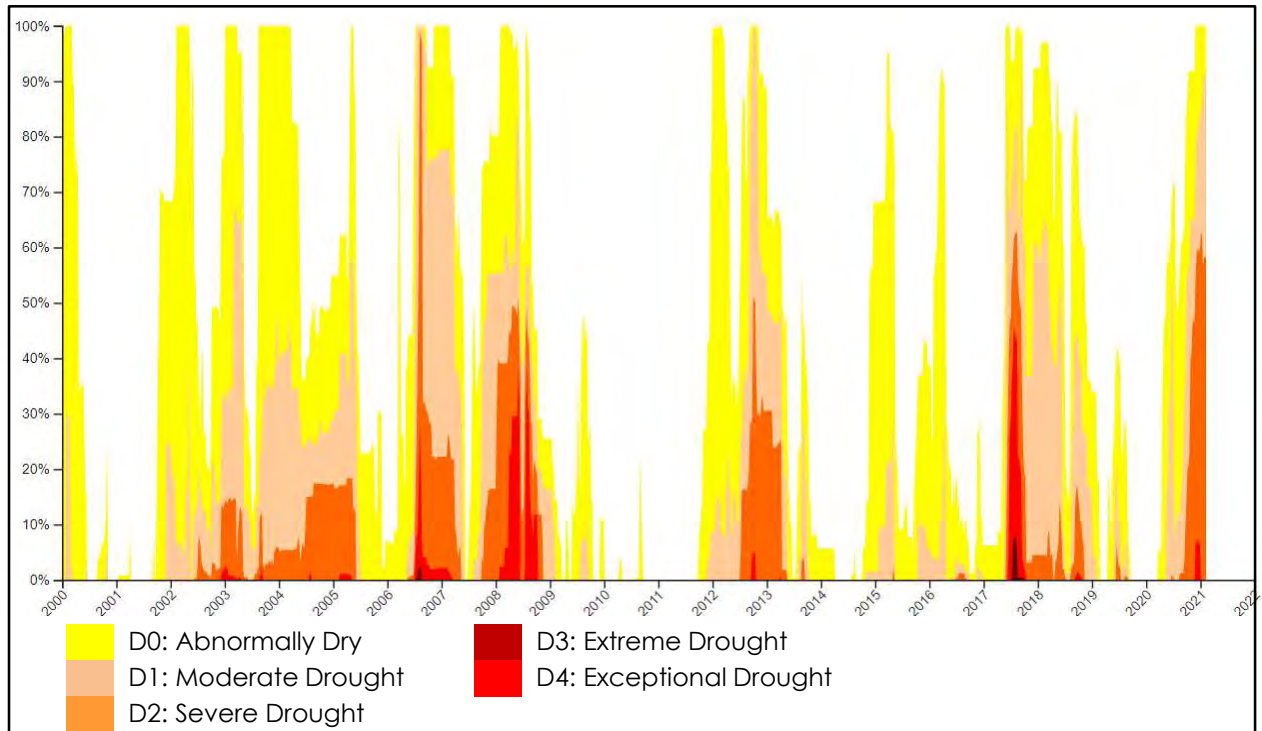


Figure 4.2-1 Recent Drought Experience - Mountrail County

PAST OCCURRENCES

According to the drought.gov website, North Dakota has had drought occurrences in most of 2000-2020 (Figure 4.2-1). In addition, the figure shows the most severe drought classification for each year. The website also indicates⁹ that the year 2021 (January-October) experienced 1.24 inches less rain than normal, making the year the driest on record in North Dakota since recordkeeping began 127 years ago.

Weekly maps of drought conditions in the contiguous U.S. as measured by the Palmer Drought Severity Index, Palmer Hydrological Drought Index, Palmer Modified Drought Index, and Palmer Z-Index (Palmer, 1965) are available for January 1900 through the current date. A recent example is presented in Figure 4.2-2.

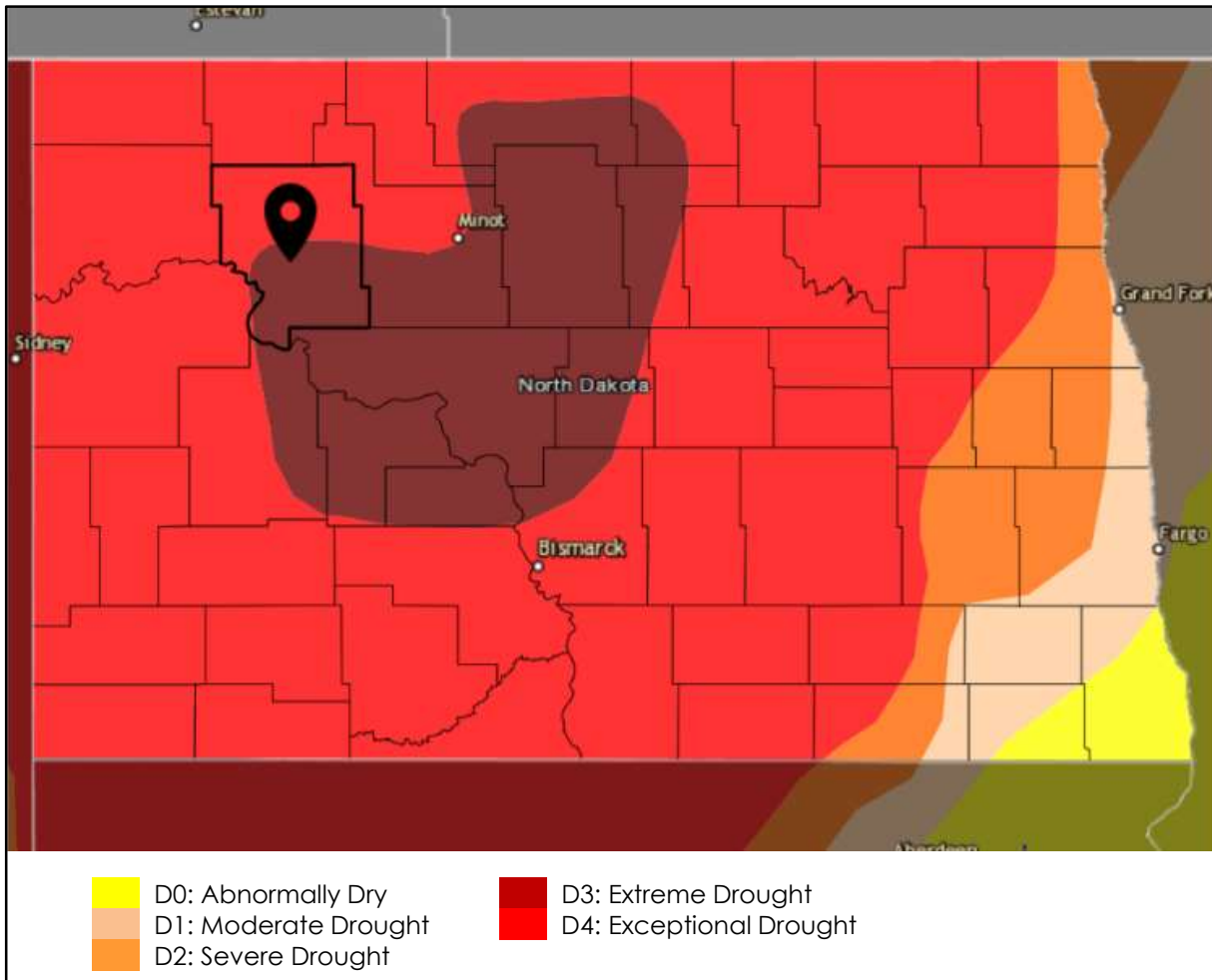


Figure 4.2-2 May 18, 2021 Drought Map for North Dakota

In 2017 and again in 2021, the Mountrail County Commissioners issued a Drought Emergency Declaration as the county had endured abnormally dry conditions due to lack of precipitation since the fall of 2020, and lack of snow for the 2020-2021 winter. This drought has also been documented in NOAA's storm event database¹⁰. Their severe

⁹ Mountrail County Conditions | Drought.gov

¹⁰ <https://www.ncdc.noaa.gov/stormeventsdriest>

storm records between 2015 and late 2021 records a drought lasting from mid-March 2021 through August 2021.

VULNERABILITY

The county's agriculture, municipal and rural water supply sources, fire-suppression, industrial water users, agriculture-related businesses, and some recreational uses are vulnerable to depletion of surface water and ground water sources during droughts of significance. All of Mountrail County and all of the cities are vulnerable to drought but the suppliers all indicate that sources are adequate, Water supply sources, providers and capacities are different across the county. See Chapter 7.

When the 2015 Hazard Plan was adopted, drought was not a hazard of concern. The 2015 Hazard Plan described North Dakota's flood to drought hydrological cycle and noted "Dakota is in a wet cycle, which will end at some point. Once the current cycle ends, the likelihood of drought may increase, and the vulnerabilities associated with drought will once again become an issue for this largely agricultural area." In 2020, drought became a hazard of much greater concern. The county addressed its vulnerability to the impact of the abnormally dry conditions of an extended drought event in the April 21, 2020 Fire Disaster Declaration:

- Sustained or been threatened with rural fires
- All available resources remain committed to protecting life and property
- The impact of fires could threaten the health, well-being, and safety of citizens of Mountrail County
- The cost of response and the inordinate equipment wear may be far in excess of available County resources

Population growth has significantly increased water consumption and the demand for water. Potable water shortages and heat-related illness, which can be related to drought, put the county's elderly and other vulnerable population at risk. Table 2.4-5 indicates that approximately 36.9% of the county are 65 years of age or older.

EXTENT/MAGNITUDE

Generally, drought is a natural regional phenomenon that is not restricted to particular areas or types of environments. While 100% of Mountrail County is impacted by drought and its impact may vary slightly across the county, all areas of the county have an equal probability of experiencing a drought.

IMPACT

The impacts of drought are highly variable based on time of year, amount of stored water in the soil, and meteorological factors such as temperature, humidity, and wind. Impacts are also greatly affected by human factors such as local water demand and water management practices.

Table 4.2-1 North Dakota Consumptive Water Use Percentage of Total Use		
Water Use	2013	2017-019
Irrigation	54%	50%
Municipal	20%	20%
Rural	4%	4%
Industrial/Power/Multi Use (Non-Fracking)	16%	16%
Water Depots (including fracking)	5%	10%

Drought can result in negative impacts all of the water users shown in Table 4.2-1. It should be noted that there has been a shift in water use since the 2013 totals were released. Water depots water use including fracking has increased and irrigation has decreased. Indirectly, there is also potential economic/tourism impacts related to recreational fishing relate to the conflict between water levels needed for recreational use of a lake and water withdrawal for public purposes including fire suppression.

Impact on Agriculture

As Mountrail County's economy is heavily reliant on the agriculture industry, the county's farmers and agricultural producers are particularly susceptible to drought damage. Limited access or reduced water consumption can result in dehydration, which can be fatal to livestock. Table 4.2-2 shows that Mountrail County's agricultural sector is significant; a drought has the potential to directly affect almost 16% of the land in Mountrail County.

Table 4.2-2 MOUNTRAIL COUNTY FARMLAND			
Number of Farms	584	Harvested Cropland, Acres	35,610
Land in Farms, Acres	1,081,383	Irrigated land, Acres	3,764
Average Farm Size, Acres	1,852		

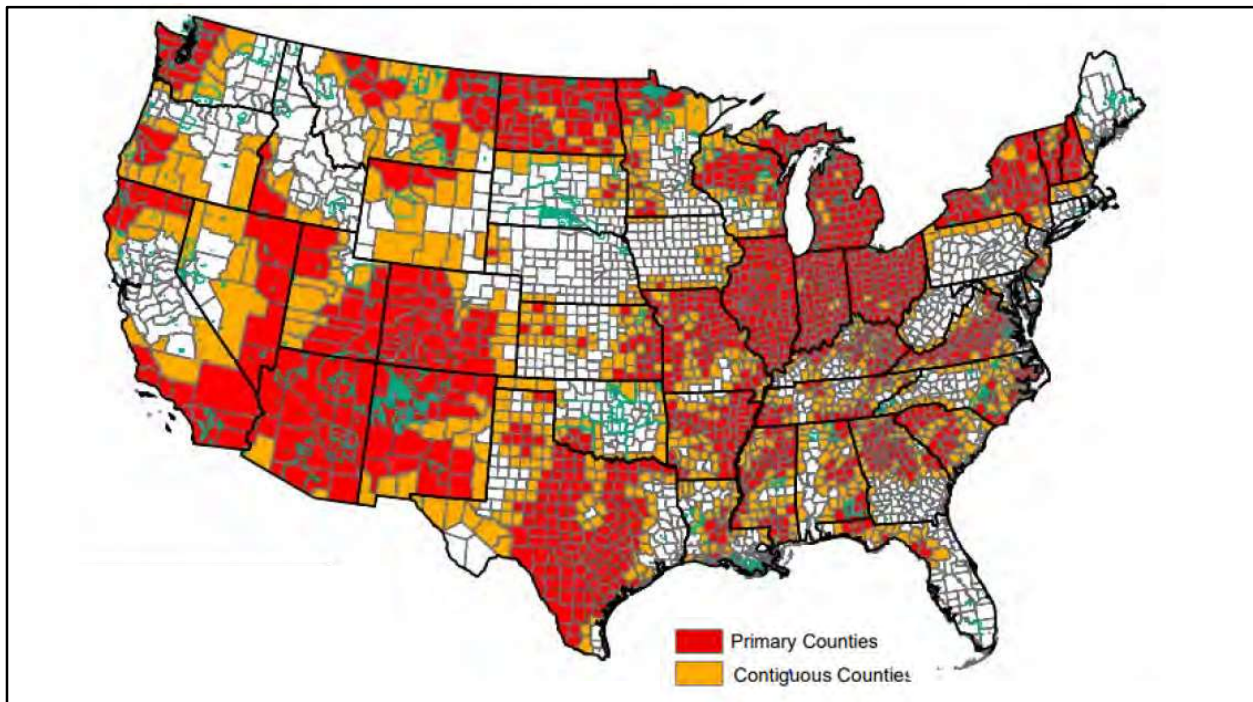


Figure 4.2-4 2019 USDA Crop Disaster Loss Designations - All Drought Types

Historic Impact of Drought on Crops

Top crops include wheat for grain, canola, forage, dry edible peas, and soybeans. Prolonged periods of dry weather are the most difficult and damaging problem faced by crop growers and agricultural suppliers. Short- or long-term moisture deficits can

severely reduce yields, with the amount of yield lost depending on when the drought occurs, the growth stage of the crop, the severity of dry conditions, and the amount of available water that the soil can hold. Historical drought occurrences can be measured by looking at impacts. Federal indemnity programs provide financial assistance to help reduce the impact of drought-related agricultural losses. Drought losses occurred during the late 1980s and early 1990s and were scattered throughout the 2000s. Figure 4.2-4 illustrates the location of USDA's crop disaster losses for 2018 on the county is classified as a contiguous county.

Historic Impact of Drought on Livestock

A majority of North Dakota cattle producers rely on dugouts or stock dams for their cattle's drinking water, but those sources rely on surface water runoff, which North Dakota has had very little of over the past year-and-a-half. KX News reported that some water well drillers are scheduled out up to two years¹¹.

Livestock losses from drought will most likely be confined to forage-based production systems. Losses in beef and dairy systems will potentially be of a single-season or multiyear variety. Single-season losses will include lost forage production (on both hay and grazing land) and increased mortality. Multi-year losses could include the cost of reestablishing pastures and reduced meat production in subsequent years due to forced sales in the drought year. In addition, drought conditions could result in poor pasture conditions, and a critical hay shortage that directly affects livestock health. Prolonged drought can produce significant economic impacts, both directly and indirectly and could result in local cattle producers reducing herd sizes, and population decline due to loss of jobs.

Impact on Agricultural-Related Businesses

In addition to a drought's direct impact on farmers and agricultural producers, the indirect impact extends to related businesses across the county including¹²:

New Town	Plaza	Stanley
United Prairie Cooperative	TriGen AG Partners	Consolidated Farm Service
RABOBANK AG Finance	Great Northern AG	Dakota Quality Grain Coop
J.R. Simplot Company		Stanley Equipment
United Quality Grain Coop	Ross	Tractor Supply
	Dakota Quality Grain Coop	Wilson Supply
Parshall	MidWest Milling	Pinnacle Farm Supply
Dakota Quality Grain Coop	United Agronomy	
United Agronomy	West Dakota Feed & Seed	

Impact on Domestic Water Use

As mentioned above, demand for municipal and rural domestic water use has increased in recent years. In the early days of the recent drought, many residential wells went dry and like the cattle producers, many waited months for well drillers to meet

¹¹ Persistent drought has water well drillers booked solid for 2-years | KX NEWS (kxnet.com)

¹² None listed for Palermo or White Earth

their needs. Some communities in the region imposed a water limit advisory for up to two weeks. Officials ask people to avoid watering their lawns or washing their cars.

PROBABILITY

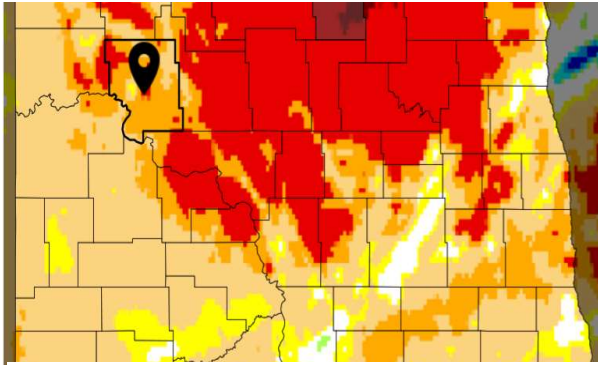


Figure 4.2-5 Experimental short-term prediction

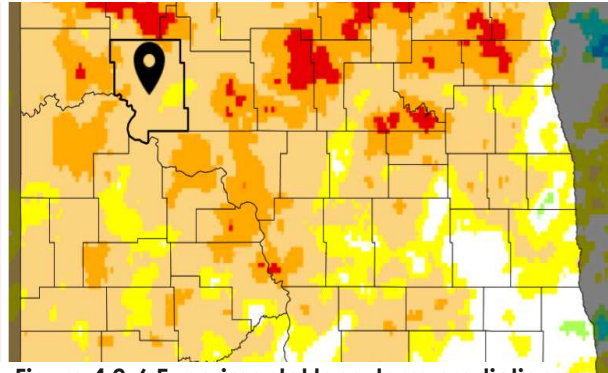


Figure 4.2-6 Experimental long-term prediction

It is difficult to predict when a drought will appear. Historic trends show that wetter-than-normal periods tend to alternate with drier-than-normal periods. The average monthly precipitation in New Town ranges from 0.4 inches (January) to 3.1 inches (June). It is important to note, however, that numerous factors beyond rainfall contribute to drought status, which can make it difficult to predict and classify droughts. Based on historical occurrence, it is assumed that all of Mountrail County has a probability level of “likely” for future drought events, but historical information also indicates that there is a much lower probability for extreme, long-lasting drought conditions. This hazard may vary slightly across the county, but all areas of the county have an equal probability of experiencing a drought. Results of the community survey indicate that 82% of those responding expect a drought event in the next five years.

Figure 4.2-5 and Figure 4.2--6 were developed using methodology developed at the NOAA Climate Prediction Center. The short-term combines one-month and three-month information to estimate the overall short-term drought and the long-term prediction combines six-month, one-year, two-year, and five-year information to estimate the overall long-term drought.

CHANGES IN DEVELOPMENT

The drought predictions depicted above present a challenge to an increasing population and increased water consumption for agricultural, residential and industrial uses. In times of drought, there is often discussion of prioritizing water use (Faucets versus Fracking). Studies and reports are a low priority by North Dakota Water Resources, but the University of North Dakota Energy & Environmental Research Center (UND EERC) is addressing the use of water in fracking and looking into new water options¹³.

EXISTING CAPABILITIES

The ND Department of Agriculture is providing technical assistance, has initiated a number of programs to assist those impacted by the 2021 drought, and has coordinated with a number of agencies to provide additional assistance. Their

¹³ Energy–Water | Research & Expertise | EERC | University of North Dakota (undeerc.org)

programs include the 2021 Emergency Feed Transportation Assistance Program. Other programs and assistance include:

- NDSU is providing livestock and other drought-related drought resources (www.ag.ndsu.edu/drought)
- North Dakota Department of Water Resources is providing cost-share assistance to livestock producers with water supply shortages caused by drought.
- USDA offers a variety of programs to help farmers, ranchers, communities, and businesses that have been hard hit by natural disaster events.
- Farm Rescue is assisting farm and ranch families in North Dakota by providing the necessary equipment and volunteer workforce to plant, hay or harvest their crop. Livestock feeding assistance is also available.
- Bank of North Dakota Relief Programs

Mountrail County, together with the adjacent Williams County and McKenzie County, are participants in the North Dakota Cloud Modification Project, which is administered by the State Water Commission. The program seeds clouds for hail damage reduction and rain enhancement. The SWC has concluded that as of the date of the article all evaluations of the program have shown either positive or neutral results¹⁴.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. No critical, strategic, or key facility in Mountrail County is expected to be physically damaged by drought.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for drought incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Drought has occurred in Mountrail County cyclically with 2020/2021 being the driest years. The impact of drought on agriculture, a key element of the county's economic base, has been significant. Temporary assistance programs have been established by a number of agencies to respond to the needs of farmers and ranchers. Long-term solutions have focused on delivering water to those who need it.

Related Mitigation Strategies

- Mitigation strategy #14 addresses ongoing cooperation with the Department of Agriculture regarding education and emergency response for drought
- Mitigation strategy #16 "Develop/collect education material..." addresses drought and water use plus water conservation.
- Mitigation strategy #36 encourages communities to work with Rural Water to establish hydrants in areas distant from existing hydrants.
- Mitigation strategy #37 identifies the need to continue to support programs that assist farmers and ranchers in need during times of drought.

¹⁴ <https://www.swc.nd.gov/arb/ndcmp/programeval.html>

4.3 FLOOD



Figure 4.3-1 Parshall ND

HAZARD PROFILE

Flooding is defined by the rising and overflowing of water onto normally dry land. According to FEMA, a flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties. Flooding can result from an overflow of inland waters or an unusual accumulation or runoff of surface waters from any source.

Flooding is the most frequent and costly of all-natural hazards in the United States and has caused more than 10,000 deaths since 1900. Approximately 90% of presidentially declared disasters result from flood-related hazard events. Taken as a whole, more frequent, localized flooding problems that do not meet federal disaster declaration thresholds ultimately cause the majority of damages across the country.

The National Flood Insurance Program (NFIP) was developed to address the impact of flooding on home and business owners. This federal program enables property owners in participating communities to purchase insurance protection against losses from flooding. Participation in the NFIP is based on an agreement between local communities and the federal government that states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the federal government will make flood insurance available within the community as a financial protection against flood losses.

Seasonal Pattern March-October

Primary causes of flooding in North Dakota include heavy rain/flash flooding, rapid snowmelt/ice jams and increased seasonal moisture. Flooding can occur in riverine zones or flat areas that lack adequate drainage.

Flood Insurance Rate Maps

These FEMA maps of a community delineate Special Flood Hazard Areas (SFHAs). In Mountrail County, Parshall and White Earth participate in the Flood Insurance program as does the Three Affiliated Tribes, Fort Berthold Reservation which is partly in Mountrail County. As Table 4.3-1 indicates, these maps were developed in 1986.

Table 4.3-1 COMMUNITIES PARTICIPATING IN THE NATIONAL FLOOD INSURANCE PROGRAM						
CID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Eff Map Date	Reg-Emer Date
380073	PARSHALL	MOUNTRAIL	11/29/74	03/18/86	03/18/86(M)	03/18/86
380074	WHITE EARTH	MOUNTRAIL	12/20/74	10/01/86	10/01/86(L)	10/01/86
380721A	Three Affiliated Tribes, Fort Berthold Reservation	MOUNTRAIL 15	06/28/74	04/05/88	04/05/88	04/05/88

Source: www.fema.gov/cis/ND.pdf



Figure 4.3-2 Flood Insurance Rate Map - Parshall

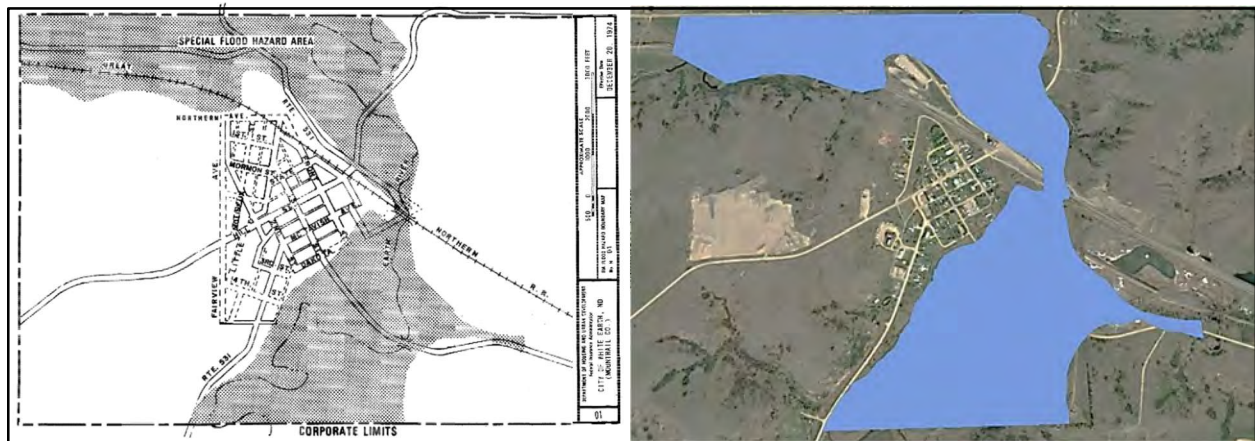


Figure 4.3-3 Flood Insurance Rate Map - White Earth

¹⁵ Part of the Fort Berthold Reservation is within Mountrail County

Neither Mountrail County nor any of its cities has experienced riverine flooding for decades. Flooding, or lack of flooding, was a topic at each meeting or conversation related to the City of Parshall. While this Hazard Plan focuses on the time period since the previous plan was adopted in 2015, the 1979 flood in Parshall has been documented¹⁶ and measures taken to address flooding during a rise in the East Fork of Shell Creek during a ten-year flood event. Flood waters were blocked by a Hwy 37 bridge and flooded a nearby roadway. Lifelong residents of the city do not recall any flood events in Parshall since then.

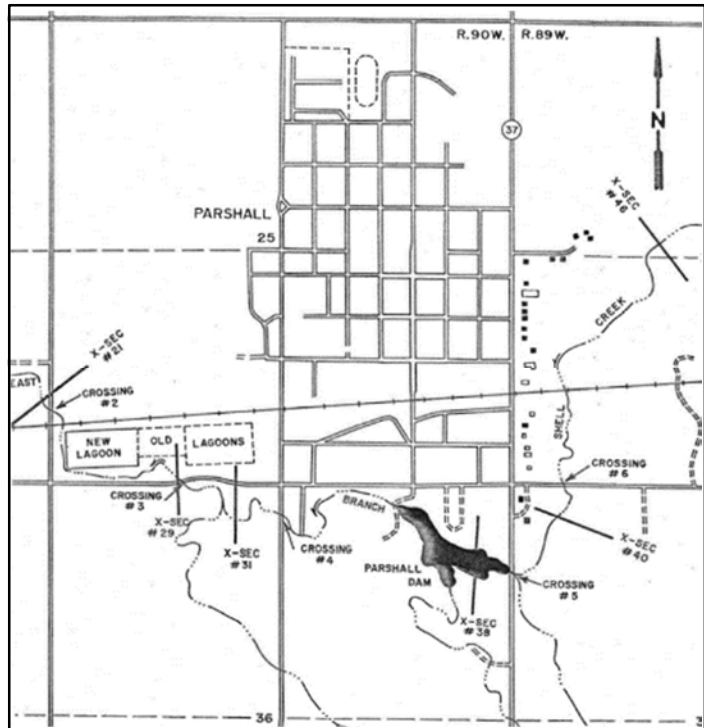


Figure 4.3-4 Figure from the Parshall Study

FEMA's Special Flood Hazard Areas for White Earth relate only to failure of the White Earth Dam and are discussed in Section 5.5.

VULNERABILITY

Neither Mountrail County nor any of its cities has experienced riverine flooding for decades. Today they have little or no vulnerability to one-hundred-year floodplain events in areas currently designated Zone A. Based on responses to the community survey about 70% of those responding indicated that flooding is somewhat or very unlikely. The others shared their opinion that flooding was only somewhat likely. See Annex A thru Annex G for information of cities' vulnerability and any vulnerability of the strategic facilities in the cities.

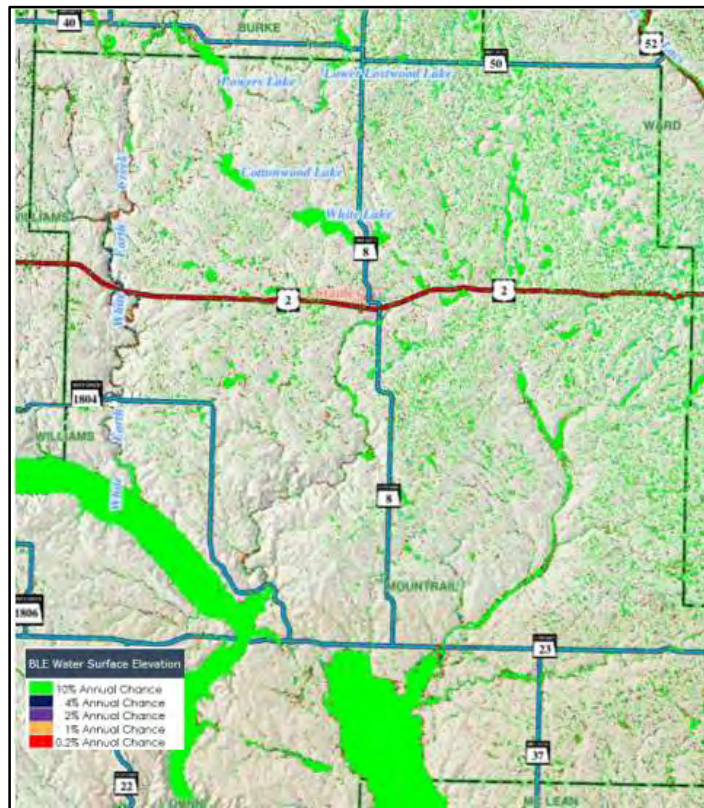


Figure 4.3-5 Flood Risk Assessment Map - Mountrail County <https://ndram.dwr.nd.gov>

FEMA's Base Level Engineering (BLE) coverage shows areas as flood prone that are not currently depicted

¹⁶ Parshall Flood Study, (Preliminary Engineering Report, East Branch of the Shell Creek Flood Control through Parshall)

on any FIRMs. This information is useful to local governments and can be used as a data source to supplement effective FIRMs when following established procedures. Figure 4.3-5 is a reduced copy of FEMA's BLE map for Mountrail County. Similar maps for each of the cities are included in Annex A thru Annex G. Each Annex addresses the vulnerability for overland flooding and the vulnerability of strategic facilities.

EXTENT/MAGNITUDE

Flooding is a season event, usually occurring in the spring. The extent and magnitude of the flooding is regional in nature and varies each year. As Figure 4.3-5 indicates, there is potential for flooding across the county.

PAST OCCURRENCES

Repetitive Loss Analysis

A repetitive loss property is one for which two or more flood insurance claims of more than \$1,000 have been paid by the NFIP within any 10-year period since 1978.

According to 2020 NFIP records, there are no repetitive loss properties in the county.

Presidential Declarations

In recent years, minor flooding in Mountrail County has been overland extending horizontally in low, flat, open areas which can result in water on road surfaces making the roadways, primarily gravel roads, impassable. The flooding recognized in the two Presidential Declarations noted in Section 3.3, illustrate this type of flooding. The experience was described by an engineer with the NDSU Upper Great Plains Transportation Institute¹⁷

“Once again, many county and township roads were under water as a result of this spring’s runoff event. The large volumes of snow from the past winter finally melted in late March and early April and filled up drainage areas that were already saturated from the extremely wet fall of 2019”.

IMPACT

Impacts of the kind of flooding that Mountrail County has experienced in recent years includes temporary road closures and detours. More serious flooding events in the future could damage roads and buildings, impact water supplies due to contamination, delayed emergency response and a disruption in commercial activities.

PROBABILITY

Mountrail County’s experience to date would indicate a low probability of serious flooding but results of the community survey are not clear. None of those responding to the community survey had experienced flooding. About 41% of those responding indicate that flooding is somewhat unlikely in the next five years. About 29% have the opinion that flooding was very unlikely and another 29% thought that flooding was likely over the same time period.

¹⁷ Flood Damage Repair Reimbursement Tips for Township Roads and Bridges (ndltap.org)

CHANGES IN DEVELOPMENT

Areas within the county that have experienced residential growth in recent years are on the urban fringe. Should that pattern change and residential development leapfrog onto away from urban areas and onto the open rural areas, residential flooding could be more of an issue than it is today.

EXISTING CAPABILITIES

The primary initiatives of the North Dakota State Water Commission are:

- Address imminent flood or dam related threats to human life, primary residences, or emergency response efforts.
- Support advancement of federally authorized flood control projects.
- Support projects that protect primary residences or businesses from flooding in population centers or involve flood recovery.

In addition, both Stanley and Parshall have Floodplain Administrators and as shown in Table 4.3-1, both Parshall and White Earth participate in the NFIP have FIRM maps in place. See also Chapter 7. FEMA's Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the NFIP. Nationally, over 1,500 communities participate nationwide. Mitigation Strategy #5 for Parshall and White Earth addresses FEMA's CRS program.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. No critical, strategic, or key facility in Mountrail County is expected to be physically damaged by flooding.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for flooding are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues and Related Mitigation Strategies

Mountrail County's experience to date would indicate a low probability of serious flooding with the flooding focused in rural areas.

- Mitigation strategy #4 seeks to Identify any future repetitively flooded roadways that would benefit from culverts and seek funding for that work.
- Mitigation strategy #5 for Parshall and White Earth encourages National Flood Insurance Program participation and consideration of the Community Rating System.
- Mitigation Strategy #5 for the other cities reads "Evaluate the feasibility of enrolling the city in the National Flood Insurance Program"
- Mitigation strategy #16 "Develop/collect education material..." addresses flooding.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.

4.4 GEOLOGIC HAZARDS - LANDSLIDES AND EARTHQUAKES

LANDSLIDES

HAZARD PROFILE

USGS defines a landslide as a movement of rock, soil, artificial fill, or a combination thereof on a slope in a downward or outward direction. The primary causes of landslides are slope, saturation by water from intense rainfall, snowmelt, or changes in groundwater levels on primarily steep slopes, earthen dams, and the banks of lakes, reservoirs, canals, and rivers. Figure 4.4-1 illustrates topography across the county. The darker areas have the steepest slopes.

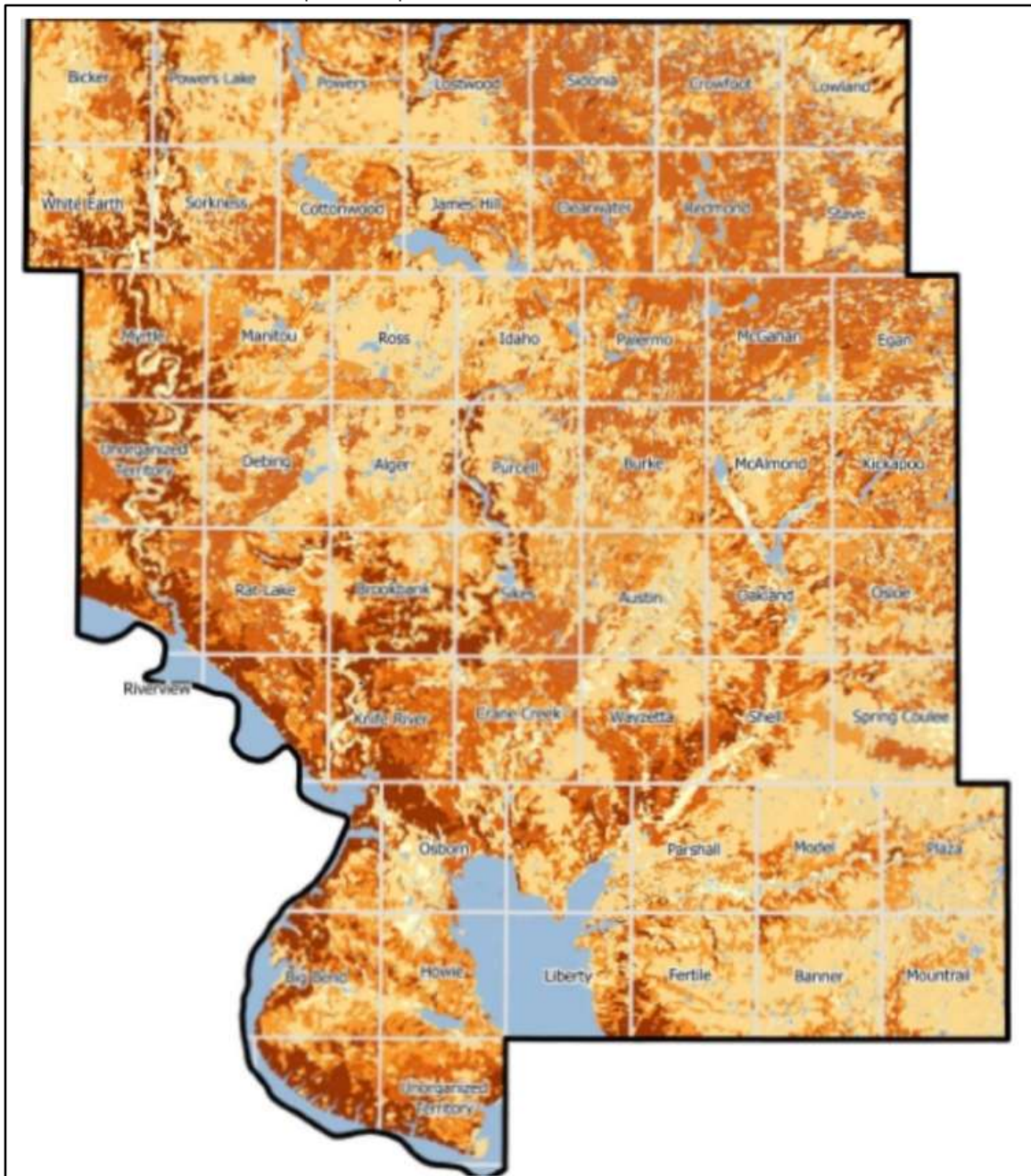


Figure 4.4-1 Mountrail County Topography

PAST OCCURRENCES

There is no history in Mountrail County of a landslide causing significant damage, but there are areas along the east side of the Missouri River where potential landslides are an issue.

“These areas along the Missouri River mainly on two reaches. One extending about 20 miles downstream from Williston and the other extending about the same distance downstream from the Four Bears Bridge crossing of State Highway 23 near New Town. The east valley wall of the Missouri River, south of the bridge near New Town, is a landslide area about two miles long”¹⁸.

ND Highway 1804 runs parallel to the river in this area and comes close to the landslide areas in a few locations. There are a few homes, farms, and an oil extraction operation on the river side of that highway. Some properties in this area have experienced fencing and minor land loss along their rear property lines. See Figure 4.4-2 and Figure 4.4-3.



Figure 4.4-2 landslide deposits shown in pink

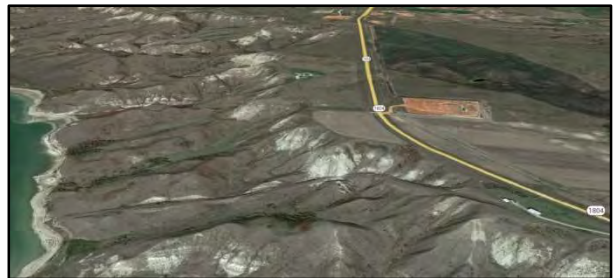


Figure 4.4-3 Landslide deposits mapped above

VULNERABILITY

No cities have landslide deposits mapped within or close to city limits. Landslide risk is confined to a few areas in rural Mountrail County. Most are located along the river's edge, indicated in pink on Figure 4.4-2 and Figure 4.4-4. Others are in the coulees along the Knife River, rooted in the soil layer and form slumps during periods of significant moisture.

All vulnerable areas are all located in rural Mountrail County, distant from cities. Very few homes and roadways are close. Figures 4.4-2 and 4.4-3 locate one roadway that is close. An increasing number of oil and gas production operations located close by. There is no known threat to strategic facilities.

EXTENT/MAGNITUDE

The extent of these landslide areas is very limited and local. Most of these areas are distant from current or likely future areas of development but there is some existing rural

¹⁸ Unstable Ground in Western North Dakota by Donald E. Trimble, USGS 1979

residential development, farming, and oil extraction operations in place today. Property owners in these areas along the Missouri River have reported property and even fencing lost to landslides.

PROBABILITY

Property within the USGS mapped areas have a greater probability of a landslide events than the rest of the county. Results of the community survey indicate that 88% of those responding expect that a landslide event is unlikely in the next five years

IMPACT

The potential impact of a landslide can be extensive, including loss of human life, and even a few inches of slope movement can disrupt septic, sewer, and water lines and crack foundations, severely damaging or destroying a home or business. Fortunately, as mentioned above, there are very few homes or roads close to landslide deposits. The potential impact of landslides in Mountrail County is very limited.

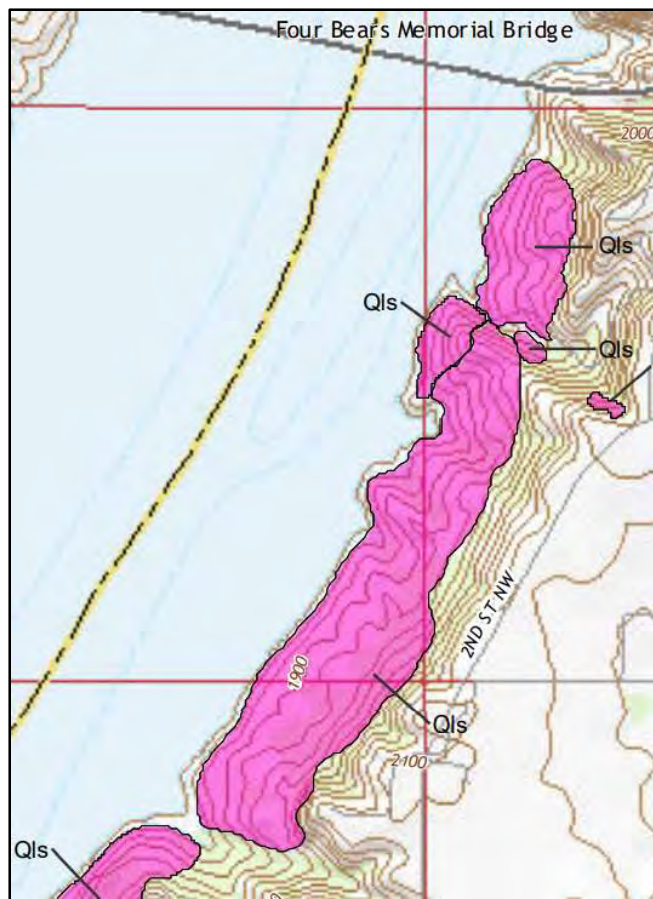


Figure 4.4-4 Excerpt from ND Geological Survey Map – south of Four Bears Memorial Bridge



Figure 4.4-5 Aerial of the landslides south of Four Bears Memorial Bridge

CHANGES IN DEVELOPMENT

Areas along the Missouri River are attractive to residential development and the geology of the area makes much of the area valuable for oil and gas production. A mitigation strategy has been included to address this risk by requiring that mapping of

these areas be made available for review by those seeking development approvals in or near areas with identified landslide susceptibility. In addition, sharing information about landslides would be included as part of the county's community outreach.

EXISTING CAPABILITIES

Unlike many other rural North Dakota counties, Mountrail County had adopted a Comprehensive Plan which reflects many of the issues addressed in this Hazard Plan. Currently the County Zoning is being updated to respond to those issues too. Similarly, this plan reflects issues, including the military buffers mentioned in the Comprehensive Plan and will be addressed in the County Zoning. Mountrail County has also adopted the North Dakota State Building Code which prohibits construction on steep slopes. The Code does provide: "Local governments that have not elected to adopt and enforce the state building code are responsible for assuring that plans and specifications for alterations and new construction of their buildings comply with the state building code." Historically, landslide events in Mountrail County have required little attention.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. No critical, strategic, or key facility in Mountrail County is expected to be physically damaged by landslides.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for landslides are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Mapping on landslides in Mountrail County shows small landslide areas across the rural areas of the county, The most significant potential for landslides of consequence are areas along the Missouri River. Today, in some locations, structures including homes and oil extraction equipment are close of the edge of the landslides. Landslides are not likely, and consideration of landslide possibility is generally not addressed in development and zoning reviews.

Related Mitigation Strategies

- Mitigation strategy #12 updates county protocol to make mapping of the landslide areas found on the N.D. Geological Survey 1:24,000 Landslide Area Map Series available for review by a property owner or applicant during development and zoning review.
- Mitigation strategy #16 "Develop/collect education material..." addresses landslides.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command (which could be activated in the event of a landslide impacting roads, utilities, or structures).

EARTHQUAKE

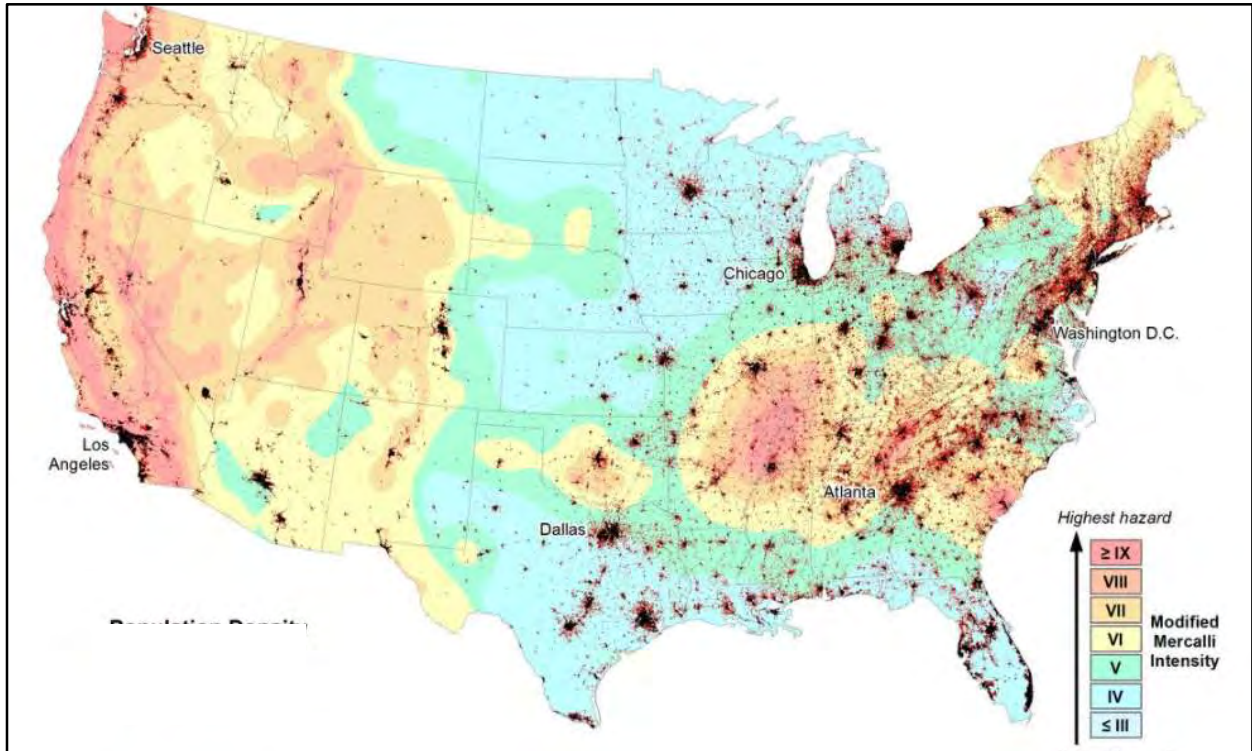


Figure 4.4-6 USGS Earthquake Map

HAZARD PROFILE

An earthquake is defined by the USGS, as a sudden movement of the earth, caused by the abrupt release of strain that has accumulated over a long time. North Dakota is not an area known for earthquake activity; however, many small earthquakes may occur throughout the state.



Figure 4.4-7 North Dakota – Recorded Earthquakes

PAST OCCURRENCES

Historically, there have been no earthquakes, or impact from an earthquake, in Mountrail County. The USGS Earthquake Hazard Area map (Figure 4.4-7) shows the previous earthquake hazard areas nearest Mountrail County, the closest earthquake event occurred in 2012 about 47 miles southwest of the City of Stanley.

VULNERABILITY

Much of Mountrail County is mapped as a moderate susceptibility to earthquake/low incidence area according to the USGS. In the event of a significant earthquake, which is not anticipated, residents in older structures¹⁹ would be the most vulnerable.

	New Town	Palermo	Parshall	Plaza
Older Structures	112	16	86	14
Residents	321	46	247	40
	Ross	Stanley	White Earth	Rural Mountrail
Older Structures	54	225	7	424
Residents	155	646	20	1,217

Source U.S. Census ACS 2019

PROBABILITY

According to the North Dakota Geological Survey, "North Dakota is located in an area of low earthquake probability. Infrequent, small earthquakes may occur near or within the state, but it is unlikely they will cause any serious damage."²⁰ Results of the community survey indicate that 64% of those responding expect an earthquake event to be very unlikely in the next five years; a total of 83% considered an earthquake to be either very unlikely or somewhat unlikely in the next five years.

EXISTING CAPABILITIES

Unlike many other rural North Dakota counties, Mountrail County had adopted a Comprehensive Plan which reflects many of the issues addressed in this Hazard Plan. Currently the County Zoning is being updated to respond to those issues too. Similarly, this plan reflects issues mentioned in the Comprehensive Plan and will be addressed in the County Zoning. Mountrail County has also adopted the North Dakota State Building Code which prohibits construction on steep slopes. The Code does provide: "Local governments that have not elected to adopt and enforce the state building code are responsible for assuring that plans and specifications for alterations and new construction of their buildings comply with the state building code." Historically, there have been no earthquakes, or impact from an earthquake, in Mountrail County.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. No critical, strategic, or key facility in Mountrail County is expected to be physically damaged by earthquakes.

¹⁹ Structures built before 1939

²⁰ <https://www.dmr.nd.gov/ndgs/ndnotes/Earthquakes/>

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for earthquakes are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

As mentioned above, infrequent, small earthquakes may occur within the state, but it is unlikely they will cause any serious damage.

Related Mitigation Strategies

- Mitigation strategy #16 “Develop/collect education material...” addresses earthquakes.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.

4.5 SEVERE SUMMER WEATHER

Severe summer weather is experienced across Mountrail County, but it is a national phenomenon. Recent severe summer storms in Mountrail County have included high winds with gusts up to 80 mph, severe thunderstorms, hail from dime size to ping pong ball size, lightning strikes, and tornadoes. Because each element of the Severe Summer Weather is unique, the Hazard Profile, Vulnerability, Extent/Magnitude, Impact, Probability, Changes In Development, and Existing Capabilities are presented separately.

EXTREME HEAT

HAZARD PROFILE

Extreme heat can have devastating effects on health. Extreme heat is often referred to as a “heat wave.” According to the National Weather Service (NWS), there is no universal definition for a heat wave, but the standard U.S. definition is any event lasting at least three days where temperatures reach 90°F or higher. However, it may also be defined as an event at least three days long where temperatures are ten degrees greater than the normal temperature for the affected area. Heat waves are typically accompanied by humidity but may also be very dry.

According to the National Oceanic and Atmospheric Administration, extreme heat is the number one weather-related killer among natural hazards, followed by frigid winter temperatures¹.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2013	35	35	39	73	86	82	86	77	89	71	55	37
2014	39	37	57	66	86	80	89	84	89	69	53	46
2015	48	10		75	78	87	91	98	91	80	62	53
2016	41	53	64	69	87	91	91	93	87	73	68	33
2017	41	44	62	71	84	87	96	91	91	75	64	46
2018	41	37	44	80	82	86	84	100	82	71	46	48
2019	41	35	51	77	84	89	89	89	86	39	46	
2020	55	55	66	78	84	95	93	98	68	74	73	55
Highest temperature	52	60	76	90	95	102	105	110	100	92	74	64

Source: www.wunderground.com

The NWS devised the Heat Index as a mechanism to better inform the public of heat dangers. The Heat Index Chart, (Table 4.5-2), uses air temperature and humidity to determine the heat index or apparent temperature. Some populations, such as the elderly and young, are more vulnerable to heat danger than other segments of the population. See Chapter 2.

Table 4.5-2 HEAT DISORDERS ASSOCIATED WITH HEAT INDEX TEMPERATURE	
Heat Index Temperature	Description of Risks
80°- 90°	Fatigue possible with prolonged exposure and/or physical activity
90°- 105°	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity
105°- 130°	Sunstroke, heat cramps, and heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity
130° or higher	Heatstroke or sunstroke is highly likely with continued exposure

Source: www.wunderground.com

VULNERABILITY

Extreme heat can affect many people and to varying degrees. Often the elderly and very young, the most vulnerable within the county's population, are at increased risk of heat-related illness, dehydration, heat stroke and exhaustion. As indicated in Table 2.4-4, about 36-38% of the population of Mountrail County and most of the cities are considered more vulnerable to hazard events because of their age (under 16 or over 65). The City of Ross has a lower percentage (21%), and the City of White Earth has a much higher percentage of very vulnerable persons (61%).

Extreme heat is likely to have a minor effect on the built environment (property, critical, strategic, and key facilities), although elevated temperatures could put a strain on infrastructure such as power generation and water systems due to higher demand.

EXTENT/MAGNITUDE

Extreme heat is a regional and countywide concern impacting persons of all ages, agriculture, and the economy of the area.

IMPACT

The elderly, those who work outside, and those who do not have air-conditioning in their homes or places of work would be negatively impacted by extreme heat events. In addition, an extreme heat event could potentially have a negative impact on the economy in the short term as the public may be advised to stay inside, causing them to reduce overall spending and negatively impact businesses in the community. Extended periods of extreme heat may also disrupt the local economy if farming and livestock production declines, resulting in income loss for farmers and others affected.

As mentioned above, extreme heat could potentially put a strain on infrastructure such as power generation and water systems due to higher demand.

PROBABILITY

High temperatures are an annual event in Mountrail County. Months with elevated temperatures extend from April to September. Results of the community survey indicate that 76% of those responding expect extreme heat events to be likely or very likely in the next five years.

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years. Additional development will expose more persons and businesses to the negative impact of extreme heat.

EXISTING CAPABILITIES

The county's emergency warning system which includes sirens in each city and in the main recreational areas, serve to address many of the hazards related to severe summer weather. See Figure 8.1-1 through Figure 8.1-8. Mitigation Strategy #20 addresses the need to determine if additional warning sirens are warranted.

THUNDERSTORMS AND LIGHTNING

HAZARD PROFILE

Thunderstorms and lightning often occur together. Lightning is a discharge of electrical energy resulting from the buildup of positive and negative charges within a thunderstorm, creating a "bolt" when the buildup of charges becomes strong enough. This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning can reach temperatures approaching 50,000°F.



Figure 4.5-1 Typical Lightning Strike

PAST OCCURENCES

The National Climatic Data Center records include no recorded lightning events in Mountrail County, but local records include a lightning strike at a saltwater disposal well about 10 miles north of New Town.

"Lightning strike causes fire, saltwater spill at oilfield facility"

"A lightning strike is blamed for a fire at a saltwater disposal well that occurred

Table 4.5-3 SEVERE THUNDERSTORM 2015-2021			
Location	Events	Damage	
		Property	Crops
New Town	3	\$350,000	\$200,000
Palermo	0	0	0
Parshall	2	0	0
Plaza	2	0	0
Ross	0	0	0
Stanley	6	\$3,000	0
White Earth	0	0	0
County	10	\$228,000	\$100,000
Total	23	\$581,000	\$300,000

Sunday in Mountrail County, the North Dakota Oil and Gas Division said. Whiting Oil and Gas Corp. reported that 400 barrels of produced water, or 16,800 gallons, were released, contained, and recovered from a fire at a disposal well about 10 miles north of New Town. The fire, which involved five tanks at the location, is extinguished, said Alison Ritter, spokeswoman for the Oil and Gas Division. A state inspector visited the location."

Source: Forum News Service August 2, 2016

VULNERABILITY

People and property across the county, including rural areas and all of the cities, are vulnerable to the impact of thunderstorms and lightning. Based on Table 4.5-3 which shows that 43% of lightning strikes are in rural Mountrail County, that part of the county would be the most vulnerable to any impact from this hazard, followed by Stanley, New Town and then Parshall and Plaza. The other Three cities would have very little vulnerability.

Buildings, farmland, and wildland are vulnerable to a fire resulting from a lightning strike but nationally almost two-thirds (63%) of these fires were outdoor vegetation fires²¹. The only other differences between rural Mountrail County and any of the cities is the community response to fire. Response time is generally related to distance from a rural or urban fire station.

An electrical surge can also damage equipment. While human deaths from lightning strikes are somewhat uncommon and none are recorded in Mountrail County over the past five years, a lightning strike can electrocute humans and animals.

EXTENT/MAGNITUDE/IMPACT

Thunderstorm events occur with regularity across the county, particularly in the summer. As Table 4.5-3 indicates, both rural Mountrail County and many of the cities have experienced the more serious, recorded events. Since 2015, damages have totaled \$581,000 in property damage and \$300,000 in crop damage.

PROBABILITY

While most often affiliated with severe thunderstorms, lightning may also strike outside of heavy rain and might occur as far as 10 miles away from any rainfall. Lightning occurs randomly, therefore it is impossible to predict where and with what frequency it will strike.

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years. Additional development will expose more persons and businesses to the negative impact of severe thunderstorms and lightning.

²¹ NFPA Fire Analysis and Research "Lightning Fires and Lightning Strikes"

HAILSTORMS

HAZARD PROFILE

Hailstorms frequently accompany thunderstorms; their locations and spatial extents often coincide. Warnings of severe thunderstorms and hailstorms occur frequently within Mountrail County including 30 severe hailstorm weather warnings during 2020 alone. According to the National Climatic Data Center, hail has been reported in Mountrail County in about half of the years since 2004.

Location	Events	Damage	
		Property	Crops
New Town	7	\$250,000	\$150,000
Palermo	3	0	0
Parshall	2	0	0
Plaza	1	0	0
Ross	1	0	0
Stanley	4	0	0
White Earth	3	0	0
County	21	\$10,000	\$45,000
Total	42	\$260,000	\$195,000

PAST OCCURRENCES

The largest hail stone recorded in the county is 4.5 inches. The recorded size of recent hail stones is much smaller with two-inch hailstones recorded for two events. Mountrail County is fortunate to have the Interactive Hail Maps Company²² and its on-the-ground trained weather spotters recording meteorological data and producing storm maps, Local reports include hail ranging from penny-size to golf-ball size. Related winds at 60 mph with 80 mph wind gusts have been recorded.

VULNERABILITY

All of the cities and rural Mountrail County are vulnerable to the impact of hailstorms, and agriculture, automobiles and aircraft are particularly susceptible to damage. Damage to residential roofs, windows, and siding is also common. About the same number of hailstorms have been recorded outside of the incorporated cities than within them. Based on population and expected related number of structures, vulnerability to hailstorm damage is highest in the City of White Earth with a ratio of three hailstorms per 100 people. See Table 4.5-5.

Jurisdiction	Hailstorms per 100 People	Jurisdiction	Hailstorms per 100 People
White Earth	3.00	Rural County	0.32
Palermo	2.40	New Town	0.25
Ross	1.05	Parshall	0.21
Plaza	0.47	Stanley	0.17

People across the county are at risk of injury if they do not seek immediate shelter during a significant hailstorm event. Both Mountrail County and MHA maintain or have access to facilities within the county that could be used for evacuation, warming stations and as storm shelters. These building vary in character and potential. Table 7.2-3 in Chapter 7 lists the shelters.

²² <http://www.interactivehailmaps.com>

EXTENT/MAGNITUDE

As Table 4.5-4 indicates, hailstorms are a threat in all areas of the county. As indicated in Table 4.5-5, about the same number of hailstorms have been recorded outside of the incorporated cities than within them.

IMPACT

In the past five years, Mountrail County has no recorded deaths or injuries related to hail. Hailstorms can cause considerable damage to property, crops, and livestock, potentially destroy agricultural yields, and result in significant lost revenue.

PROBABILITY

Results of the community survey indicate that 76% of those responding expect severe hail events to be likely or very likely in the next five years.

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years, some involving mobile homes and homes with metal siding that are susceptible to damage from severe hailstorms. Additional development could expose more persons and businesses to the negative impact of severe hailstorms.

WINDSTORMS

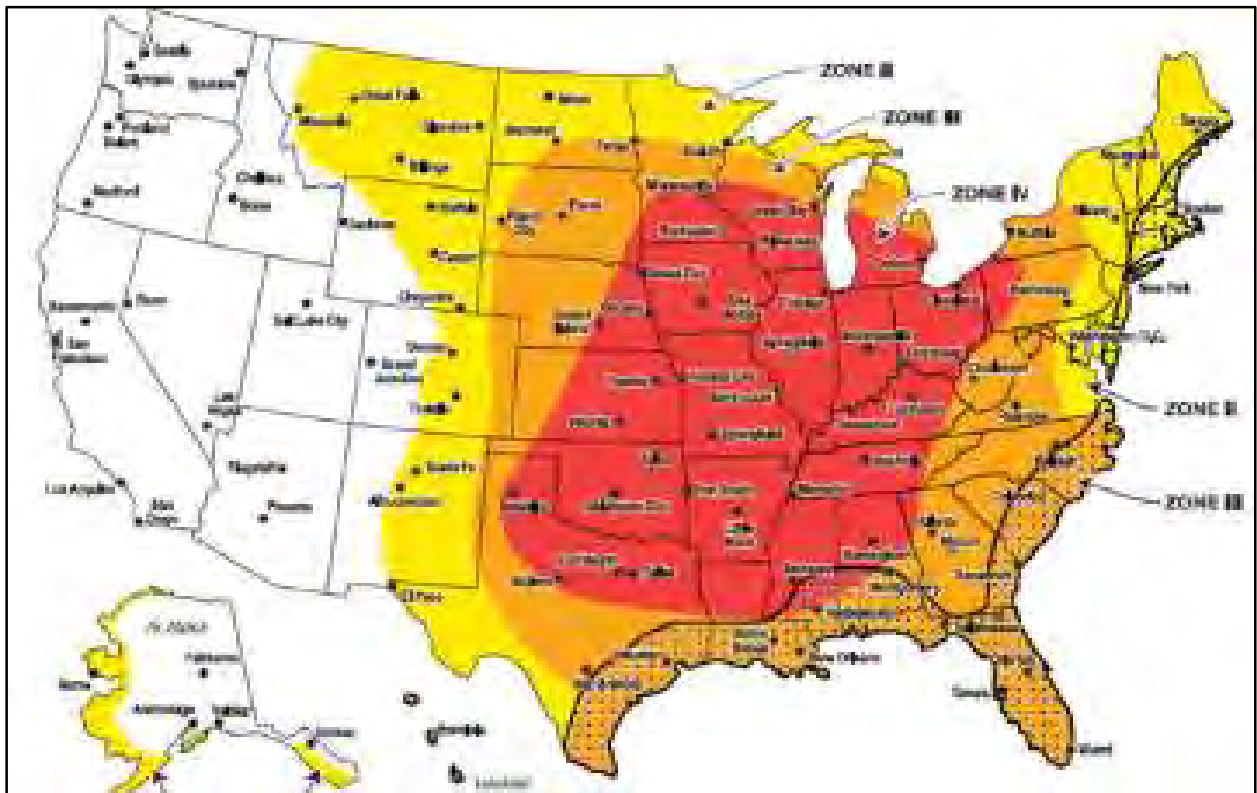


Figure 4.5-2 U.S. Wind Zones

HAZARD PROFILE

The National Weather Service defines wind as: “The horizontal motion of the air past a given point. Winds begin with differences in air pressures. Pressure that is higher at one place than another sets up a force pushing from the high toward the low pressure. The greater the difference in pressures, the stronger the force.”²³ According to NOAA’s National Center for Environmental Information, Mountrail County is within the Zone II designation.

Table 4.5-6 HIGH WIND EVENTS 2015-2021			
DATE	MAGNITUDE (mph)	PROPERTY DAMAGE	CROP DAMAGE
7/28/2015	57	\$5,000	0
10/11/2015	50	0	0
11/18/2015	57	0	0
2/6/2016	35	0	0
1/30/2017	35	0	0
1/27/2019	52	0	0
3/1/2020	58	0	0
12/22/2020	35	0	0
1/13/2021	70	\$80,000	0
1/20/2021	52	0	0
3/29/2021	52	0	0

PAST OCCURRENCES

High wind events are recorded in Mountrail County each year. Between 2015 and 2021, eleven high winds events were recorded with maximum speeds that ranged from 35 mph to 70 mph. No deaths or injuries were associated with those events but both property damage and crop damage were reported for two events. All of the official records are for rural events; none recorded for a city although recent wind damage in New Town was reported by the Bismarck Tribune .

In January 2021, the NWS reported wind gusts in excess of 70 miles per hour, one of the strongest wind events ever experienced in western North Dakota. Reports included power outages in several locations. Damage was also seen to roof shingles, signs, and canopies, trees toppled and heavy branches falling on utility lines. The Bismarck Tribune reported that gusts toppled the wind turbine on the main building of the Nueta Hidatsa Sahnish College in New Town.

IMPACT

Tree damage, power outage and damage to residential roofs and windows are likely with severe windstorms. Mobile homes and vehicles can be heavily damaged. Flying debris can be dangerous to those caught without shelter. A total of \$85,000 in property damage was recorded between 2015 and 2021 but as described for the January 2021 high wind event, damage to roof shingles, signs, canopies, and trees was noted.

VULNERABILITY/ EXTENT/MAGNITUDE

Mountrail County is considered to have moderate vulnerability to high winds (Figure 4.5-2). Windstorm events occur annually across the country including all of the cities, but damage is more likely to occur in developed areas, especially areas with more mobile homes, recreational vehicles, and automobiles. Accessories to residential and commercial uses, like canopies, awnings, and signage can be heavily damaged by high winds.

²³ Source: National Weather Service Glossary website

Based on population, the number of structures and mobile homes vulnerable to wind damage in each jurisdiction, rural Mountrail County is the most vulnerable to wind events, followed closely by New Town and Stanley, then Parshall, Plaza and Palermo. White Earth and Ross are less vulnerable. Potential damage amounts may not reflect the same order as general vulnerability.

PROBABILITY

Results of the community survey indicate that 74% of those responding expect severe wind events to be likely or very likely in the next five years. This total is likely to reflect the responders experience with the county's yearly experience with windstorms.

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years. Additional development will expose more persons and businesses to the negative impact of severe high winds.

EXISTING CAPABILITIES

Fire and rescue professionals from within Mountrail County and the region plus civic and charitable organizations respond to a community needing assistance after a severe windstorm or other hazard event. Local relationships with the Red Cross and Salvation Army are long-standing.



Figure 4.5-3 Recent Wind Damage

TORNADO

HAZARD PROFILE

The NWS defines a tornado as “a violently rotating column of air extending from the base of a thunderstorm down to the ground. Tornadoes can occur at any time of day or night and at any time of the year and are capable of completely destroying well-made structures, uprooting trees, and hurling objects through the air like deadly missiles.



Figure 4.5-4 Tornado over farmland between Ross and Stanley, ND

As shown on Table 4.5-6, tornadoes are measured according to the Fujita Scale. The Fujita Scale is largely a residential structure damage scale, which tends to have much more standardized construction than commercial structures. The Fujita Scale is intended to describe the expected damage to well-built residential structures. This can make its use misleading, as poorly built structures can suffer significant structural damage under lesser winds than the scale would suggest.

PAST EXPERIENCE

Figure 4.4-14 depicts Mountrail County's experience with tornadoes, touchdowns, and their impacts. To date, no loss of life or injuries have been recorded.

VULNERABILITY

In Mountrail County, both people and property are vulnerable to a tornado event. The most vulnerable are those living in mobile homes and those living or vacationing in recreational vehicle parks (vacation facilities and crew camps) and campgrounds. The tornado season, unfortunately, coincides with North Dakota's vacation season when most of the vacation facilities are occupied.

Appendix 5 provides information on the location of mobile homes, recreational vehicle parks and campgrounds within the county and the cities. As noted there, estimating the population in these facilities is challenging for a number of reasons:

- For many, there is little information available
- Occupancy varies by season and available aerial photos may not represent high season occupancy
- The housing profile of Mountrail County has changed significantly since the onset of the oil boom. Fewer of the initial RV park crew camps exist and in Mountrail County they are not tracked separately from other uses.

Mountrail County has a number of emergency shelters (Table 7.2-3), but none has completed FEMA's Best Available Refuge Assessment for use as a tornado shelter. Consideration of shelter facilities for this population is ongoing. Mitigation strategies #22, #23, #24, and #25 addresses this activity. As noted in Section 8.1, the outdoor sirens installed since the 2016 Plan was adopted include campgrounds within the Siren Sound Plan.

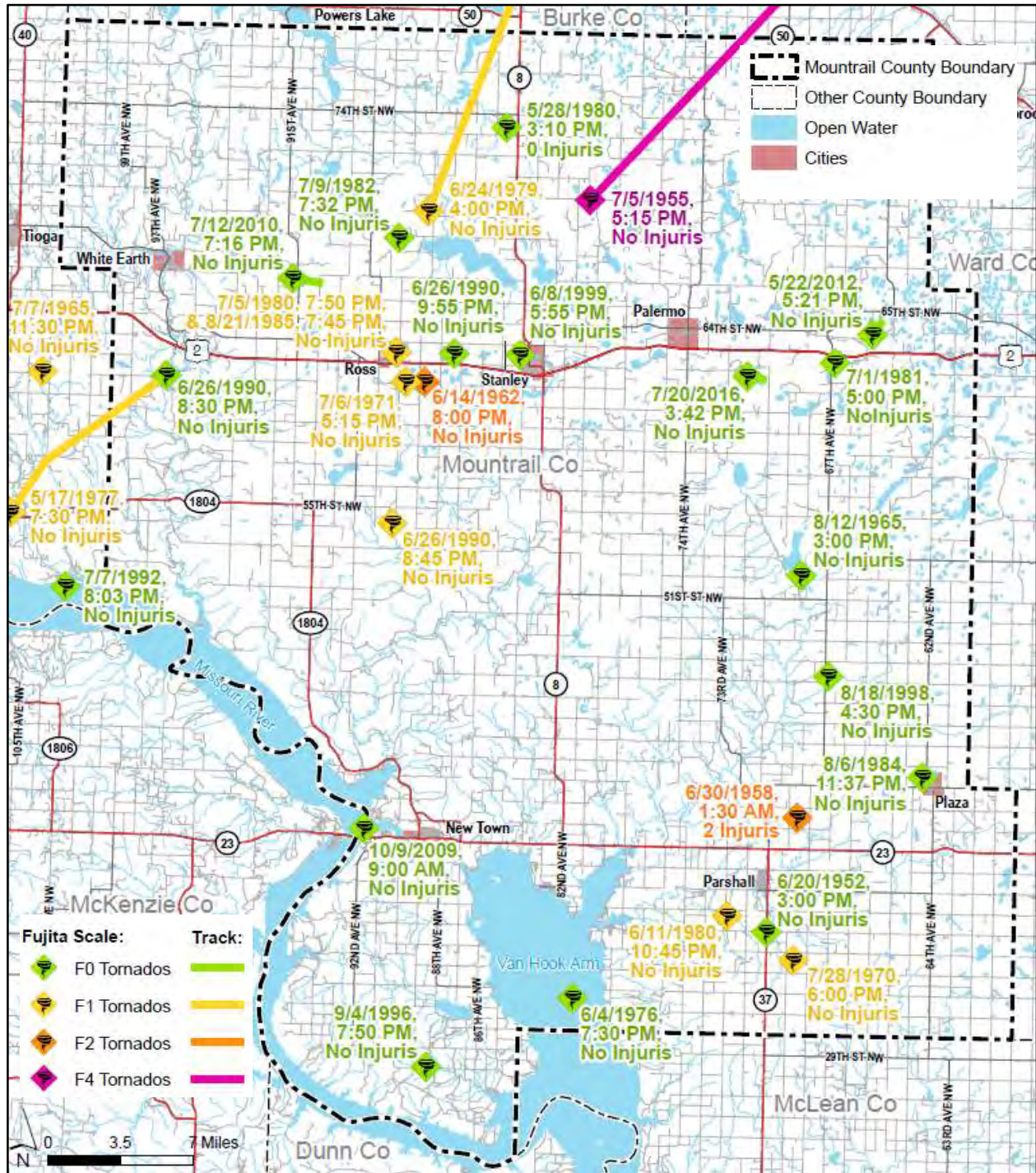


Figure 4.5-5 Mountrail County Tornado History

EXTENT/MAGNITUDE

Tornado events are local events, but they have occurred across the county as shown on Figure 4.5-5, but as mentioned above, to date the damage has been limited. This pattern could change at any time.

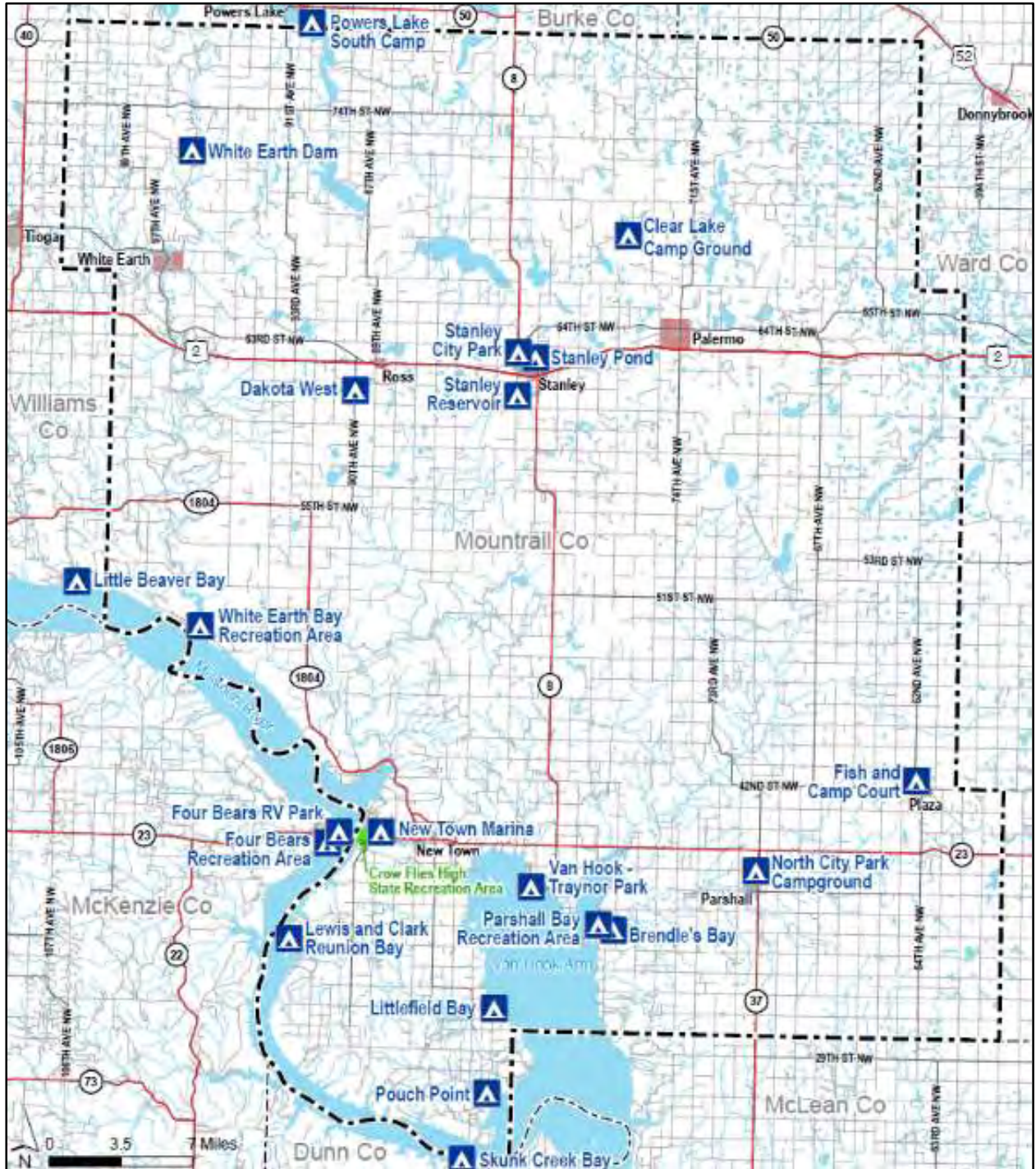


Figure 4.5-6 Mountrail County Campgrounds and RV Parks

IMPACT

The tornadoes depicted in Figure 4.5-5 have resulted in minimal damage, but the impact would be devastating if a large tornado were to directly strike a city or populated area.

Table 4.5-8 IMPACT OF RECORDED TORNADES			
Fujita Scale ²⁴	Miles per Hour	Average Damage Path Width	Potential Damage
F-0	40-72	33-164 feet	Light Damage. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F-1	73-112	98-492 feet	Moderate Damage. The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.
F-2	113-157	360-820 feet	Significant Damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; high-rise windows broken and blown in; light-object missiles generated.

PROBABILITY

As shown on Figure 4.5-6, major recreation areas are located across the county but focused on Lake Sakakawea. Results of the community survey (Appendix 3) indicate that 74% of those responding expect severe wind events to be likely or very likely in the next five years.

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years, but the expansion of recreational and other campgrounds has been significant. Very few of these campgrounds have onsite shelters or information available on-site to inform residents and visitors how to prepare and weather a tornado event. Additional development in the community, particularly campground and mobile home development, will expose more persons and businesses to the negative impact of a tornado. In addition, visitors to the campgrounds may expect that there are local shelters available.

²⁴ Table includes only the ratings experienced by Mountrail County

EXISTING CAPABILITIES

Mitigation strategies #22, #23, #24, and #25 identify the need to address shelters in Mountrail County. As Table 7.2-3 in Chapter 7 indicates, there are shelters available for use in evacuation events due to a number of different hazards or as warming/cooling facilities for persons who have lost electricity. The county does not have a building which has completed FEMA's Best Available Refuge Assessment for use as a tornado shelter.

Responding to the need for warning of a tornado, the county has recently installed emergency sirens which are controlled by the county 911 office. Fire and rescue professionals from within Mountrail County and the region plus civic and charitable organizations respond to a community needing assistance after a tornado or other hazard events. Local relationships with the Red Cross and Salvation Army are long-standing.

CRITICAL, STRATEGIC, AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. Any and all critical, strategic, or key facility in Mountrail County could be physically damaged or destroyed by a tornado event. Other summer storm hazards, including hailstorms, lightning and high winds could cause minor or even severe damage.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for all of the hazards related to summer storms are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

The need for storm shelter facilities (safe rooms), which was addressed in the 2015 Hazard Plan is carried forward in this Hazard Plan. Today, however, that focus is on the need in campgrounds with no existing shelter facilities.

Related Mitigation Strategies

- Mitigation strategy #1 encourage homeowners' use of weather radios.
- Mitigation strategy #16 "Develop/collect education material..." addresses all of the hazards related to summer storms.
- Mitigation strategy #18 and #19 seek to develop a list of critical facilities that need new or replacement emergency power generators and fund as feasible.
- Mitigation strategy #20 and #21 address the need for additional or replacement emergency sirens.
- Mitigation strategy #22, #23, #24 and #25 address the need for tornado and other shelters for use in a severe summer storm.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #33 encourages Sky Warn weather spotting training (in person and/or online) for county residents.

4.6 SEVERE WINTER WEATHER

Severe winter weather constitutes a significant hazard in Mountrail County between October and April most years. This hazard is experienced across Mountrail County, but it is a region-wide phenomenon. Elements of severe winter weather include extreme cold, blizzards, heavy snow, and ice storms. These elements can produce life-threatening situations and are a threat to people and property.

Because each element of the Severe Winter Weather is unique, the Hazard Profile, Vulnerability, Extent/Magnitude, Impact, Probability, Changes In Development, and Existing Capabilities are presented separately.



EXTREME COLD

HAZARD PROFILE

What is considered an excessively cold temperature varies according to the normal climate for a region. Excessive or extreme cold often accompanies other severe winter weather elements, or it can occur without severe weather. Extreme cold has a wide range of extent and severity markers and characteristics.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Lowest Recorded Temperature	-41°F	-42°F	-30°F	-15°F	12°F	30°F	34°F	30°F	10°F	-3°F	-30°F	-47°F
Avg Days Below 32°F²⁵	30.8	28.1	30.1	22	7.6	0.3	---	0.1	5	19.9	28.9	30.8

²⁵ Lowest Temperature in 73 years

<https://www.weatherbase.com/weather/weather.php?s=672823&cityname=Stanley%2C+North+Dakota%2C+United+States+of+America&units=>

PAST OCCURRENCES

The coldest temperature ever recorded in North Dakota occurred in the same year as the highest North Dakota temperature, -60°F in Parshall on February 15, 1936. Winter temperatures in Mountrail County typically range from the 20s and 30s (high) to single digits to 20s (lows) but as Table 4.6-1 shows, significantly lower temperatures have been recorded. Information obtained from the National Climatic Data Center indicates that there have been at least 27 occurrences of the extreme cold since 1996 (when records for this hazard began).

**Table 4.6-2
NWS WINDCHILL CHART**

		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

Frostbite Times ■ 30 minutes ■ 10 minutes ■ 5 minutes

These cold temperatures are often further impacted by high winds and the resulting windchill. Table 4.6-2 depicts the NWS's methodology for determining wind chill, using wind speed and actual temperature. While windchill is not necessarily related to extreme cold as a single cause, the advisory system that the NWS currently uses relies on windchill to relay warning and advisory information to the public. Extreme cold severity is a function of wind chill and other factors, such as precipitation amount (rain, sleet, ice, and/or snow).

VULNERABILITY

Severe winter weather occurs at a regional level and generally occurs across the entire County including all of the cities. As a result of the state's recent population growth, many newcomers are not accustomed to extreme cold and may not be equipped with the proper cold weather clothing. As indicated in Table 2.4-4, about 36-38% of the population of Mountrail County and most of the cities are considered more vulnerable to hazard events because of their age (under 16 or over 65). The City of Ross has a lower percentage (21%), and the City of White Earth has a much higher percentage of very vulnerable persons (61%).

IMPACT

Icy roads and even small accumulations of ice can cause a significant hazard. Significant icing events can be especially devastating to power lines and trees, affecting power and communications to thousands of homes in a single event. Even small accumulations of ice can cause an extreme hazard to motorists and pedestrians by making roads and sidewalks extremely treacherous.

Freezing pipes are common during extreme cold and there are few facilities have back-up generators. Structure fires and carbon monoxide poisoning are a possible impact of extreme cold, as people rely on auxiliary heating devices, such as candles, portable heaters, and fuel burning lanterns. Rural residents can be hit particularly hard by extreme cold weather, if they do not have a equate stockpiles of food, water, and heating fuel.

The livestock industry can be severely impacted by extreme cold weather as well. The inability to get feed and water to livestock can quickly escalate to a critical situation, and can lead to dehydration, a major cause of livestock casualties.

In addition to the threat posed to humans and livestock, extreme cold weather poses a significant threat to utility production, which in turn threatens facilities and operations that rely on utilities, specifically climate stabilization. As temperatures drop, increased demand for heating places a strain on the electrical grid, which can lead to temporary outages.

PROBABILITY

Based on the data available, extreme cold events occur in or otherwise impact Mountrail County at least annually. Therefore, using the scale previously provided, the probability of a future occurrence of the extreme cold hazard is high.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years. Additional development will expose more persons and businesses to the negative impact of extreme cold. Education materials could provide valuable information to those who are new to the area, as would warming stations for stranded motorists and residents who have lost electricity and heating due to extreme cold and the related ice storms.

EXISTING CAPABILITIES

Both Mountrail County and MHA maintain or have access to facilities within the county that could be used both as evacuation, warming stations and as storm shelters in a hazard event. These building vary in character and potential. Table 7.2-3 lists the shelters. In addition, both Mountrail County and MHA have access to other evacuation and storm shelters that are located outside of the county. They include:

- MHA facilities located outside of Mountrail County
- Garrison City Hall (McLean County)
- Halliday School (Dunn County)
- Watford Civic Center (McKenzie County).

BLIZZARDS, HEAVY SNOW, AND ICE STORMS



HAZARD PROFILES

A blizzard is defined by the NWS as a storm producing winds of 35 mph or more, with snow and/or blowing snow reducing visibility to less than 0.25 miles for at least three hours. A closely related weather event known as a surface blizzard occurs when heavy winds blow snow that has already fallen. Both traditional and surface blizzards can reduce visibility, disrupting transportation and communication systems in the area.

Heavy snow is defined as six or more inches of snow in 12 hours, or eight or more inches of snow in 24 hours. Heavy snow can damage property and make roads impassable for extended periods.

An ice storm produces heavy and damaging accumulations of ice due to a combination of rain and below freezing surface temperatures. As mentioned above, accumulated ice can bring down trees and power lines, threaten livestock and make roads and sidewalks extremely treacherous to motorists, and pedestrians,.

PAST OCCURRENCES

The NWS Storm Events Database for Mountrail County includes three blizzards between 2015 and 2021, two in December 2016 and a single entry for January 2017. In addition, it recorded seven heavy snow events since 2015, one in November 2016 plus two in 2017, 2018 and 2019. No damage was recorded for any of these events, all of which were recorded as occurring in rural Mountrail County.

VULNERABILITY

Vulnerabilities for blizzards, heavy snow, and ice storms apply the same to all those living and working in the county and any of the cities. Except for snow removal, vulnerability for this hazard does not depend on the jurisdiction where you live; your vulnerability is greater or less depending on your personal circumstance and on the utilities that serve your residence.

Vulnerabilities related to extreme cold relate to those who work outdoors as well as those with poorly insulated residences and those who have challenges with the

increased costs of heat. In addition, breaks in electric power service are possible with an ice storm impacting those who use electricity for cooking and/or warming and those who need electricity for medical devices.

EXTENT/MAGNITUDE

Extreme cold, blizzards, heavy snow, and ice storms occur at a regional level and elements of a severe winter storm generally occur across the entire county to some degree.

IMPACT

The impacts of blizzards, heavy snow, and ice storms can include extended power outage, blocked roads and closed schools, businesses, and government operations. Some years shoveling out after a snowstorm is more of a challenge and expense than others but each year it includes time, fuel, and equipment.

Heavy snow and/or a blizzard can disrupt commerce traveling within and through the county and impact ordinary transportation and service delivery. Accidents due to slippery roads of white-out conditions due to blowing snow are a fairly common phenomenon. On rare occasions heavy snow can cause roof collapse. A winter storm can also result in an increased risk of structure fire due to use of portable heaters and fireplaces during events that involve extremely cold temperatures. Carbon monoxide poisoning is also a possibility with portable back-up generators. Losses to unprotected livestock, especially in the spring, can be significant.

PROBABILITY

Based on the data available²⁶, blizzards, heavy snow, and ice storms events occur in or otherwise impact Mountrail County at least annually. Results of the community survey indicate that 91% of those responding expect severe snow events to be likely or very likely in the next five years and 93% of those responding expect severe snow events to be likely or very likely in the next five years.

CHANGES IN DEVELOPMENT

See the related discussion under extreme cold.

EXISTING CAPABILITIES

Snow removal priorities are reviewed each year. Responsibility for snow removal is set out below:

- State roads – State of North Dakota
- County roads - Mountrail County
- City roads - cities
- MHA roads - reservation staff and equipment
- BIA roads - BIA staff and equipment
- Access roads to missile sites - US Air Force

²⁶ Records are only available for heavy snow events in rural Mountrail County

Each jurisdiction has its own way of dealing with snow removal and all believe that their program is working, expensive in years with a lot of heavy snow events. They are hopeful that they can continue manage their snow and ice removal operation safely and efficiently. Mountrail County and the larger cities use existing staff and volunteers for snow removal. Where there is a Public Works Director (or someone with similar responsibilities), that person is in charged with leading this assignment using their staff and pulling from other departments as needed. The smaller cities use contractors on occasion but usually volunteers from the community, some who are existing or former city council members, do the work. Some volunteers bring their own equipment. The approach is clear; these local governments do what needs to be done and some years the only way to keep up is to prepare to work a lot of hours. The expense of snow removal is a real concern. See Chapter 7.

Information is available to the public through multiple means regarding school and other closings. Road and travel conditions. Many of the utilities provide access to information on power outages and expected return to service.

CRITICAL, STRATEGIC, AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. Winter storm hazards, including heavy snow, blizzards and ice storms could cause minor or even severe damage. These storm events could also hamper the operations of critical, strategic, and key facilities.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for all of the hazards related to severe winter storms are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Severe winter storms are expected annually in Mountrail County. Many of those responding to the community survey listed experience with these storms as the only hazard they had experienced. Preparation for the winter storms, adequate resources to respond to the events and community education are key.

Related Mitigation Strategies

- Mitigation strategy #16 "Develop/collect education material..." addresses all of the hazards related to winter storms.
- Mitigation strategy #18 and #19 seek to develop a list of critical facilities that need new or replacement emergency power generators and fund as feasible.
- Mitigation strategy #22 seeks to identify shelters for use in a severe winter storm.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #29 addresses the need to continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.

- Mitigation strategy #33 encourages Sky Warn weather spotting training (in person and/or online) for county residents
- Mitigation strategy #34 encourages communities to conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.



4.7 SPACE WEATHER

HAZARD PROFILE

Space Weather was first recognized in the ND Plan in 2018. According to the USGS, “Solar flares and magnetic storms belong to a set of phenomena known collectively as “space weather”. Technological systems and the activities of modern civilization can be affected by changing space-weather weather conditions.”

Although these naturally occurring hazards are relatively new to the list of hazards considered in hazard mitigation planning, concerns about these low-probability, high-consequence events been raised by several federal agencies including NOAA, NASA and USGS. Figure 4.7-1 accompanied multiple news reports of a G3 (Strong) Geomagnetic Storm Watch for October 30 and 31, 2021. The ND Plan acknowledge that Mountrail County has significant oil and gas production activities which “rely on rely heavily on utilities such as electricity and GPS to operate, so these counties could also be significantly impacted during a space weather event”²⁷.



Figure 4.7-1 Multiple news reports 10/29/2021

Guidance is not readily available at this time for local jurisdictions, like Mountrail County and the cities within the county, regarding potential mitigation strategies to deal with the threat. This Hazard Plan has included a mitigation strategy committing to address the threat in the next Hazard Plan update.

4.8 WILDLAND/RURAL FIRE

HAZARD PROFILE

A wildland fire is any fire occurring in a wildland area (grassland, forest, rangeland) except for a controlled/prescribed burn. Wildland/rural fires are part of the natural land management, but many are caused by human factors. Over 80% are human-caused due to improperly extinguishing cigarettes and campfires or are due to sparks from machinery or railroads. The second most common cause for a wildland /rural fire is lightning.

These fires pose increasing threats to people and their property as Mountrail County's communities develop in the

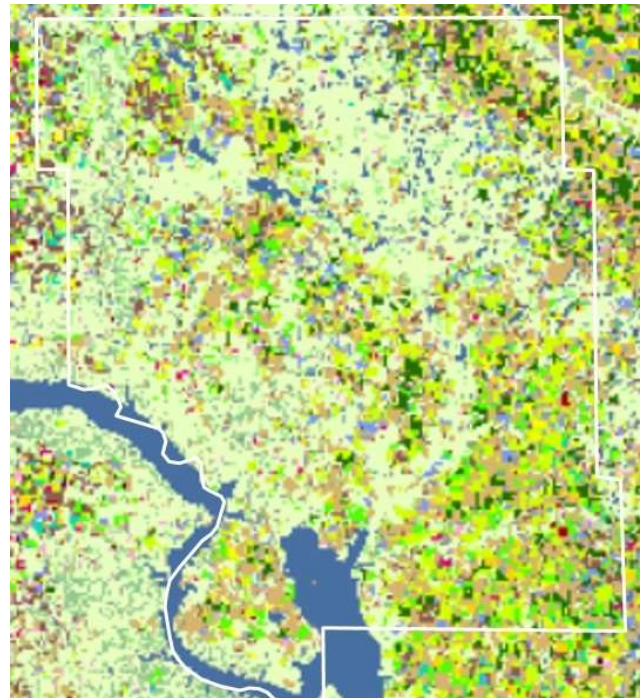


Figure 4.8-1 Land Use Land Cover
www.nd.gov/gis/apps/HubExplorerV2/

²⁷ ND Plan, p. 267

rural/urban edge areas. The threat exists anywhere that structures are located close to natural vegetation and where fire can spread from vegetation to structures, or from structures to vegetation.

Figure 4.8-1 shows the land use cover in Mountrail County in 2019. The most prevalent vegetation is the grass group, which is shown in the lightest green and present across the county. This vegetation burns with a low intensity but can spread quickly. Figure 4.8-2 illustrates the location of highest wildfire risk.

PAST OCCURRENCES

Between 1/1/2015 and 12/31/2021, Mountrail County experienced 1,504 fires. That included:

- 581 Grass and prairie fires
- 115 Oil Field related fires
- 187 Structure fires
- 211 Vehicle Fires
- 410 Miscellaneous type fires

VULNERABILITY

According to the USDA Wildfire Risk to Communities program. "Populated areas in Mountrail County have, on average, greater risk than 81% of counties in North Dakota." Figure 4.8-2 depicts these risk levels across the county. This program has expanded the definition of vulnerable population to include populations who may experience difficulty preparing for and responding to a hazard²⁸. This would include families in poverty, people with disabilities, those with difficulty in English, households with no car and those living in mobile homes. See Table 2.4-5.

Figure 4.8-3 depicts the University of Wisconsin's Silvics Wildland-Urban Interface mapping for Mountrail County and Figure 4.8-4 presents enlargements for each of the cities²⁹. The areas of concern are the two types of Wildland-Urban Interface (WUI) designations. Because the cities have varying risks, specific information on each city is presented on the next few pages. These maps show two types of Wildland-Urban Interface (WUI) areas:

- The **Intermix WUI** (yellow overlay) are areas where housing and vegetation intermingle.
- The **Interface WUI** (orange/brown overlay) are areas with housing in the vicinity of contiguous wildland vegetation.

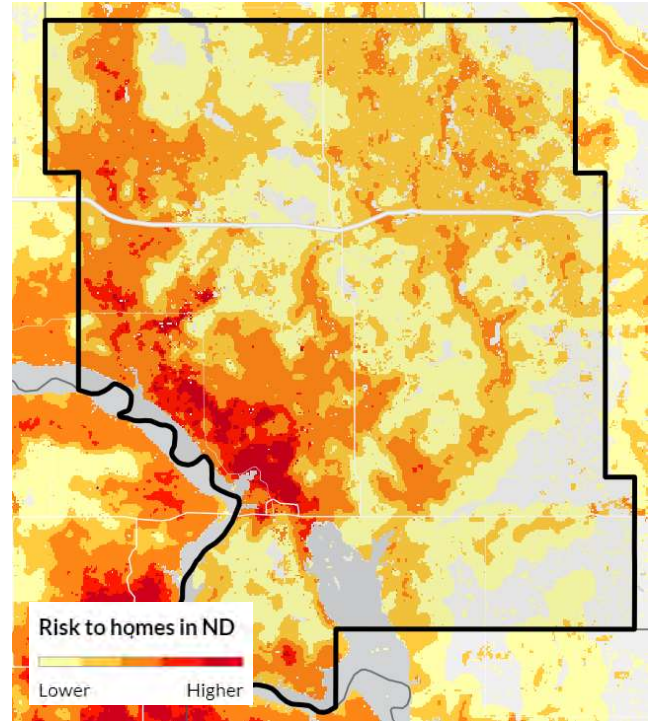


Figure 4.8-2 USDA Wildfire Risk to Communities Map

²⁸ USDA Wildfire Risk to Communities wildfirerisk.org Data are from the most recent five-year rolling survey period of the U.S. Census Bureau American Community Survey

²⁹ <http://silvis.forest.wisc.edu/>

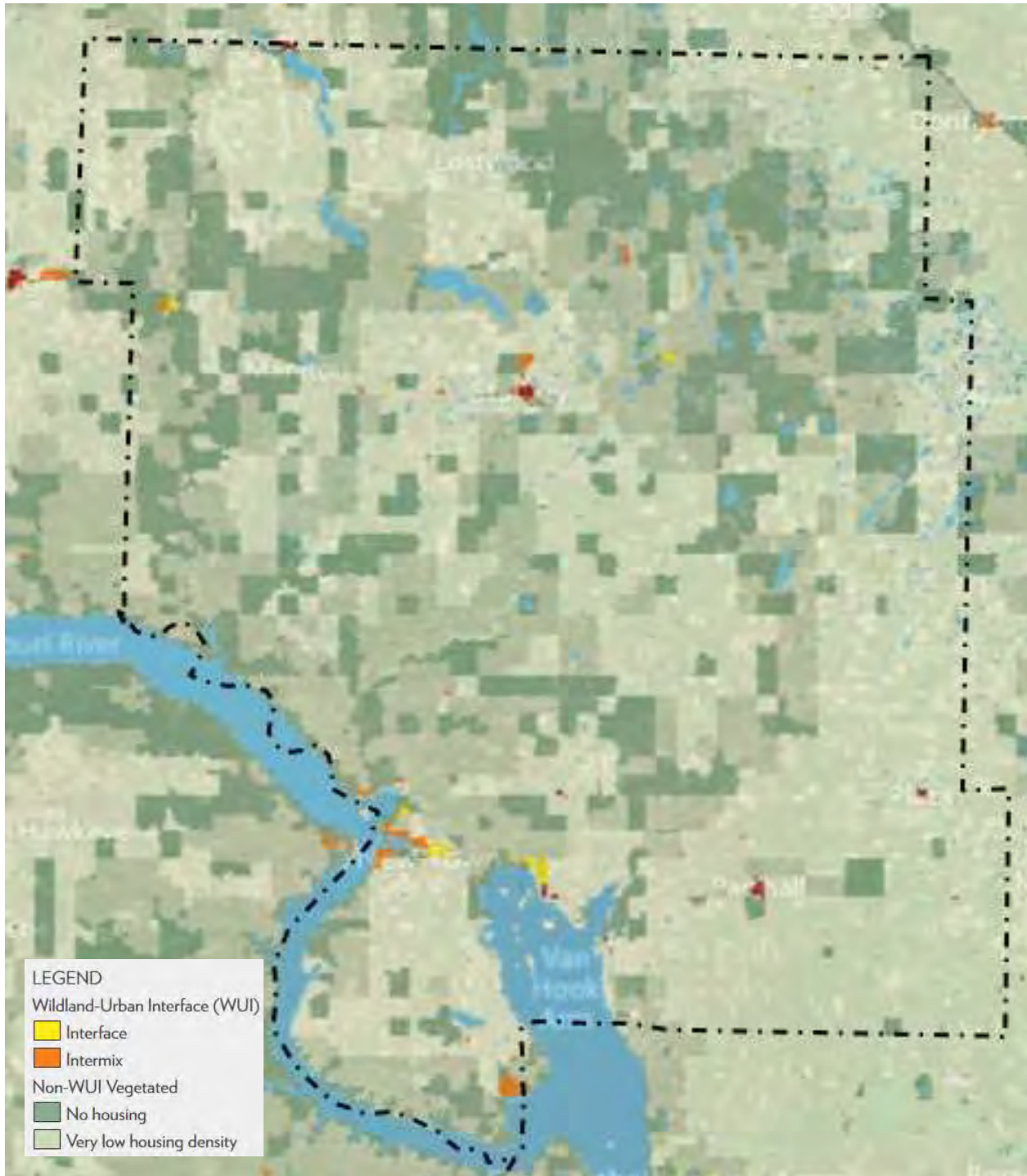


Figure 4.8-3 Silvis Wildland/Urban Interface mapping

Figure 4.8-3 depicts the University of Wisconsin's Silvis Wildland-Urban Interface mapping for Mountrail County and Figure 4.8-4 presents enlargements for each of the cities. This mapping should be considered as a preliminary indication of the county's urban areas that are the most vulnerable to wildland fires. The non-city areas that are vulnerable include areas surrounding New Town including the MHA Nation's facilities west of the river and two areas near Ross along Hwy 2. The extent of the cities' vulnerability varies

Figure 4.8-4 Silvus Wildland/Urban Interface mapping of Mountrail County Cities



City of New Town Intermix WUI Interface WUI



City of Parshall Intermix WUI Interface WUI



City of Palermo Intermix WUI Interface WUI



City of Plaza Intermix WUI Interface WUI



City of Ross Intermix WUI Interface WUI



City of Stanley Intermix WUI Interface WUI

significantly. Whereas most of New Town, Palermo, Ross, and White Earth are vulnerable, just two areas on the outskirts of Parshall, the northern-most area of Plaza and areas north and south of Stanley’s developed areas are included.



City of White Earth Intermix WUI Interface WUI

EXTENT/MAGNITUDE

The three major factors that affect the occurrence and severity of wildland/rural fires are the fuels supporting the fire, the weather conditions during a fire event and the topography in which the fire is burning. These factors affect and increase the likelihood of a fire starting, the speed and direction in which a fire will travel, the intensity at which it burns, and the ability to control and extinguish it. Both topography and weather are beyond our control; fuel is the only factor influencing fire behavior that humans can manage. As with many other hazards, wildland/rural fires occur at a regional level and across the entire county. The recent drought events exacerbate the threat as vegetation dries out and more areas are available to fuel a wildland/rural fire.

IMPACT

Potential impacts from wildland/rural fires include property damage or loss, human loss and injuries and local evacuation. A secondary impact, poor air quality because of smoke during a wildland event, is regularly mapped by The ND Department of Health.

PROBABILITY

The two estimates of the probability of wildland/rural fire are similar. The USDA Wildfire Risk to Communities program estimates on average, greater wildfire risk than 81% of counties in North Dakota. Results of the community survey indicate that 67% of those responding expect a wildland/rural fire event to be somewhat likely or somewhat unlikely in the next five years

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years, much of it on the urban fringes where wildland/rural fires are more likely. As the county continues to develop, protecting the wildland-urban interface areas will become more of a challenge. Figure 4.8-4 is preliminary mapping of a wildland-urban interface area buffer around the vulnerable areas depicted in Figure 4.8-3 and Figure 4.8.4..

EXISTING CAPABILITIES

Wildland/rural fire protection services and response is provided by the local fire department often assisted by other departments in and near the county through mutual aid agreements. Many operations include equipment designed to fight wildland/rural fires and have qualified wildland/rural firefighters. The Three Affiliated Tribes Fire Management Program can be available when urban areas are threatened.

Civic and charitable organizations respond to a community needing assistance after a wildland/rural fire and other hazard events. Local relationships with the Red Cross and Salvation Army are long-standing.

CRITICAL, STRATEGIC, AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. Any and all critical, strategic, or key facility in the path of a wildland/rural fire could be physically damaged or destroyed by the event. Fortunately, most of

Mountrail's critical, strategic, and key facilities are not located in the rural areas of the county, Vulnerable facilities would include water towers and electric utility lines.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for all of the hazards related to wildland/rural fires are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Mountrail County is capable and well prepared through their training, available equipment, and the inter-local agreements in place to deal with wildland/rural fires. Maintaining that level of preparation is critical, especially in times of drought. Recruiting and training volunteers is an ongoing challenge.

Related Mitigation Strategies

- Mitigation strategy #16 "Develop/collect education material..." addresses wildland/rural fires.
- Mitigation strategy #17 seeks to continue to support the recruitment and training of volunteers to address wildland and structural fire protection and ambulance services,
- Mitigation strategy #22 seeks to identify warming/cooling shelters needed in response to wildland/rural fires.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #29 addresses the need to continue to support upgrading existing or purchase new equipment and infrastructure for emergency services, as needed.
- Mitigation strategy #36 and #37 addresses the benefit of coordination with rural landowners to identify and gain access to water sources for fire suppression and working with Rural Water to establish hydrants in areas distant from existing hydrants.
- Mitigation strategy #38 addresses the need in wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.
- Mitigation strategy #42 encourages wildland/rural fire suppression training for rural fire departments.
- Mitigation strategy #44 addresses the need to continue to use burn bans when appropriate



5

TECHNOLOGICAL/ HUMAN-CAUSED HAZARDS

5 Technological/ Human-Caused Hazards

5.1 OVERVIEW

Residents of many areas of Mountrail County are regularly exposed to potential hazardous materials. This chapter includes profiles of technological/human-caused hazards including hazardous materials spills/contamination, active threats – terrorism, dam failure, water system interruption, power outage, public health incidents, urban fire and building collapse, major transportation events and others. Each hazard profile includes a general description of the hazard, its location and extent, notable historical occurrences, the probability of future occurrences, and a brief consequence analysis that outlines potential impacts on people, the built environment, the economy, and the natural environment.

5.2 PUBLIC HEALTH INCIDENTS



Figure 5.2-1 Reopening of Services at the Mountrail County Medical Center

Source: www.stanleyhealth.org/reopening-of-services-at-the-mountrail-county-medical-center/

This hazard includes human, animal, and plant diseases with the potential for high infection rates in humans and those which can cause the destruction of livestock or crops. Mountrail County's hazard mitigation approach to this hazard echoes the approach of the North Dakota Department of Health.

"...dedicated to creating and promoting a state of readiness and prompt response to protect the health of North Dakotans during catastrophic events, large scale disasters and emergencies. We accomplish our mission by coordinating education, assessment, planning, response, and support services involving public health providers, private medical providers, public safety agencies and government officials."

HUMAN DISEASE INCIDENTS

HAZARD PROFILE

An incident related to human disease is defined as a medical, health, or environmental threat to the general public (such as contamination, epidemics, and vector-borne diseases). The list of diseases tracked by Mountrail County is included as Appendix 4.

PAST OCCURRENCES

Influenza or "flu" is included in the list of diseases that are reportable with detailed records are maintained. Table 5.2-1 provides information from the seasonal summaries regarding influenza outbreaks in Mountrail County and the State of North Dakota. Another communicable disease that is tracked by the North Dakota Department of Health is pertussis, also known as whooping cough. Pertussis is a very contagious bacterial infection

caused by the Bordetella bacteria. It is only found in humans and is spread from person to person by coughing or sneezing while in close contact with others. Pertussis starts with cold like symptoms and can become a series of coughing fits for several weeks.

Other diseases can threaten communities. Illnesses of particular concern, include food-borne illnesses, such as E. coli and Salmonella, plus Measles, Meningitis, Norwalk Virus, Severe Acute Respiratory Syndrome (SARS), and COVID-19. The 2015 Hazard Plan included the following text which was written before COVID-19:

Years	Statewide Cases	Mountrail County Cases	% of ND Cases in Mountrail County
2015-2016	1,942	17	0.87%
2016-2017	7,507	146	1.94%
2017-2018	8530	116	1.36%
2018-2019	7946	93	1.17%
2019-2020	12,498	163	1.30%

Source: North Dakota Influenza Season Final Reports

“Based on the available data, there have been several occurrences of the communicable disease hazard within Mountrail County – at least one occurrence of at least one communicable disease in each of the previous nine years. Therefore, using the scale provided earlier in this section, the probability of a future single occurrence is high. Whether this single occurrence would be sufficient to create a hazardous situation for the county would depend entirely on the specific details of the specific situation.”

COVID-19 PANDEMIC

North Dakota Department of Health activated its Emergency Operations Center in January 2020 and has been actively coordinating and in communication with health care providers, schools, universities, childcare providers, businesses, churches, churches, and the general public to make sure North Dakotans are educated and as prepared as possible to assist in reducing the spread of COVID-19.

Table 5.2-2 COVID-19 CASES IN MOUNTRAIL COUNTY AND ADJACENT COUNTIES March 2019 – June 2021				
County	Cases	Rate Per 100,000	Total Recovered	Population
Dunn	389	8793	380	4424
McKenzie	1411	9392	1383	15024
McLean	1285	13598	1253	9450
Mercer	1155	14108	1134	8187
Mountrail	1364	12935	1344	10545 ³⁰
Ward	9894	14627	9645	67641

Source: North Dakota Department of Health

On March 13, 2020, Governor Doug Burgum signed Executive Order 2020-3 declaring a state of emergency in North Dakota in response to the public health crisis resulting from COVID-19. Table 5.2-2, Figure 5.2-2, and Figure 5.2-3 illustrate how Mountrail County’s experience with COVID-19 compares with neighboring counties and with other areas of the state.

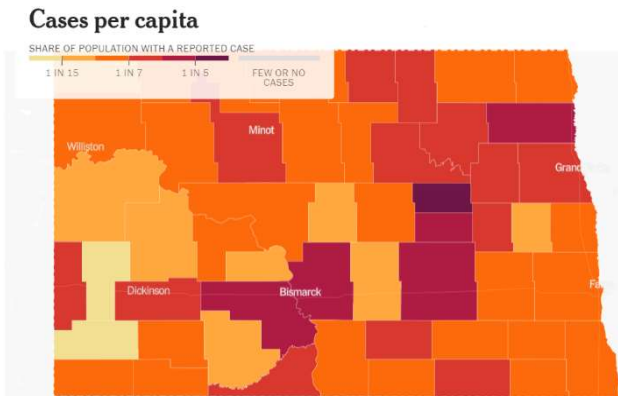


Figure 5.2-2 COVID-19 Positive Cases
New York Times graphic

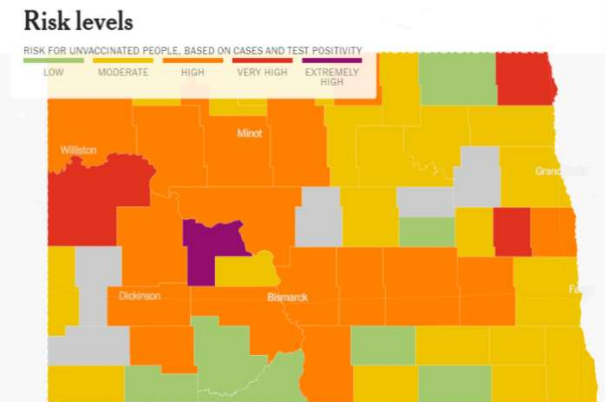


Figure 5.2-3 COVID-19 Risk Levels
New York Times graphic

³⁰ Note – This US Census population estimate for June 2021 is higher than the final 2020 Census totals

Figure 5.2-4 and Figure 5.2-5 illustrate the course of the COVID-19 pandemic in North Dakota and Mountrail County from onset through the end of 2021. Although the scale of infection is significantly different between the two, the pattern is similar.

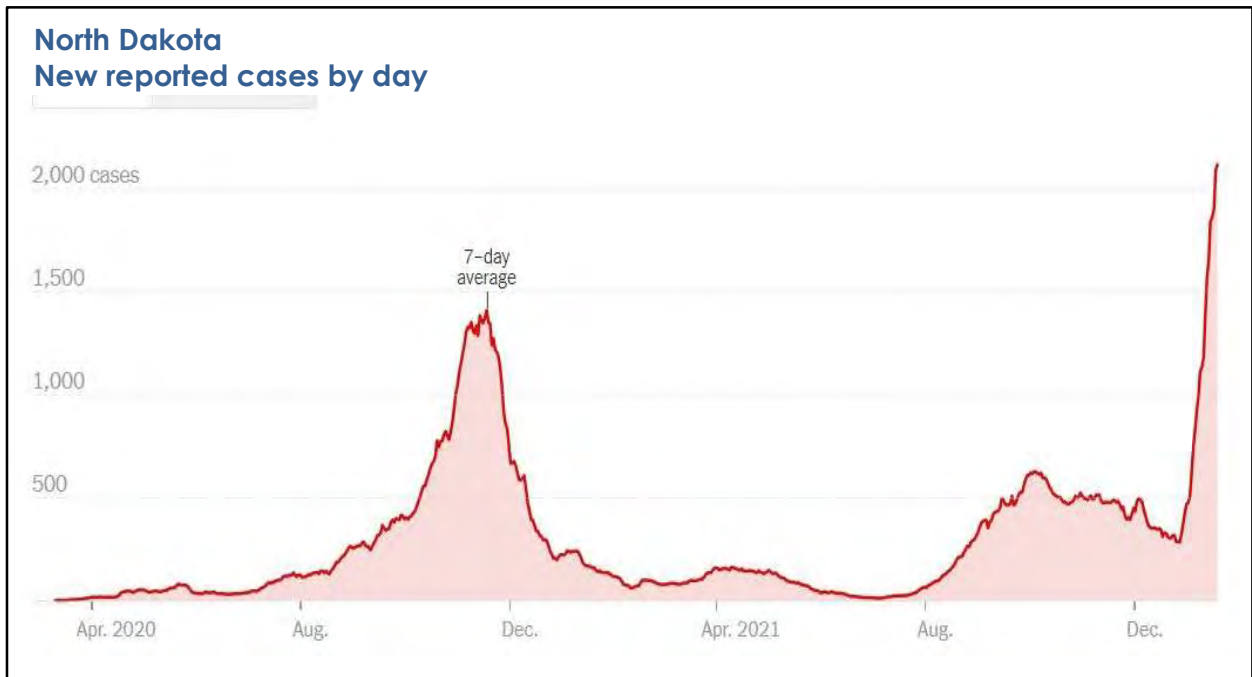


Figure 5.2-4 COVID-19 North Dakota Positive Cases
Source: [nytimes.com/interactive/2021/us/mountrail-north-dakota-covid-cases.html](https://www.nytimes.com/interactive/2021/us/mountrail-north-dakota-covid-cases.html)

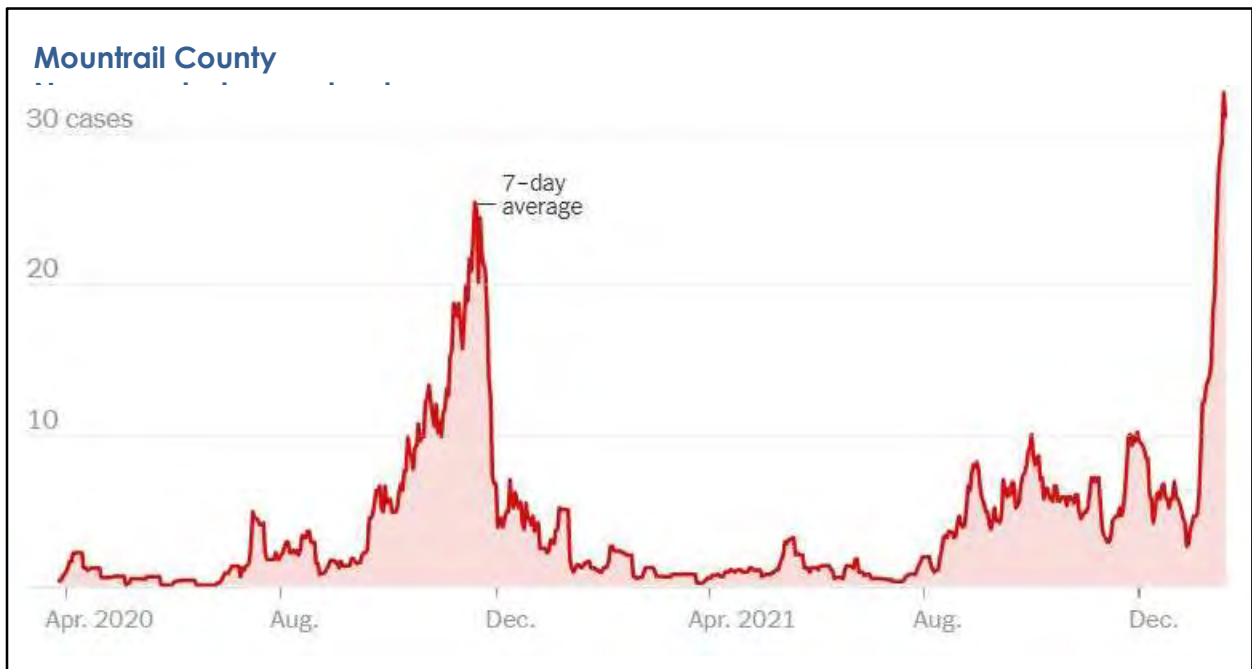


Figure 5.2-5 COVID-19 Mountrail County Positive Cases
Source: [nytimes.com/interactive/2021/us/mountrail-north-dakota-covid-cases.html](https://www.nytimes.com/interactive/2021/us/mountrail-north-dakota-covid-cases.html)

VULNERABILITY

Residents, those working in Mountrail County, or its cities and visitors are vulnerable to a communicable disease. As indicated in Table 2.4-4, about 36-38% of the population of Mountrail County and most of the cities are considered more vulnerable to hazard events because of their age (under 16 or over 65). The City of Ross has a lower percentage (21%), and the City of White Earth has a much higher percentage of very vulnerable persons (61%).

EXTENT/MAGNITUDE AND IMPACT

Communicable disease outbreaks are usually regional or national in extent. Communicable disease outbreaks and pandemics have an immediate impact on life and health safety. The extent of the impact will be contingent on the type of infection or contagion, the severity of the outbreak, and the speed at which it is transmitted. Property and infrastructure could be affected if large portions of the population were affected and unable to perform maintenance and operations tasks. This would be particularly disruptive if those impacted were first responders or other essential personnel.

PROBABILITY

The County's experience with influenza recognizes that communicable disease is probably each year. Generally, a pandemic, including the COVID-19 pandemic was regarded as highly likely by medical professionals but the public in Mountrail County and across the country did not anticipate an outbreak before the first cases were recorded.

Based on past and current experience, the probability of a future single public health incident is high. Whether this single occurrence would be sufficient to create a serious hazard incident for the county would depend entirely on the details of the specific situation.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced significant population growth in recent years and both business and recreational travel are increasing. Both of these changes increase the potential for increases in communicable diseases.

EXISTING CAPABILITIES

the North Dakota Department of Health addresses the state's public health issues: *"To accomplish our mission, the North Dakota Department of Health is committed to: improving the health status of the people of North Dakota; improving access to and delivery of quality health care and wellness services; promoting a state of emergency readiness and response; achieving strategic outcomes using all available resources; strengthening and sustaining stakeholder engagement and collaboration; and managing emerging public health challenges."*

The North Dakota Department of Health and the North Dakota Department of Agriculture work together to address the public health issues. Each has an office in Mountrail County.

MASS CASUALTIES INCIDENT

Mass casualty/fatality incidents are not considered a specific hazard; however, the result of an incident that causes mass casualties /fatalities could become a hazard to the general public and/or emergency responders. The pre-planning for response type activities included in the North Dakota Emergency Operations Plan are actually the best mitigation for this type of hazard. See other hazards for related information on past occurrences, vulnerability, extent, impact, and probability.

AGRICULTURAL DISEASE (ANIMAL/CROP/PLANT DISEASE) INCIDENTS

HAZARD PROFILE

An outbreak of disease that can be transmitted from animal to animal or plant to plant represents an agricultural disease. Of most concern are those diseases that spread rapidly and cause a significant economic implication or public health impact. In Mountrail County, this concern would be focused on those diseases that impact the county's most valuable agricultural products, its crops (grains, oilseeds, dry beans and dry) and livestock (cattle and calves). A comprehensive list of reportable conditions is maintained by the ND Department of Agriculture. See Appendix 4.

PAST OCCURRENCES

Diseases that are a threat to cattle include Bovine Tuberculosis and Anthrax. According to the North Dakota Department of Health, there has been no reports of tuberculosis in cattle in North Dakota recently; the closest were three cases in South Dakota in 2017. Anthrax is much more common. It has been most frequently reported in northeast, southeast, and south-central North Dakota, according to the North Dakota Department of Agriculture, but they suspect it in almost every part of the state. North Dakota has had a few cases of Anthrax recently; 13 cases were recorded between 2006 and 2017. None were recorded in Mountrail County or the adjacent counties during that time. Two cases were reported in North Dakota in 2020 and two more, this time in Kidder County, in 2021.

VULNERABILITY

Mountrail County producers are always concerned about animal/crop/plant disease, but the recent drought stress years (2020 and 2021) has intensified disease pressure.

EXTENT/MAGNITUDE

These diseases are regional in nature. North Dakota regularly tracks outbreaks in the adjoining states.

IMPACT

Crop/plant pest infestations can cause widespread crop/plant loss and severe economic hardship on farmers landowners and related businesses. Once infestation occurs, the pest may become endemic, causing repeated losses in subsequent growing years. Similarly, livestock disease can seriously impact producers and their related businesses.

PROBABILITY

Based on past experience it is highly likely that there will be some crop/plant infestation and some livestock disease each year. The severity of any one disease or its location, is harder to predict.

CHANGES IN DEVELOPMENT

Every year in the United States thousands of acres of farmland and grazing pasture are lost due to urbanization and the growth of existing cities. Mountrail County has experienced residential, commercial, and industrial growth in recent years, much of it on the urban fringes. Nationally, the negative impact of this growth on agriculture is well documented.

EXISTING CAPACITY

As stated previously, both the North Dakota Department of Health and the North Dakota Department of Agriculture address the public health issues. In September 2021, when a second case of anthrax was reported in North Dakota beef cattle, the Department was ready with information and recommendations for the local producers.

CRITICAL, STRATEGIC, AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. All critical, strategic, or key facility in Mountrail County would not be physically damaged by a public health incident but a serious outbreak such as the COVID-19 Pandemic, could impact normal operations of a facility.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for all of the public health hazards are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Public health incidents both from human and agricultural disease have the potential to greatly impact the health and economy of the county.

Related Mitigation Strategies

- Mitigation strategy #16 "Develop/collect education material..." addresses all hazards related to public health.
- Mitigation strategy #30 seeks to cooperate with public health to Increase awareness of methods for prevention of infectious disease.
- Mitigation strategy #31 seeks to cooperate with public health to continue the influenza vaccination outreach program for school-aged children.
- Mitigation strategy #32 supports documentation of "lessons learned" during the COVID-19 Pandemic.

5.3 HAZARDOUS MATERIALS INCIDENT

HAZARD PROFILE

Hazardous material releases can contaminate air, water, and soils and have the potential to cause injury or death. Dispersion can take place rapidly when transported by water and wind. While often accidental, releases can occur as a result of human carelessness, intentional acts, or natural hazards.

Hazardous materials are any substances posing an unreasonable risk to safety and health, the environment, and the property of citizens. The term “hazardous materials” envelops a vast array of products, from the relatively innocuous types, such as creosote, to highly toxic or poisonous types, such as anhydrous ammonia and phosgene gas. The severity of potential hazards caused by these materials is varied, but the primary reason for the designation is their risk to public safety.

The Federal Motor Carrier Safety Administration categories of hazardous materials are:

- Explosives (Class 1)
- Gases (Class 2)
- Flammable and combustible liquids (Class 3)
- Flammable solids, spontaneously combustible, and dangerous when wet (Class 4)
- Oxidizing substances and organic peroxides (Class 5)
- Toxic/poisonous substances and poison inhalation (Class 6)
- Radioactive materials (Class 7)
- Corrosive substances (Class 8)
- Miscellaneous hazardous materials/products, substances, or organisms (Class 9)

PAST OCCURRENCES

Table 5.3-1 presents information on a number of past oil and brine/saltwater spills in Mountrail County.

VULNERABILITY

North Dakota ranks the county's overall vulnerability to hazmat incidents as moderate-high. Based on their analysis, the NDDDES considers Mountrail County to be the third most vulnerable county in the state.

Hazardous material incidents can happen anywhere, but the most likely locations are associated with the oil and natural gas industry development, at fixed facilities producing, housing, or using hazardous materials or along the interstate, railroad, and pipeline infrastructure.

ND Enhanced Mitigation Plan



Figure 5.3-1 Typical Drilling Rig

EXTENT/MAGNITUDE

Hazardous material incidents are a national issue and also an issue for Mountrail County. These spills/releases occur at fixed sites that manufacture, store, or use Tier II materials, during transfer operations and while hazardous materials being transported by pipeline, truck, or rail. Accidental releases may be due to equipment failure, human error, or occur during natural hazard events or during another technological/man-made hazard event.

Table 5.3-1 ILLUSTRATIVE OIL AND BRINE/SALTWATER SPILLS IN MOUNTRAIL COUNTY					
Date	Company	Location	Spill Amount	Type	Event
October 10, 2013	Tesoro Logistics	Mountrail County near Tioga	20,600 barrels	Bakken crude	Spill after a pipeline leak
October 18, 2016	Arsenal Energy USA	3 ½ miles southwest of Stanley	40 barrels	Oil	Treater leak
			30 barrels	Brine	
October 22, 2018	Not available	South of New Town	300 barrels	Brine	Not available
April 2, 2019	Whiting Oil and Gas Corporation	12 miles southwest of Stanley	21,000 gallons	Brine	Spill at a central tank
February 24, 2020	Goodnight Midstream	8 miles northwest of New Town	26,000 gallons	Produced water	Tank leak
			1,900 gallons	Oil	
June 15, 2020	BNN North Dakota	13 miles north of New Town	30,000 gallons	Brine	Leaky pipeline
October 27, 2020	EOG Resources	5 miles northwest of Parshall	400 barrels	Brine	Valve failure
			100 barrels	Oil	

Source: Multiple News Reports

PROBABILITY

It is highly likely that hazmat incidents will occur in Mountrail County in the next five years. They could involve:

- Small spills/releases that can be resolved quickly with little recovery action needed
- Larger spills/releases that could involve multiple regional agencies, potential evacuation, loss of life, contamination of soils, rivers, lakes, streams, underground water supplies, and fish and wildlife habitat
- Spills/releases that threaten sensitive lands and require immediate attention

IMPACT – OIL AND BRINE/SALTWATER SPILLS

Oil and brine/saltwater spills resulting from leaks, valve failure, and other causes have been identified in many areas of Mountrail County. The statewide status of oil spills is described in a 2017 article:

North Dakota is an oil-drenched state. In the year ending on May 1, 2017, according to the state's Department of Health, the state's oil and gas industry reported 745 involved oil spills - on average, a spill every 11 hours and 45 minutes. Some of those spills were in the 20-gallon range. Others were larger. Two of the larger spills reached 400 barrels, or 16,800 gallons. In one such spill, on May 18, 2016, a tank in Bowman County overflowed, spilling 400 barrels of crude oil and 2,400 barrels of brine onto the ground, where it topped a retaining dike and flowed for 150 yards outside the facility. The spill came within half a mile from the nearest residence - and that residence's water well. And there were a couple of spills in 2016 bigger than 400 barrels. Much, much bigger.

Source: www.kcet.org/shows/earth-focus/north-dakota-the-oil-spill-state

IMPACT TO THE ENVIRONMENT

The impact of oil and brine/saltwater spills, as described above, is considerable.

- Public water supplies, lakes, rivers, and streams are vulnerable.
- Ecological preserves, wetlands, national parks, archaeological, and historical sites can also be threatened.
- Property and people could be either directly impacted by a spill/release, an explosion or fire resulting from a hazardous materials release, toxic fumes or explosive conditions, contamination of buildings and contents, or indirectly impacted by the release of materials that necessitates evacuation.

IMPACT TO AIR QUALITY

On October 5, 2020, the North Dakota Department of Environmental Quality (NDDEQ) issued a Compliance Alert³¹ regarding air emissions from onshore oil and gas production facilities within the state. The Department acknowledged the operator's

"ongoing efforts to minimize emissions and to ensure compliance with the North Dakota Air Pollution Control Rules but noted that at some facilities the air pollution control devices were either not operating or inoperable - in particular, when flares were out or where excessive leakage from tanks was occurring."

There are no EPA air quality monitoring stations in Mountrail County but information from those in Ward County, Burke County, and Williams County is used to map the area. See Figure 5.3-2 and Figure 5.3-3. The yellow color indicates a moderate level of concern about air quality. Orange means that the air quality is unhealthy for sensitive groups and the red means that the air quality is unhealthy for all. These specific air quality results were most likely caused by a wildland/rural fire in the area, but a hazmat release could generate similar maps.

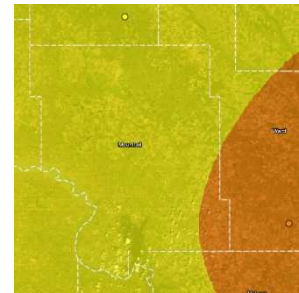


Figure 5.3-2 Mountrail County Air Quality 7/14/2021

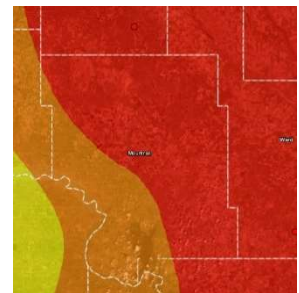


Figure 5.3-3 Mountrail County Air Quality 8/1/2021

³¹ North Dakota Department of Environment Quality, Compliance Alert, L. David Glatt, Director 10/5/2020

CHANGES IN DEVELOPMENT

Mitigation Strategies included in this Hazard Plan are designed to lessen the possibility of future development being impacted by uses associated with this hazard material risk through notification and increased distances from the potential hazards. These requirements differ depending on the specific type of hazmat risk, but each is addressed in a Mitigation Strategy.

5.4 HAZMAT-RELATED SITES AND OPERATIONS

As mentioned above, multiple types of hazmat incidents have occurred in Mountrail County. They include possible releases and/or spills at fixed hazmat sites, the Minot Air Force facilities in the county, transportation facilities including truck, rail, and pipelines. In addition to the hazard profile, past occurrence data, vulnerability, extent/magnitude, impact, and probability information provided in Section 5.3. Additional information on some of these hazmat types follows.



Figure 5.4-1 Oil Spill Near Parshall

FIXED HAZMAT SITES

Hazardous material incidents occur both at fixed sites incidents and while hazardous materials being transported by pipeline, truck, or rail. Typical fixed site facilities include the Tier II facilities including anhydrous ammonia plants, propane plants, agricultural processing plants, oil and gas producing sites, gathering sites and transfer facilities. See Figure 5.4-3 and Figure 5.4-4.

Common hazardous materials incidents at fixed sites include the improper storage, treatment, and disposal of hazardous waste at manufacturing and processing facilities. Related incidents involve deliberate illegal disposal of hazardous materials including oilfield filter socks (frac socks), and other hazardous waste disposal. The Tier II reporting facilities storing or using hazardous chemicals in Mountrail County maintain a material safety data sheet and submit the list of chemicals to the North Dakota Department of

Emergency Services, Hazardous Chemicals Preparedness and Response Program, Mountrail County, and local fire departments.

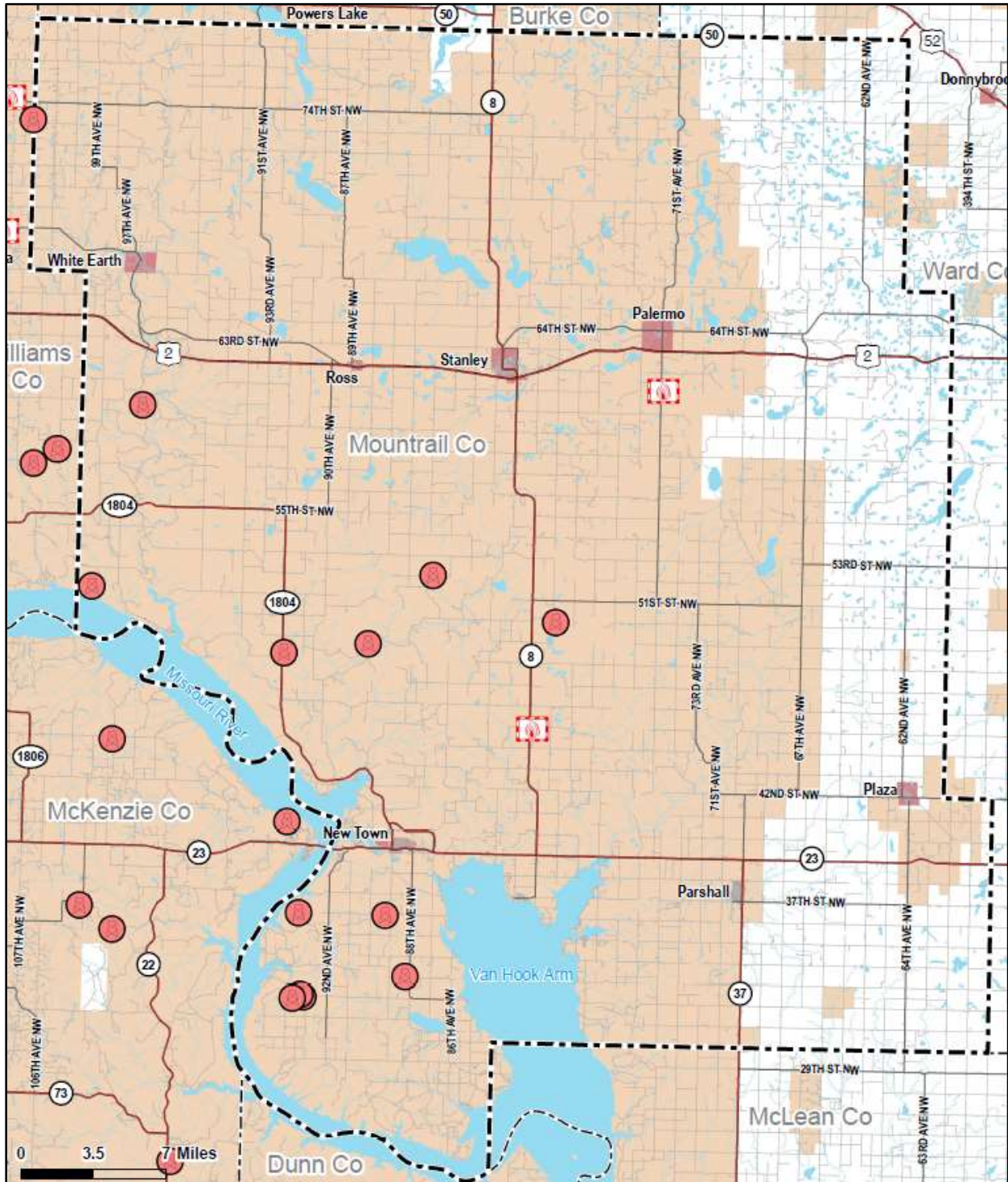


Figure 5.4-2 Locations of Drilling Rigs

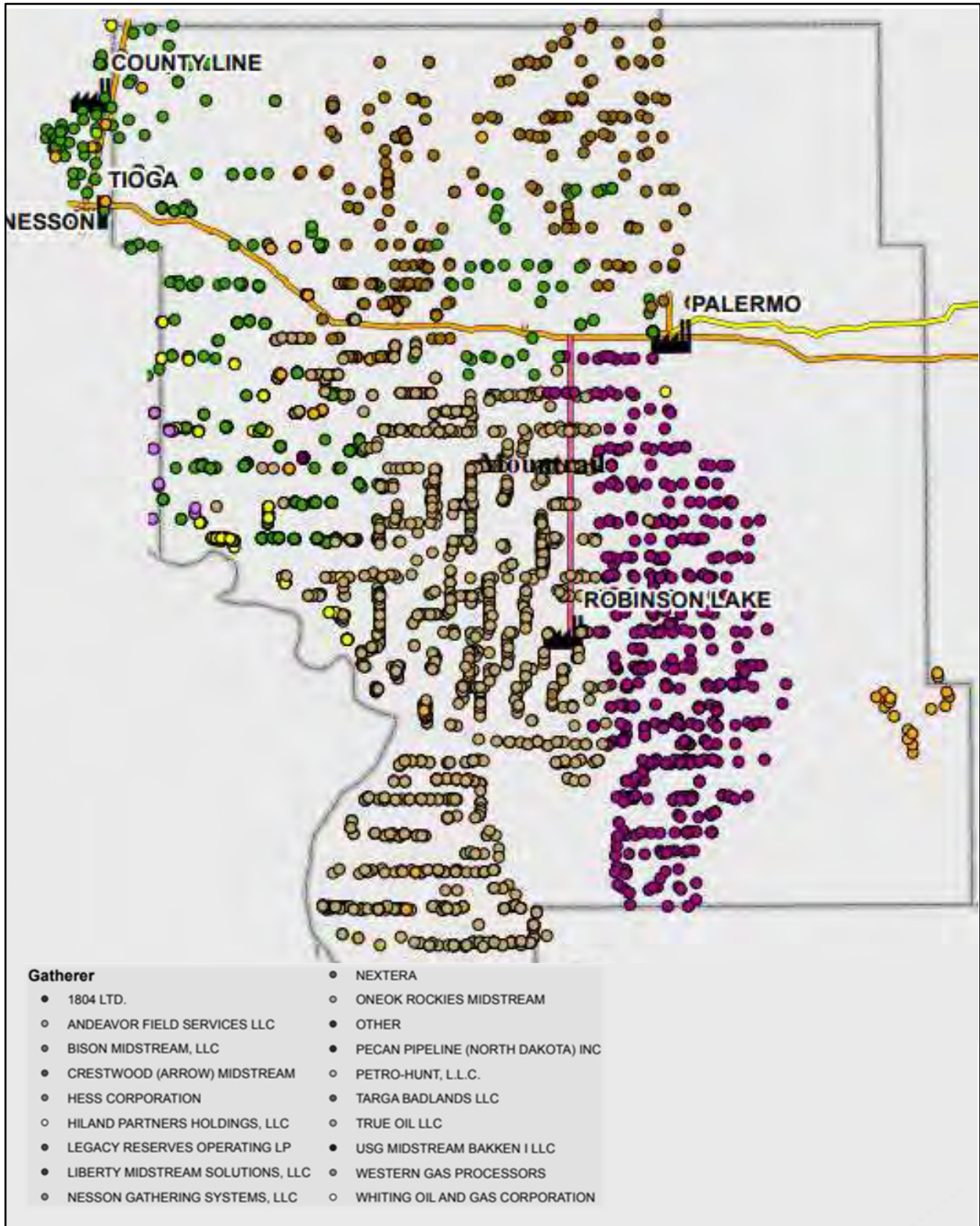


Figure 5.4-3 Mountrail County Gas Gathering
 Source: <https://ndpipelines.files.wordpress.com> 3/2/2018

MINOT AIR FORCE BASE FACILITIES IN MOUNTRAIL COUNTY

Minot Air Force Base oversees three missile alert facilities and approximately 22 active Minuteman III missile launch facilities located on (silos) in Mountrail County (Figure 5.4-4). These missiles contain nuclear material, monomethyl hydrazine, nitrogen tetroxide, and

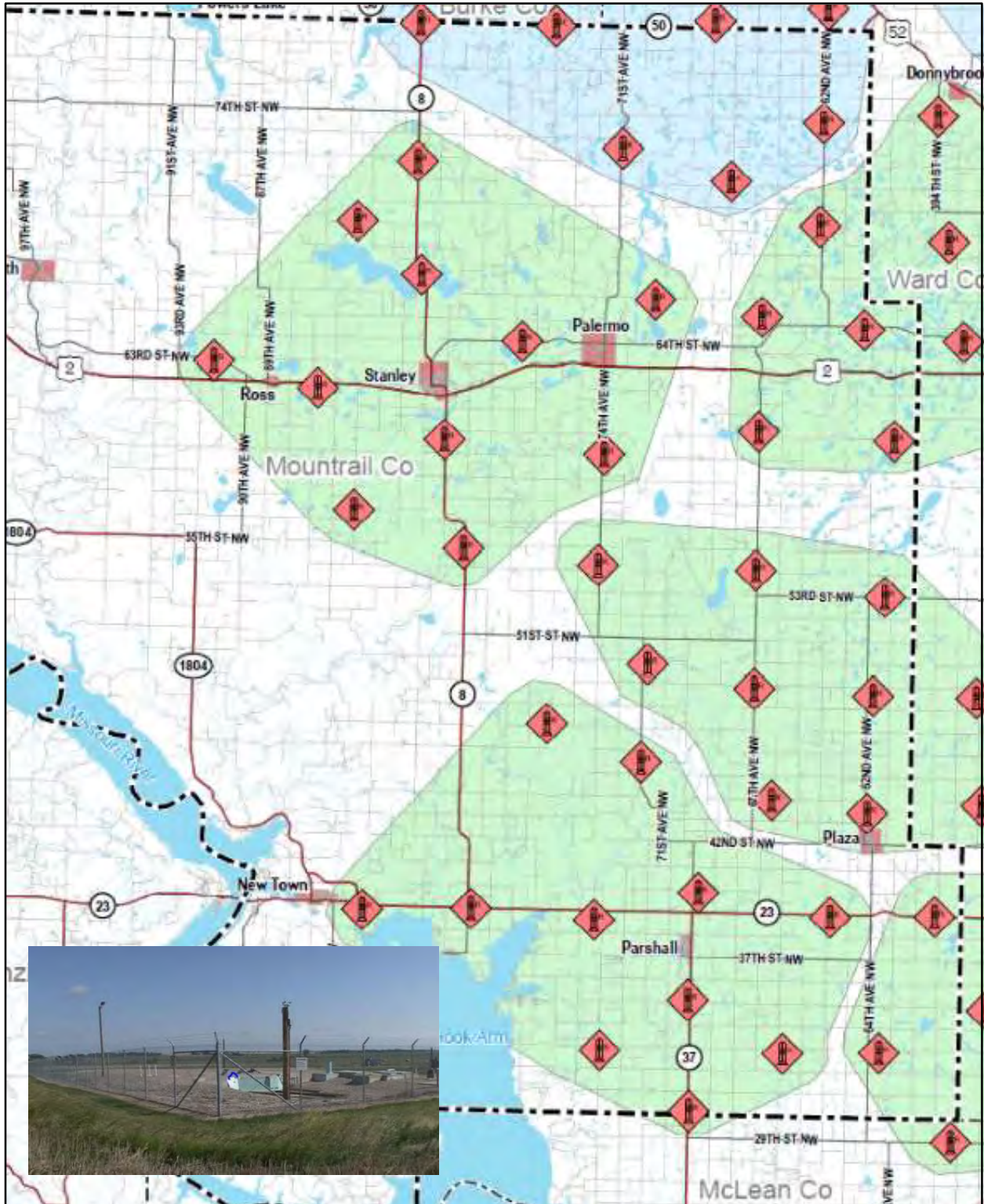


Figure 5.4-4 Location of launch facilities in Mountrail County with typical facility layout insert

could be hazardous if accidentally or intentionally damaged or tampered with, however, these systems contain a very high level of security and protection by the could be hazardous if accidentally or intentionally damaged or tampered with, however, these systems contain a very high level of security and protection by the United States Air Force.

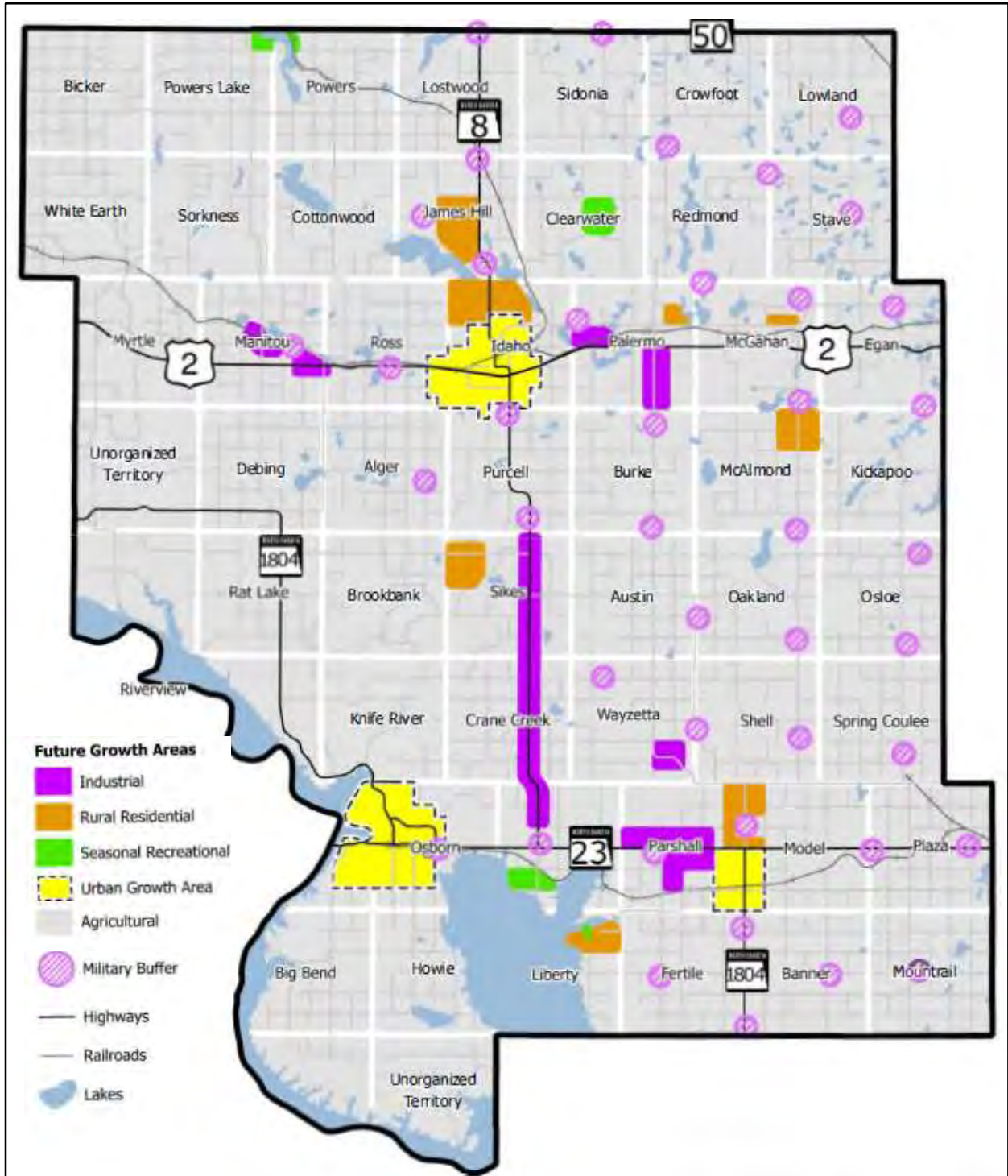


Figure 5.4.5 Mountrail County Future Land Use Map with a “Military Buffer” for each Minuteman III Missile Silo

These facilities are operated by the 91st Missile Wing assigned to Minot Air Force Base. Assistance from local fire crews and law enforcement could be required during an incident. The most common incident is potential fuel leaking from missiles. Mountrail County and city fire crews and law enforcement are utilized to establish the safety zone and assist with traffic control.

VULNERABILITY

The areas around missile launch facilities need to remain open and undeveloped to protect public safety and to allow unrestricted military access and operation. As shown on the County's Comprehensive Plan's future land use map (Figure 5.4-5), the missile launch facilities are located within a circular no-build easement with a 1,200-foot radius. The military has the right to prohibit habitable structures and remove existing or future buildings which are used for habitation.

To support the military's operations and address the potential hazard materials issue, the Comprehensive Plan encourages future development to locate at least one-half mile from military facilities. Development is prohibited within the 1,200-foot military easement but in some cases, development already exists within these areas. Mitigation Strategy #9 reinforces that restriction.



Figure 5.4-6 New York Times photo December 9, 2014

TRANSPORTATION HAZMAT INCIDENTS

HAZARD PROFILE

Another significant area of potential hazard materials exposure involves its transportation by truck and rail. Hazardous material release may also occur during transportation, both on highway and roadways, and rail and related transload facilities. As this Hazard Plan is being developed, the extent of transporting crude oil by rail is not certain. Table 5.4-1 illustrates recent activities.

EXTENT/MAGNITUDE

Table 5.4-1 is derived from statewide information on the number of trains carrying over 1,000,000 gallons of

Table 5.4-1 NUMBER OF RAIL CARS CARRYING CRUDE OIL (BNSF Railway)					
Mountrail County	2016	2017	2018	2014	2015
	90	45	26	197	166

crude oil through different counties in North Dakota. The state averages about 60 trains per year that carry over 1,000,000 gallons of crude oil. Between 2014 and 2016, the

number of trains carrying this large quantity of crude oil decreased on the CP Railway and stayed relatively the same on the BNSF Railway.

OIL AND GAS PIPELINE AND TRANSPORTATION BUFFERS



Figure 5.4-7 Potential HazMat Transportation Hazard Area



Figure 5.4-8 Proposed Pipeline Hazard Area Buffers
 Source: NDPA Annual Report 2019

Pipeline failures are low-probability, potentially high-consequence events. Although gas and liquid pipeline failures are infrequent, the hazardous and inflammable materials released by these events can pose a significant threat to public safety and the built and natural environment. A pipeline incident occurs when a break in a pipeline creates the potential for an explosion or leak of oil, gas, or brine/saltwater³², etc.) possibly requiring evacuation. An underground pipeline incident can be caused by accidental damage,

³² Brine/saltwater is a waste byproduct of oil production.

or sabotage. Incidents can range from a small slow leak to a large rupture. Early warning and established response procedures can lessen the risk to those living or working near the pipelines.

PAST OCCURRENCES

Reports from the USDOT provides detail and incident history for the pipeline systems in the State of North Dakota between 1998 and 2018.

Significant incidents are those incidents reported by pipeline operators with any of the following conditions met: 1) fatality or injury requiring in-patient hospitalization; 2) \$50,000 or more in costs, measured in 1984 dollars; 3) highly volatile liquid releases of five barrels or more or other liquid releases of 50 barrels or more; and 4) liquid releases resulting in an unintentional fire or explosion. According to these reports, there were 112 pipeline incidents that caused one fatality, four injuries and \$55,565,170 in damage over the period of 1998 - 2017. As of August 2018, there have been 16 pipeline incidents with roughly \$1,939,461 in damage (US Department of Transportation, 2018a). . . On average, North Dakota experienced six incidents, less than one fatality, less than one injury and \$2,778,259 in damages each year (US Department of Transportation, 2018).

VULNERABILITIES

As noted in the USDOT report mentioned above, there are vulnerabilities related to pipeline operations.

EXTENT/MAGNITUDE

Pipeline-related hazmat incidents occur across the nation as well as in Mountrail County where pipelines are located. Pipelines in Mountrail County are depicted in Figure 5.4-8.

IMPACT

Pipeline incidents usually have a limited impact and in Mountrail County are quickly resolved by pipeline company emergency crews, local and state responders.

PROBABILITY

Recent pipeline incidents in Mountrail County include both oil and saltwater facilities. Based on the USDOT reporting mentioned above, it is likely that within the next five years, there would be a hazmat incident in Mountrail County involving a pipeline.

EXISTING CAPABILITIES

Pipeline operators are required to coordinate all safety preparedness and response activities with the communities. Figure 5.4-8 illustrates areas proposed along the pipelines that would provide and maintain separation between habitable buildings and an oil or gas pipeline corridor so as to minimize risk of harm to people and property. In other jurisdictions they range in width and generally require consideration when a property is rezoned or developed. See Chapter 7.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for all of the hazards related to hazardous materials incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Hazardous materials incidents are common in Mountrail County, but responders to the community survey had different opinions on the probability of a spill or release depending on the source. As the excerpt from Table 3.5-1 indicates, responders ranked oil and saltwater spills to be the most likely. A total of 76% of them said that it is very

Excerpt from Table 3.5-1 COMMUNITY SURVEY RESULTS				
HAZARDS	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
OIL SPILL	35%	53%	3%	9%
SALTWATER SPILL	35%	50%	3%	12%
HAZ MAT RELEASE In Transit	29%	47%	12%	12%
HAZ MAT RELEASE Minot AFB Missile Launch Facilities	6%	24%	44%	26%
HAZ MAT RELEASE Fixed Site	0%	52%	39%	9%

likely or somewhat likely that there will be a releases from hazardous materials in transit. As most Mountrail County residents live, work or travel within the path of hazardous materials in transit, this is an important issue that should be addressed.

Related Mitigation Strategies

- Mitigation strategy #6 requires mapping of Tier II reporting facilities
- Mitigation strategy #7 seeks to revise local zoning to provide setbacks from oil and gas facilities.
- Mitigation strategy #8 seeks to revise local zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.
- Mitigation strategy #9 seeks to revise local zoning to conform to Comprehensive Plan recommendations regarding setbacks from Air Force facilities.
- Mitigation strategy #11 continues supporting hazardous materials training for first responders.
- Mitigation strategy #16 “Develop/collect education material...” addresses multiple aspects of hazard materials hazards.
- Mitigation strategy #22 seeks to identify shelters for evacuation.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and
- Mitigation strategy #45 continues developing truck routes.

5.5 DAM FAILURE

HAZARD PROFILE

A dam is defined as an artificial barrier across a watercourse or natural drainage area that may impound or divert water. Dams have many potential uses, including hydro-electric power generation, irrigation, flood control, water supply and recreation. Dam structures can be earthen or from manmade materials. Dam failure is a sudden, uncontrolled release of impounded water, and can have a devastating effect on people and property downstream, often caused by riverine and flash flooding. A dam can also fail through an earthquake, inadequate maintenance, mechanical problems, or a terrorist act.

The Association of State Dam Officials identifies five primary causes of dam failure, which are often interrelated:

- *Overtopping of a dam occurs when water from the reservoir spills over the top of the dam, creating instability in the structure. This can occur during a major flood event if the spillways are not adequately designed or if there is blockage in the spillway.*
- *Foundation defects, including settlement and slope instability.*
- *Piping is a term used to describe the process that occurs as seepage pathways create eroded pipes through a structure. Seepage often occurs around hydraulic structures and earthen features, and if left unchecked can gradually reduce the dam structure's stability.*
- *Structural failure of materials used to construct the dam.*
- *Inadequate maintenance.*

PAST OCCURRENCES

Fortunately, Mountrail County has not experienced any catastrophic dam failures. Since adoption of the 2015 Hazard Plan, there have been no recorded dam failures impacting Mountrail County.

VULNERABILITY

The Association of State Dam Officials, the US Army Corps of Engineers and FEMA utilize a rating system to determine potential hazard to property or life if a dam were to suddenly fail.

- **Low:** Dams located in rural or agricultural areas where there is little possibility of future development. Failure of low hazard dams may result in damage to agricultural land, township and county roads and farm buildings other than residences. No loss of life is expected if the dam fails.
- **Significant:** Dams located in predominantly rural or agricultural areas where failure may damage isolated homes, main highways, railroads, or cause interruption of minor public utilities. Potential for the loss of life may be expected if the dam fails.
- **High:** Dams located upstream of developed and urban areas where failure may cause severe damage to homes, industrial and commercial buildings, and major public utilities. Potential for loss of life if the dam fails. High hazard dam reservoirs must be at least 50 acre-feet.

Dams relevant to residents and businesses in Mountrail County include one high-hazard dam, the Fort Peck Dam, which is located in Montana. Within Mountrail County there is one high-hazard dam, the White Earth Dam, one significant (medium-hazard) dam, the Stanley Dam, and at least 13 low-hazard dams. See Figure 5-16 and Table 5-5.1.

EXTENT/MAGNITUDE

The Fort Peck dam is a dam of regional and multi-state concern. The Mountrail County dams are all local in nature, with the potential inundation areas depending on many elements including local area topography. See below for additional discussion.

IMPACT

Failure of the Fort Peck Dam would be catastrophic in its impact on the inundation area along the Missouri River. The loss of property, services, and even life could result.

PROBABILITY

Probability is based on hazard frequency over a 10-year period and the regular inspection and upkeep required of the high hazard dams lessens their probability of failure. No Mountrail dam is included in a Dam Incident Database Search. Since dam failure occurs less than once every 10 years, an incident at the White Earth Dam is generally considered possible but not likely. Results of the community survey indicate that 82% of those responding expect that a White Earth Dam incident to be unlikely or somewhat unlikely in the next five years. Survey questions did not address other dams in the county but by definition, low hazard dams do not pose a risk to structures but would flood agricultural land.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years. While the likelihood of dam failure is low, current zoning and land use ordinances in Mountrail County and the cities do not specifically consider dam inundation areas during the review of new development. As a result, it is possible that additional development could occur in the potential dam inundation areas.

EXISTING CAPABILITIES

North Dakota's dam safety program includes reviewing construction permit applications for dams, conducting dam inspections, maintaining an inventory of dams, determining the hazard classification of dams, and assisting with emergency preparedness activities. Emergency Action Plans (EAPs), a formal document that identifies potential emergency situations that could occur at a dam and specifies the course of action to be taken when an emergency situation arises, are required for all high hazard and medium hazard dams. In addition, dam owners are responsible for developing, testing, and updating an EAP for their dam³³. Additional collaboration would be beneficial between Mountrail County, other jurisdictions located close to the Missouri River, together with state and federal agencies with dam safety and emergency preparedness responsibilities, to increase local understanding of the risk from any failure of the Fort Peck Dam and to discuss preparedness.

³³ www.swc.nd.gov

FORT PECK DAM



Figure 5.5-1 Fort Peck Dam, Glasgow, Montana

HAZARD PROFILE

The Fort Peck Dam, a high-hazard dam owned and operated by the United States Army Corps of Engineers (USACE), is located on the Missouri River in eastern Montana almost 200 miles upstream of Mountrail County. The 10,800-square-mile area below Fort Peck Dam is known as the Lower Missouri River sub-basin³⁴. In 2013, the State of Montana completed preliminary dam failure inundation studies for their high hazard dams which included communities along the Missouri River which would be impacted by a failure of the Fort Peck Dam³⁵. These studies ended at the state line.

Another study, a 2009 Fort Peck Dam Flood Study done by a Williston State College professor noted that this is the eighth largest dam in the world. That study examined the impact of complete dam failure on downstream cities along the Missouri River as far east as Williston and concluded that dam failure would be catastrophic for residents and businesses downstream along the river but that there would be about 33 hours of warning time for Williston (See Figure 5.5-2).

VULNERABILITY/IMPACT

As the Montana study and the Williston study note, the impact of a failure of the Fort Peck Dam would be regional and catastrophic. Mountrail County does not have the benefit of a study identifying the potential inundation area within its jurisdiction but if you compare Figure 5.5-2 to Figure 5.5-3, which maps the same area using available FEMA Base Level Engineering data³⁶, the Williston inundation area is worse in their study.

³⁴ Inundation maps for this area are not readily available.

³⁵ A comparable figure was also included in the last Montana Plan Update in 2018.

³⁶ See Section 4.3.

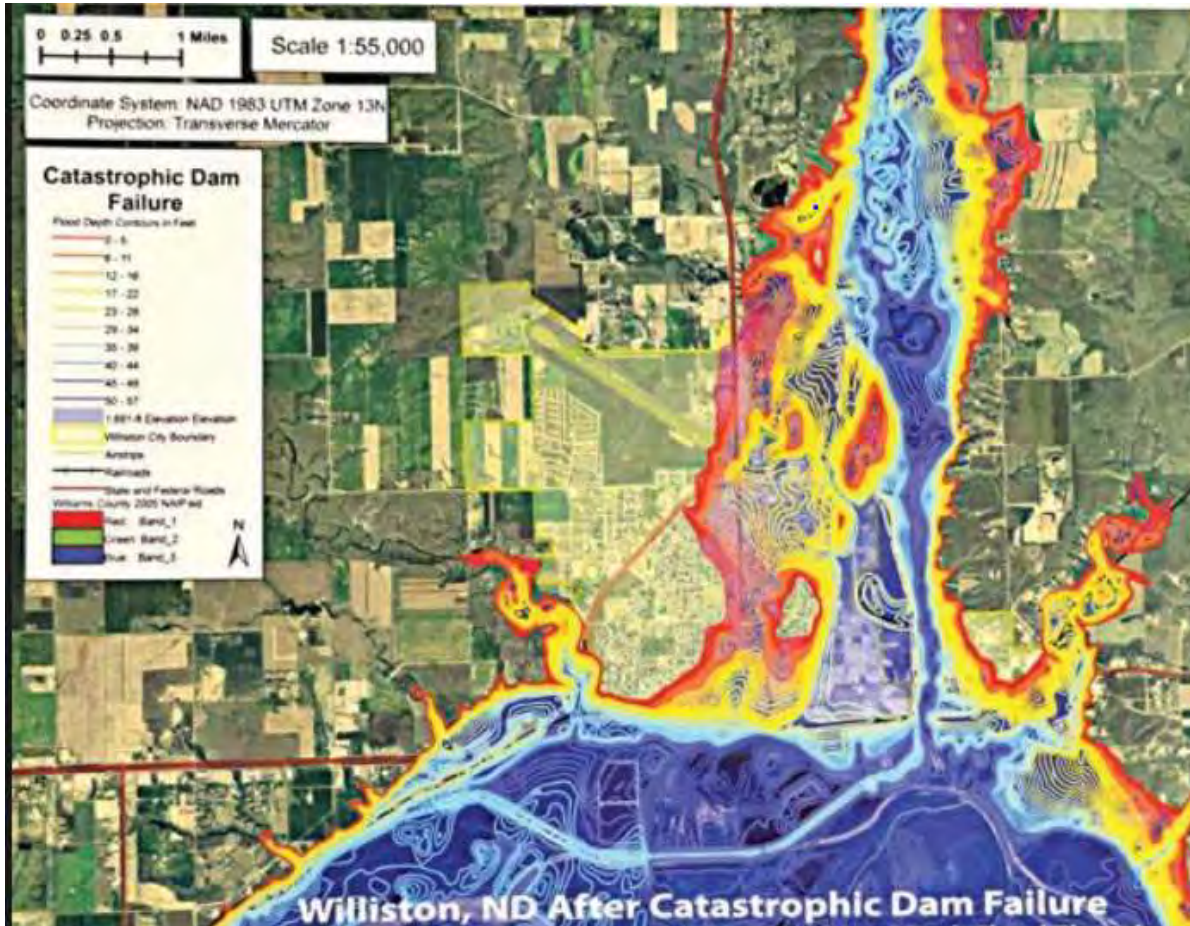


Figure 5.5-2 Fort Peck Dam – Inundation of the Williston ND Area Williston Herald newspaper 3-part

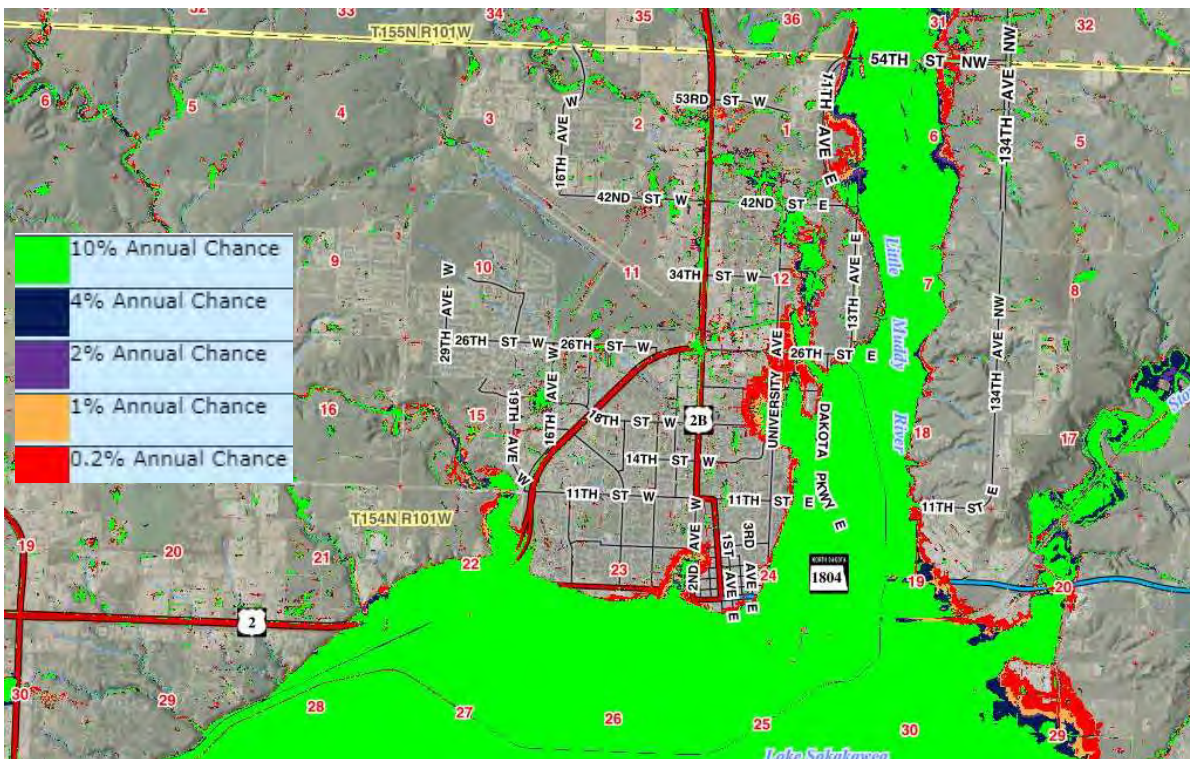


Figure 5.5-3 Williston ND Area Mapped with FEMA BLE levels
Source: <https://ndram.dwr.nd.gov/>

Mountrail County and its cities are mapped using the same FEMA Base Level Engineering in the Annexes. See Figure 5.5-4. The impact of a Fort Peck Dam failure would have the most impact on the residents and businesses closest to the Missouri River. That includes significant agricultural properties, oil producing facilities, recreational uses, and some residences. Fortunately, Mountrail's riverfront includes long stretches of bluffs, as shown in Section 4.4, which may provide some level of protection.

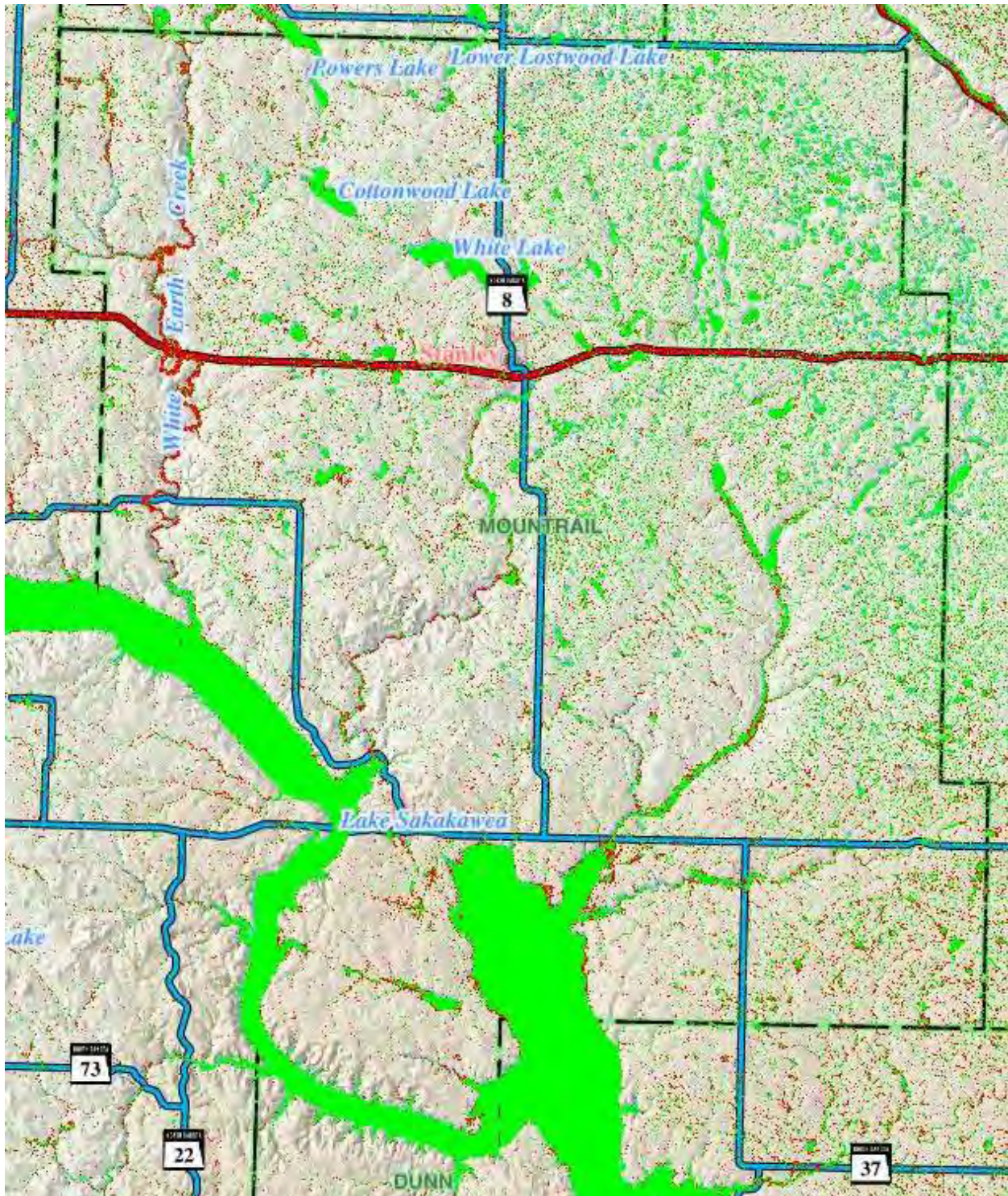


Figure 5.5-4 Mountrail County Mapped with FEMA BLE levels
Source: <https://ndram.dwr.nd.gov/>

The City of New Town is also mapped using the same FEMA Base Level Engineering as for Figure 5.5-3 to provide some general insight into the potential impact of any dam failure. The importance of this issue is reflected in Mitigation Strategy #3 which reads: "Initiate a collaboration with other jurisdictions located close to the Missouri River, plus state and federal agencies to increase local understanding of the risk from any failure of the Fort Peck Dam and to discuss emergency preparedness."

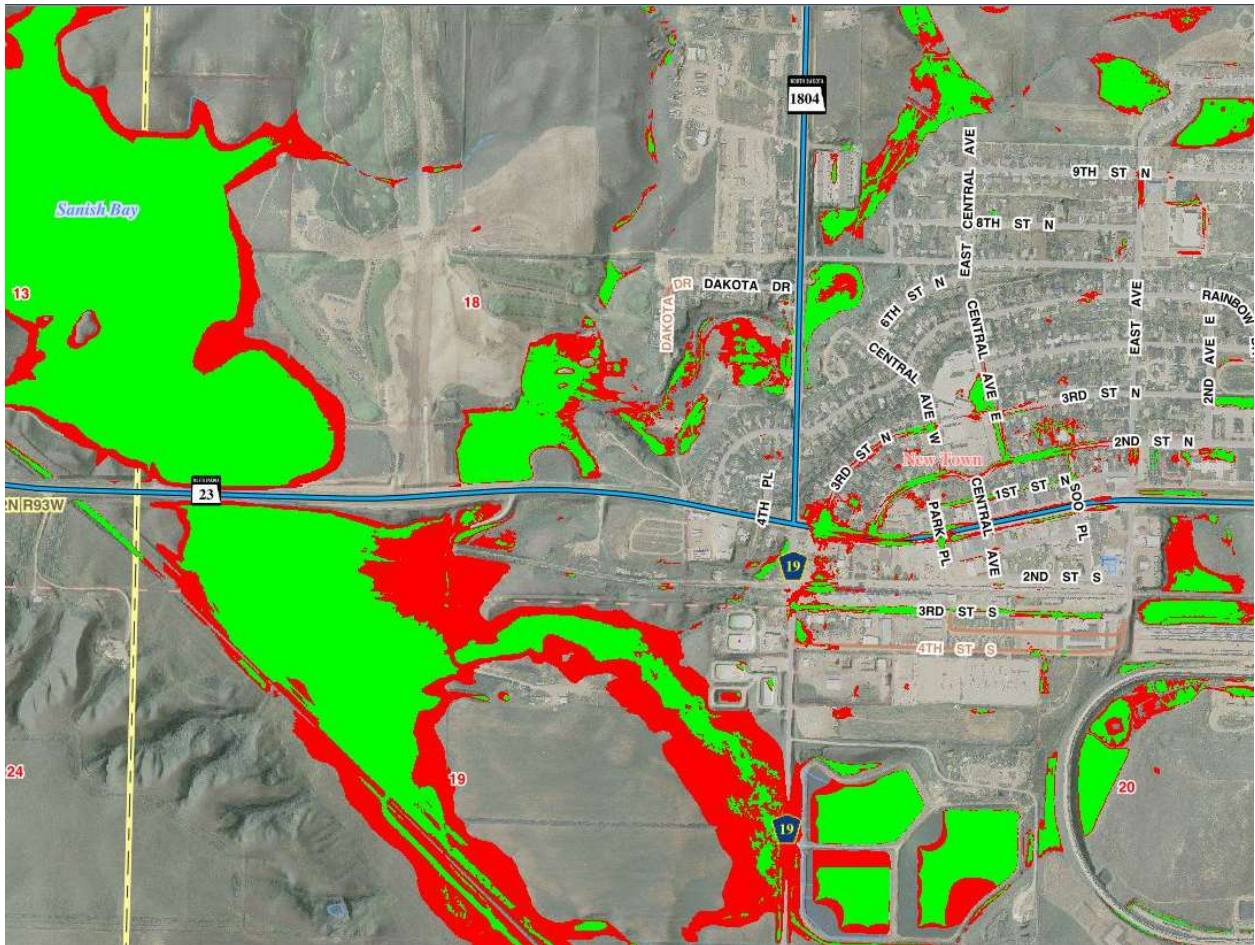


Figure 5.5-4 Mountrail County Mapped with FEMA BLE levels
Source: <https://ndram.dwr.nd.gov/>

Vulnerability of Mountrail County Cities

New Town is the closest to the river so would likely be the most vulnerable but without a study, similar to the one done in Montana or Williston on Fort Peck Dam failure, it is impossible to really understand the vulnerability of Mountrail County or any of its cities to this hazard.

PROBABILITY

Repairs to the Fort Peck Dam in 2018 addressed its gates, spillway slab, plunge pool, recreation area and access roads, drains, spillway, gates controls, relief wells, and horizontal outfall pipes. Both the North Dakota and Montana state hazard mitigation plans include public alert procedure for Fort Peck Dam failure and notification as

important mitigation measures. The ND Plan's analysis³⁷ addressed several dams in Montana (including the Fort Peck Dam) and the Canadian province of Saskatchewan that could impact downstream communities in North Dakota if a dam failure were to occur, and concluded that Mountrail County has moderate vulnerability to dam failure. Results of the community survey indicate that 88% of those responding expect that a Fort Peck Dam incident is unlikely or somewhat unlikely in the next five years.

MOUNTRAIL COUNTY DAMS

Mountrail County has 15 dams. See Table 5.5-1 and Figure 5.5-5. There is one high hazard dam in the county, the White Earth Dam, which is located approximately six miles north of White Earth. It has the potential to impact the city.

Table 5.5-1 MOUNTRAIL COUNTY DAMS						
	NID ID	Owner Type	Height feet	Storage acre-feet	Hazard Potential	Year
Bartelson Dam, Neil	01145	Private	11.9	92	Low	-
Holman Dam, Alvin	01057	Private	15.4	53	Low	2008
Moen WPA	00830	Federal	10.0	220	Low	1997
Nesheim Dam, Mark 1	00917	Private	6.2	95	Low	2001
Nesheim Dam, Mark 2	00918	Private	9.6	55	Low	2001
Nichols Dam, Randy	00897	Private	10.8	58	Low	2000
Paulsen Dam	00198	Local Gov't	12.0	110	Low	1934
Sanish Bay WPA 1	00597	Federal	29.1	2,861	Low	1995
Severson Dam, Clara	00875	Private	6.6	76	Low	1999
Sikes Dam	00183	Federal	10.0	3,962	Low	1934
Stanley Dam	00192	Local Gov't	20.5	3,720	Significant	1968
White Earth Dam	00034	Local Gov't	45.0	4,239	High	1970
ND No Name Dam	00239	Private	9.0	250	Low	1934
ND No Name Dam	00975	Private	17.0	67	Low	-
ND No Name Dam	00212	Private	10.0	160	Low	1935

Source: National Directory of Dams <https://nid.sec.usace.army.mil>

WHITE EARTH DAM

There is one high hazard dam in Mountrail County, the White Earth Dam, which is located approximately six miles north of White Earth. The lake is 142 acres in size and approximately 21 feet deep at its deepest point.

VULNERABILITY

The City of White Earth and surrounding areas are vulnerable to failure of this dam. An Emergency Action Plan is in place. Mitigation Strategy #2 addresses its importance.

³⁷ ND Plan, September 17, 2018

IMPACT

As shown in Figure 5.5-7, the impact of dam failure, should that ever happen, would be extensive and would include damage to homes, businesses, and agriculture as well as recreational uses. Access to the community could be threatened and evacuation could be required, at least temporarily. As many as 35 households, many small businesses and city hall could be impacted.

PROBABILITY

The probability of dam failure is low, but the city residents are concerned as the impact of dam failure would be devastating to them.

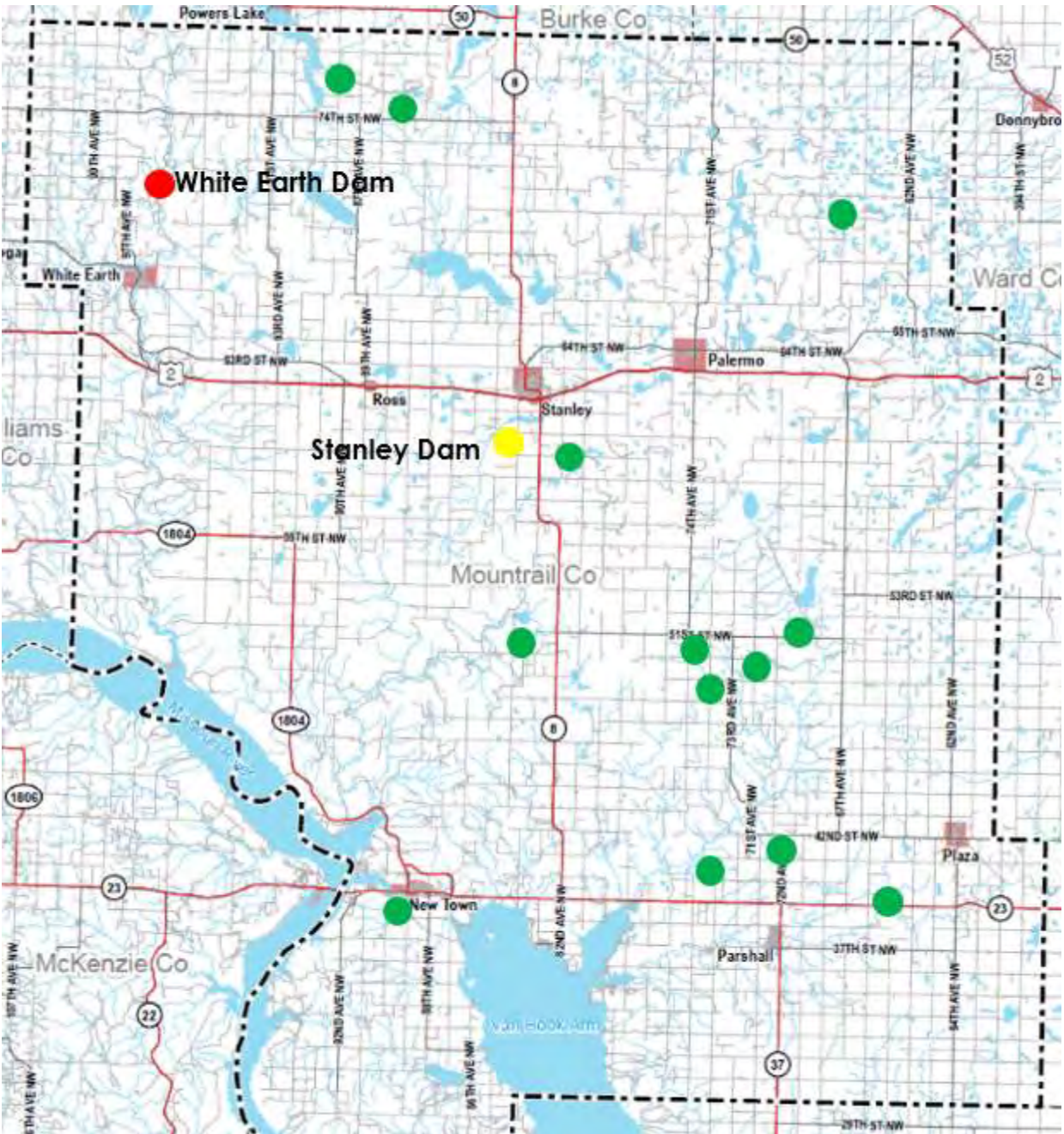


Figure 5.5-5 Mountrail County Dams

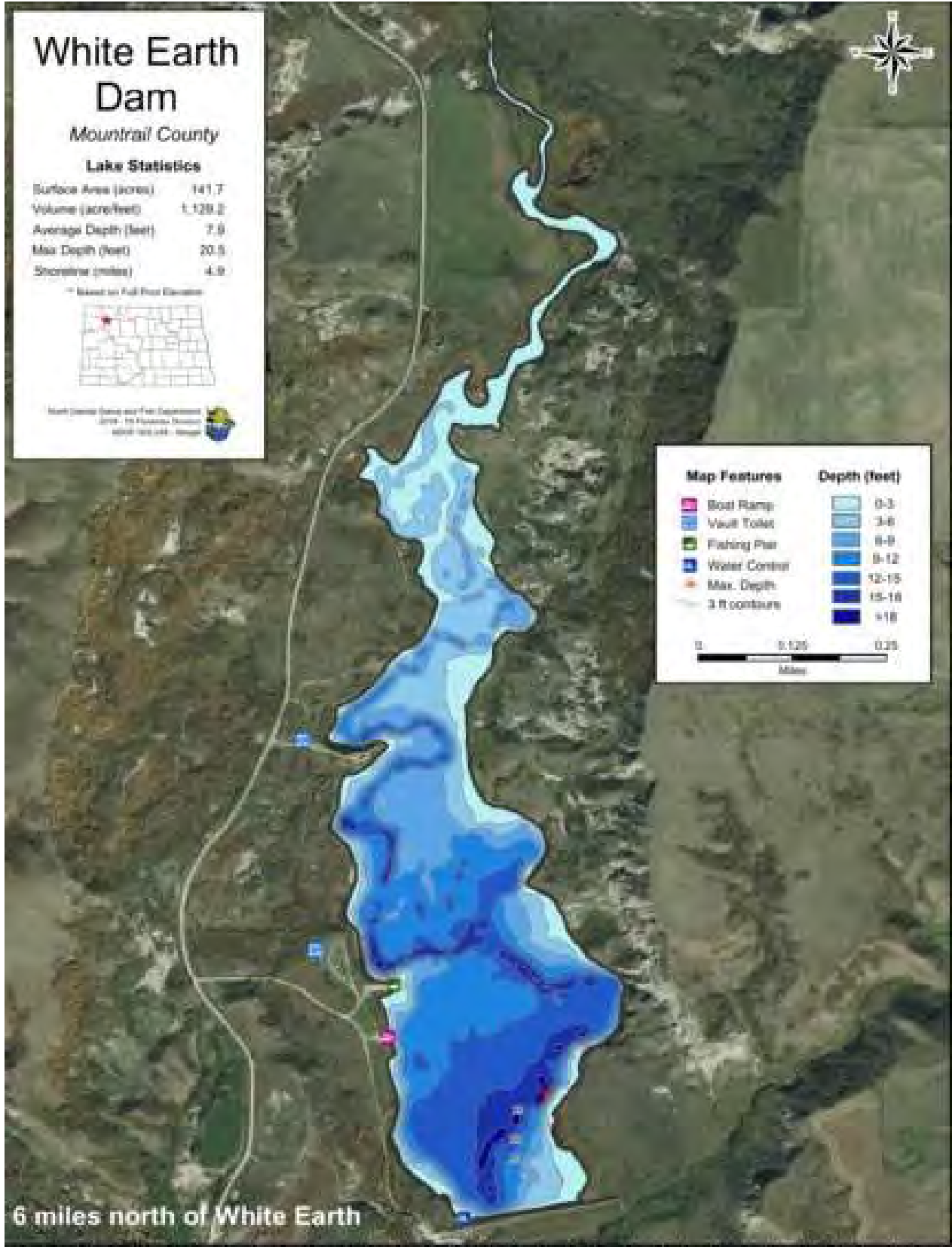


Figure 5.5-6 White Earth Dam
Source: www.avenzamaps.com/maps/1213692/white-earth-dam-mountrail-county

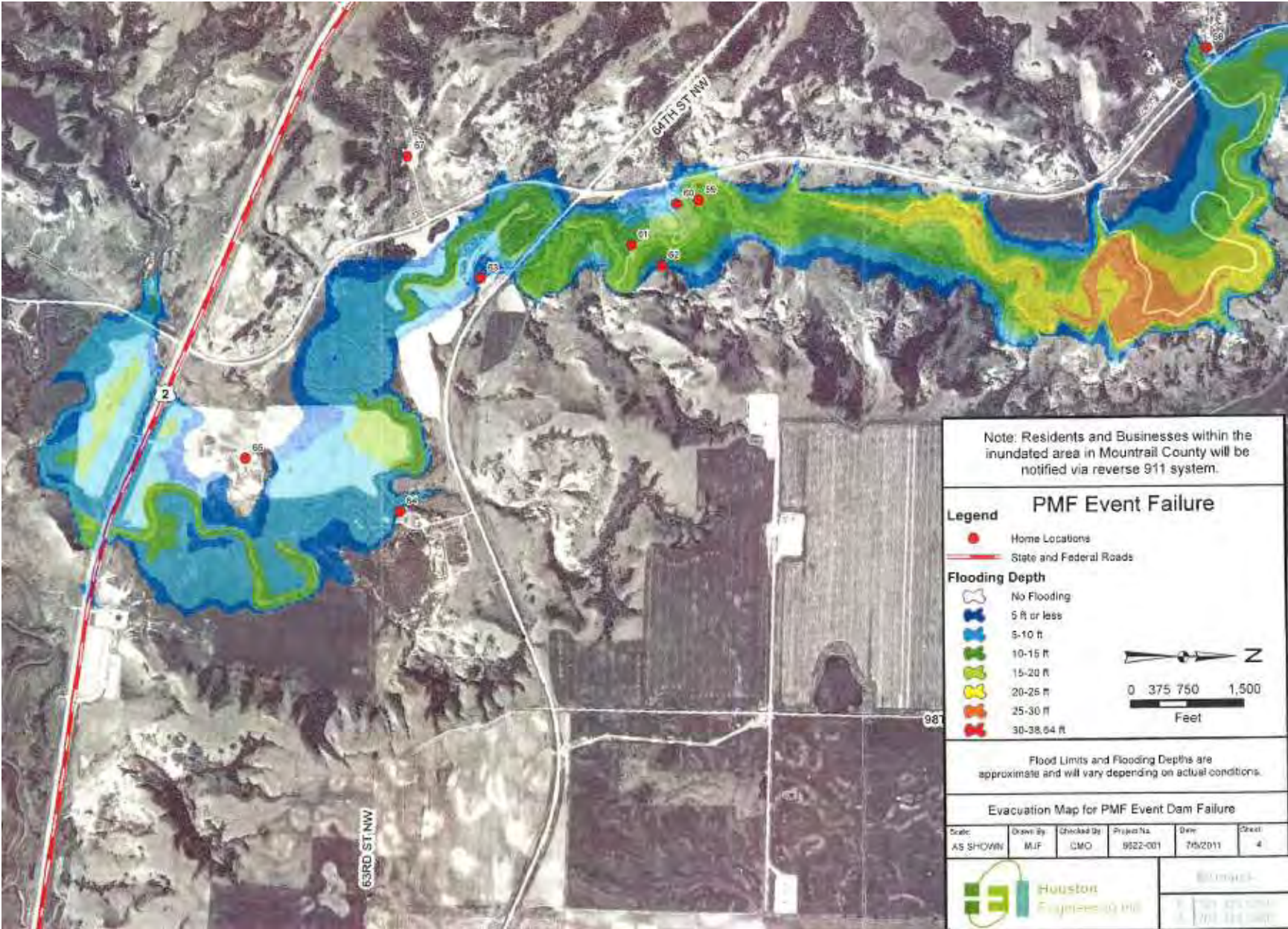


Figure 5.5-7 White Earth Dam – Evacuation Map for Part of the Area Impacted by any Dam Failure

STANLEY DAM

Stanley Dam, located south of downtown Stanley, is a significant hazard dam with the potential to impact the city in the event of a failure. A Water Control Plan is in place.

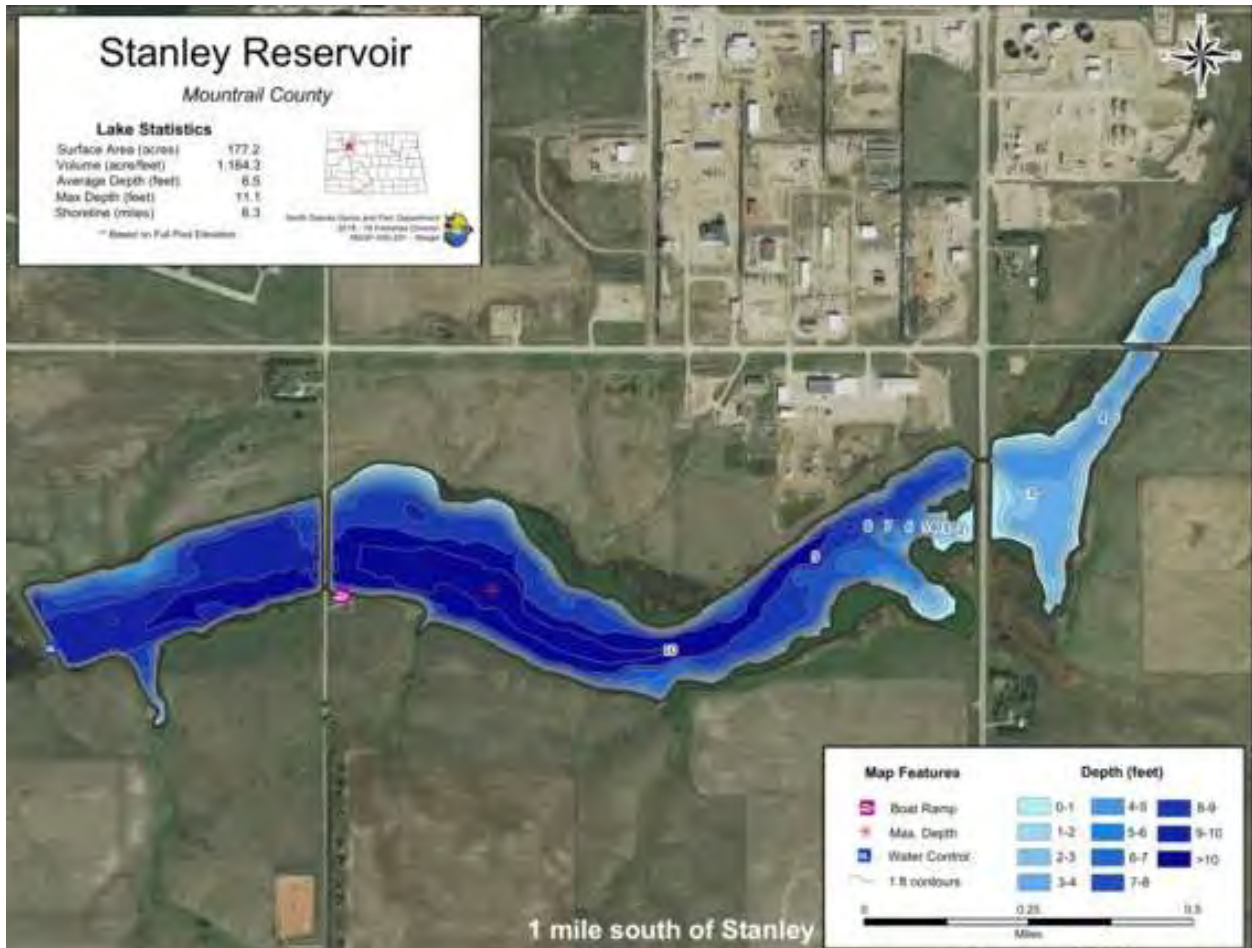


Figure 5.5-8 Stanley Reservoir

Source: www.avenzamaps.com/maps/1213672/stanley-reservoir-mountrail-county

VULNERABILITY

Because of the topography and the location of existing development, there is little to no vulnerability to flooding from the Stanley Dam. The response from those questioned about the dam was surprise to learn there was a dam in place. Most area residents see this as Stanley Pond, an area for recreational fishing.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G.

- No critical, strategic, or key facility is expected to be physically damaged by the failure of the Stanley Dam or the county's low-risk dams.
- Failure of the White Earth Dam could cause serious damage to facilities in the city.

- Impact of facilities close to the Missouri River could be seriously damaged or destroyed by a failure of the Fort Peck Dam. Mitigation strategy #3 identifies the need for additional information on this possibility.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for incidents related to dam failure are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Failure of the Fort Peck Dam would have a significant impact on persons, property, businesses, and local governments in the inundation area. Mountrail County is not the only local government impacted. The EAP for the White Earth Dam needs to be kept current.

Related Mitigation Strategies

- Mitigation strategy #2 addresses the need for the White Earth Dam EAP to be current.
- Mitigation strategy #3 seeks to initiate a collaboration to address the Fort Peck Dam inundation area.
- Mitigation strategy #16 "Develop/collect education material..." addresses dam failure.
- Mitigation strategy #22 seeks to identify evacuation shelters needed in response to dam failure.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.

5.6 UTILITY INTERRUPTION

POWER SYSTEM INTERRUPTION

HAZARD PROFILE

In North Dakota, the Century Code requires that "Every public utility shall furnish, provide, and maintain such service, instrumentalities, equipment, and facilities as shall promote the safety, health, comfort, and convenience of its patrons, employees, and the public, and as shall be in all respects adequate, convenient, just, and reasonable, and without any unjust discrimination or preference."³⁸ This Hazard Plan focuses on electric and water service.

PAST OCCURRENCES

Utility interruptions occur with some regularity during summer and winter storm events as well as after accidents involving utility lines, but utility interruptions are usually quickly. The Mountrail-Williams Electric Cooperative maintains a Facebook and website page that identifies outage areas and approximate restoration time frames.

³⁸ North Dakota Century Code 49-04-01

VULNERABILITY

Utility system interruption is related directly or indirectly to other hazards, including hazardous materials incidents (accidental or intentional), reduced water supply due to drought, cyber or other attacks, floods, pipeline breaks, mechanical breakdowns, loss of electric service, windstorms, or tornadoes. Infrastructure failure can last moments or extensive periods of time. In the event of long-term utilities failures, the residents of Mountrail County would be dependent on their own resources for utilities, such as electricity, heating, and potable water. Should those fail, or should the fuel supply for those alternate sources be depleted, there are limited options in terms of public warming centers or shelters; those that could be converted to such use would require travel for those in need of them, which is another vulnerability the population has. In the event of a prolonged utility outage during a severe winter storm event, the population of Mountrail County would face an array of vulnerabilities from the hazard.

EXTENT/MAGNITUDE

This hazard has both local and regional implications.

IMPACT

Loss of power impacts both persons and businesses; the impact could be significant economically and life-threatening.

PROBABILITY

Based on previous experience, interruptions in water and electric service are both likely and interrelated. Power system outages are a cause of public water system outages, Water storage tanks and backup power systems help maintain service. According to the Mountrail-Williams Electric Cooperative, the major reason for power outage in 2019 was an ice storm. That and other causes are shown on Figure 5.6-1.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years. As the county continues to develop, more persons and businesses add to the challenges of managing a utility interruption of any kind.

EXISTING CAPABILITIES

Table 7.2-1 shows the utility providers serving the population, businesses, and local governments in Mountrail County. As stated above, North Dakota utilities are regulated by the Public Service Commission. The electric utility operators are also part of regional grids operating across many states, and share in the burden when severe weather hits in other areas that are not as prepared to manage it. In addition, the planning team determined that people living in rural areas generally have generators to provide power should electricity from the utilities be interrupted.

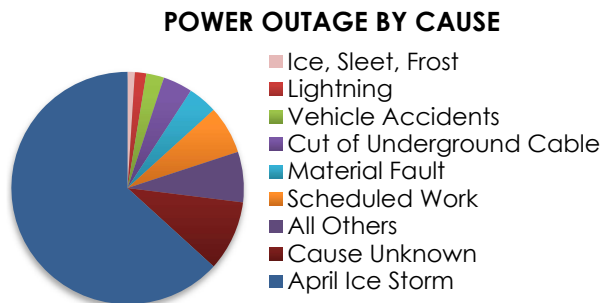
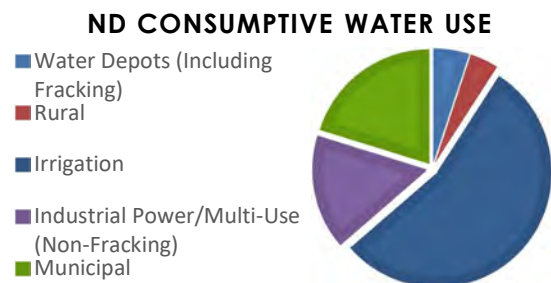


Figure 5.6-1 Power Outage by Cause - Mountrail-Williams Service Area



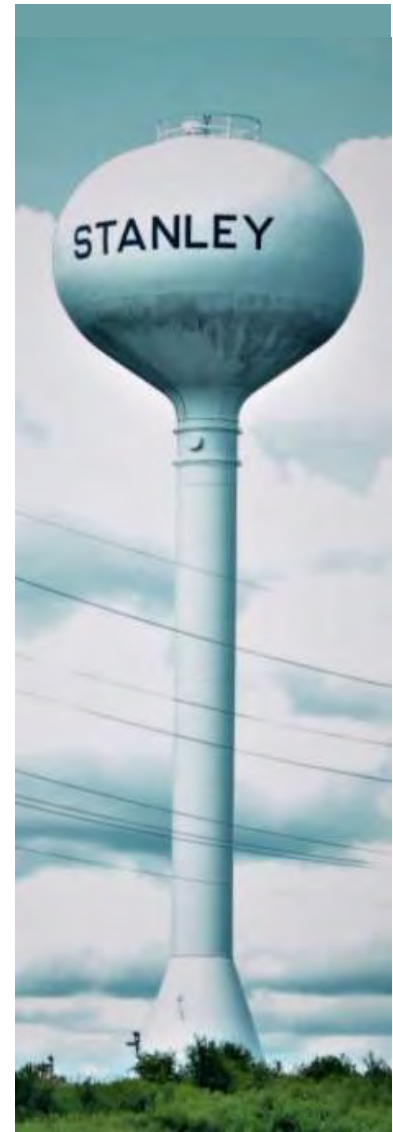
WATER SYSTEM INTERRUPTION

Utility interruption hazards impair the functioning of a wide range of important utilities including water systems. While county water use may differ from the state's, Figure 5.6-2 illustrates statewide water resources. A lack of potable water could create health issues for residents; decreased water supply for industrial uses has economic impacts.

PUBLIC WATER SUPPLY

Mountrail County's public water system sources include groundwater and surface water See also Section 7.2. Issues with water intake from Lake Sakakawea at Parshall illustrate the hazards involved. Intake from the lake was extended further into the lake when the drought from 1988 to 1992 (and again in 2007), caused the lake level to fall³⁹.

City Systems	Water Source	System Type
City of Ross	Groundwater+ Surface water	Community
City of New Town	Groundwater	Community
City of Plaza	Groundwater	Community
City of Parshall	Groundwater + Surface water	Community
City of Stanley	Groundwater + Surface water	Community
Other Systems	Water Source	System Type
Up the Creek Campground	Groundwater	Non-community
Railroad Springs RV Park	Groundwater	Non-transient non-community
Manitou Village	Groundwater	Non-community
Missouri Basin Well Services	Groundwater	Non-community
Nabors Drilling Ross Camp (1)	Groundwater	Non-transient non-community
Nabors Drilling Ross Camp (2)	Groundwater	Non-transient non-community
Omar Farms	Groundwater	Non-community
Meadowlark RV Park	Groundwater	Transient non- community
Aux Sable Midstream LLC	Groundwater	Non-transient non-community
Stanley Blaisdell RV Park	Groundwater	Non-community
Whiting Oil & Gas - Robinson Lake Gas Plant	Groundwater	Non-transient non-community
Crane Creek MHP	Groundwater	Transient non- community



³⁹ Climatic and Hydrologic Aspects of the 1988-1992 Drought and the Effect on People and Resources of North Dakota, North Dakota State Water Commission, 1994.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. In Mountrail County, no critical, strategic, or key facility is expected to be physically damaged by the utility failure.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for utility failure incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Interruptions in electric service are likely and have a number of causes as shown in Figure 5.6-1. Timely response is critical, especially for those who do not have generators in their homes. Adequate local government response requires coordination and communication.

Related Mitigation Strategies

- Mitigation strategy #16 “Develop/collect education material...” to addresses utility failure.
- Mitigation strategy #22 seeks to identify warming/cooling shelters needed in response to utility failure.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #41 addresses the need to coordinate with utility providers to bury or reduce pole spans on electric transmission lines

5.7 MAJOR URBAN FIRE

HAZARD PROFILE

A major urban fire is an uncontrolled fire in populated areas that threatens life and property beyond normal day-to-day response capability. Structural fires present a far



Figure 5.7-1 April 2021 Fire in New Town www.buffalosfire.com

PAST OCCURRENCES

Structural fires are almost a daily occurrence in some communities. Nearly all are quickly extinguished by on-site personnel or local fire departments. See Figure 5.7-1.

VULNERABILITY

Most structural fires occur in residential structures. During colder months, clogged chimneys, faulty furnaces, and fireplaces can increase the probability of structural fires. The improper use of emergency generators also contributes to the risk of a structural fire. The occurrence of a fire in a commercial or industrial facility could affect more people and pose a greater threat to those near the fire or fighting the fire because of the volume or type of the material involved.

EXTENT/MAGNITUDE/IMPACT

Even with their size, a major urban fire has only local impact.

PROBABILITY

Modern fire codes and fire suppression requirements in new construction, including sprinkler requirements for certain construction building renovations, smoke detectors, plus improved firefighting equipment, training, and techniques lessen the chance and impact of a major urban fire.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years. At times, the development-related regulations have not met the challenge or pace of development and more persons and businesses are exposed to this risk.

EXISTING CAPABILITIES

Firefighting professionals from within Mountrail County and the region and beyond would respond to a major urban fire. For specific information on county-wide firefighting capacity and preparedness see Chapter 7.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. Almost all of these important facilities are located in the cities' most urban areas. In Mountrail County as elsewhere, critical, strategic, or key facilities could be physically damaged by a major urban fire,

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for major urban fire incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

While major urban fires are not common in Mountrail County, their impact on area residents and business owners can be devastating. Timely response is critical, especially

for those who do not have generators in their homes. Adequate local government response requires coordination and communication.

Related Mitigation Strategies

- Mitigation strategy #16 “Develop/collect education material...” addresses major urban fires and some o=likely causes.
- Mitigation strategy #17 seeks to continue to support the recruitment and training of volunteers to address wildland and structural fire protection and ambulance services,
- Mitigation strategy #22 seeks to identify evacuation shelters for evacuation during a major urban fire incident.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #29 addresses the need to continue to support upgrading existing or purchase new equipment and infrastructure for emergency services, as needed.

5.8 MAJOR TRANSPORTATION INCIDENTS

HAZARD PROFILE

As with a major urban fire, a major transportation incident is one that threatens life and property and is beyond normal day-to-day response capability. In Mountrail County, these incidents primarily involve roadway and railroad incidents.



Figure 5.8-1 North Dakota Roads and Highways Map Us-atlas.com

ROADWAY TRANSPORTATION INCIDENT

Mountrail County's transportation system forms a network connecting its communities, businesses, and people. As Figure 5.8-1 shows, the roadway network also provides important connections to areas outside the county, A major transportation incident is problematic in any location, but even more so in a county like Mountrail County where alternative transportation routes are limited. These incidents which impact those directly involved in the incident and all those impacted by the incident, call for emergency traffic management planning, interagency coordination, and mutual aid.

PAST OCCURRENCES

The history of transportation incidents in Mountrail County consists primarily of small magnitude incidents, some with fatalities, but most with very little effect on the entire community. From 2015 to 2019, NDDOT documented 660 total crashes and 26 fatal crashes in Mountrail County. See Figure 5.8-2

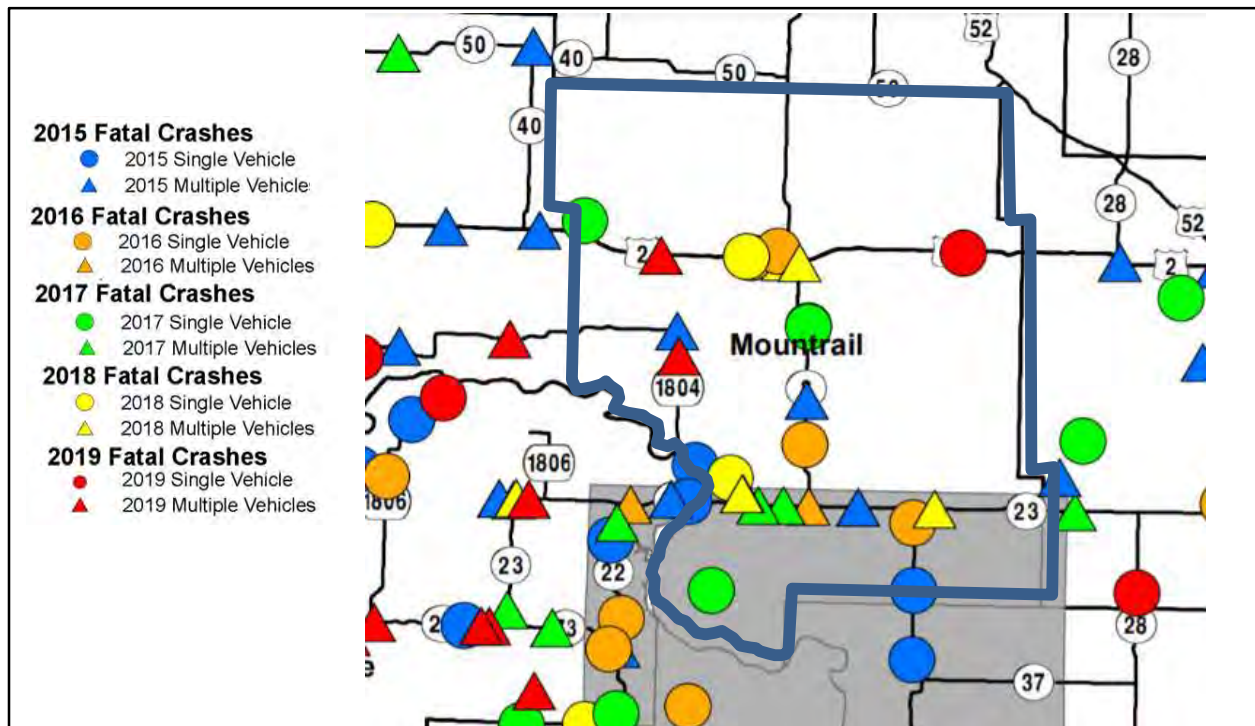


Figure 5.8-2 Mountrail County – Fatal Crashes 2015 - 2019

VULNERABILITY

As the number of roadways within and surrounding Mountrail County is limited, a major transportation incident takes on more significance than it would in other locations where more alternative routes are possible.

EXTENT/MAGNITUDE

Roadway incidents, even major incidents are usually a local event. Should a roadway incident block travel for a considerable time, the impact on commerce and the economy could be regional.

IMPACT

Specific impacts could include blocked roads, economic loss, human loss, and injuries due to the incident and potentially loss due to delays in emergency medical service. Inconvenience is always a theme when discussing transportation incidents. The extent of potential impacts of this hazard varies depending on the severity of the incident, the time needed to clear it, the related damage to transportation infrastructure and the alternatives available at the time.



Figure 5.8-3 Traffic in New Town ND

PROBABILITY

Major and minor traffic incidents occur regularly and result in property damage and injury/death. Incidents involving multiple vehicles and significant injury are not uncommon. In 2019 alone, there were 127 crashes, three fatalities and 70 injuries in Mountrail County. Speeding and distracted driving are factors in many incidents. Weather conditions play a major factor in the ability of traffic to flow safely in and through the county,

Continued roadway incidents are expected but Mountrail County is committed to “prioritize investments in the transportation system that produce the greatest public benefit. Safety concerns, system connectivity issues, daily travel volumes, commercial trucking needs, and roadway quality are all criteria which may be evaluated in determining project need.” In addition, NDDOT’s 2020-2023 Statewide Transportation Improvement Program has programmed highway safety improvements for the county roadway segment identified as the most problematic in the recently adopted Comprehensive Plan.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth in recent years. As the county and the region continues to develop, the number of vehicles on the road will increase and it is likely that through traffic will also increase.

EXISTING CAPABILITIES

As discussed above, NDDOT and Mountrail County are committing resources to decrease increase the probability of this hazard and/or its impact. Major traffic incidents of over two hours in duration present unique challenges for traffic incident management. Mountrail County, city law enforcement and additional law enforcement are utilized, as needed, to establish the safety zone and assist with traffic control. Severe wintry conditions with high winds, icy roads, heavy snow fall, and limited visibility also contribute. Incidents involving trucks carrying hazardous materials or buses and

other high-occupancy vehicles could trigger a response that exceeds the normal day-to-day capabilities of local response agencies.

RAILWAY TRANSPORTATION INCIDENTS

HAZARD PROFILE

A railway transportation incident is a train incident that directly threatens life and/or property, or adversely impacts a community's capability to provide emergency services. Concern regarding high railroad speed was expressed at one of the community meetings. A review of available data indicates that there are 160 railroad crossings in Mountrail County. Figure 5.8-4 thru Figure 5.8-7 illustrates some of these crossings.

BNSF's line between Minot and Glasgow, MT includes approximately 145 miles in North Dakota. Maximum operating speed is 60 mph for freight and 79 mph for the Amtrak Empire Builder passenger train operating over this line. A review of available data indicates that there are 160 railroad crossings within Mountrail County, many with a 79-mph speed limit.⁴⁰

PAST OCCURRENCES

Table 5.8-1 presents information on all of the railroad incidents in Mountrail County since 2015. All but one involved freight trains, not passenger trains. Of the seven railroad incidents, three were at highway-rail crossings.

Table 5.8-1 MOUNTRAIL COUNTY RAILROAD INCIDENTS						
Year	Railroad	Equipment Type	Incident Type	Closest Station	Train Speed	Primary Incident Cause
2015	BNSF	Work train	Derailment	STANLEY	2	Shoving movement, man on or at leading end of movement, failure to control
2016	BNSF	Freight Train	Hwy-rail crossing	STANLEY	55	Highway user inattentiveness
2017	BNSF	Freight Train	Hwy-rail crossing	STANLEY	40	Highway user inattentiveness
2019	BNSF	Freight Train	Hwy-rail crossing	WHITE EARTH	54	Highway user inattentiveness
2019	BNSF	Freight Train	Derailment	STANLEY	10	Shoving movement, man on or at leading end of movement, failure to control
2019	BNSF	Freight Train	Derailment	STANLEY	53	Broken rim (LOCOMOTIVE)

⁴⁰ <https://safetydata.fra.dot.gov/officeofsafety/publicsite/DownloadCrossingInventoryData.aspx>

Table 5.8-1 (continued) MOUNTRAIL COUNTY RAILROAD INCIDENTS								
Year	Freight Cars			Hazmat Cars		Damage Cost		
	Total	Derailed Loaded	Derailed Empty	Cars	Cars Damaged	Equipment	Track	Total
2015	12	1	5	0	0	\$31,998	\$119,751	\$151,749
2016	100	0	14	0	0	\$203,091	\$120,000	\$323,091
2017	110	0	0	0	0	\$1,848	\$13,892	\$15,740
2019	61	1	15	0	0	\$815,402	\$114,000	\$929,402
2019	30	3	0	28	3	\$115,971	\$7,800	\$123,771
2019	79	0	0	5	0	\$27,500	\$23,500	\$51,000
2020	84	19	0	0	0	\$225,480	\$16,484	\$241,964

VULNERABILITIES

Trains carrying hazardous materials are especially problematic. These incidents may include derailments, collisions, and highway/rail crossing accidents. Train incidents can result from a variety of causes, including human error, mechanical failure, faulty signals, and/or problems with the track. Results of an incident can range from minor “track hops” to catastrophic hazardous material incidents and even human/animal casualties. With the many miles of track in the county, vehicles must cross the railroad tracks at numerous at-grade crossings.

Tables in the ND Plan summarize the number of trains carrying over 1,000,000 gallons of crude oil through different counties in North Dakota. The state averages about 60 trains per year that carry over 1,000,000 gallons of crude oil. Between 2014 and 2016, the number of trains carrying this large quantity of crude oil decreased on the CP Railway and stayed relatively the same on the BNSF Railway.

EXTENT/MAGNITUDE

Railway transportation incidents will have a local or regional impact depending on the number of cars derailed and the length of time to clear the damage or reroute the service.



Figure 5.8-4 Railroad Crossing in Palermo



Figure 5.8-5 Railroad Crossing in Ross

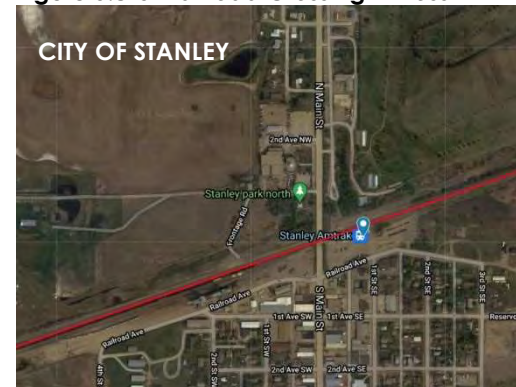


Figure 5.8-6 Railroad Crossing in Stanley

IMPACT

The railway incidents included in Table 5.7-11 involve freight trains and not passenger trains. The damage was significant but there was no loss of life or injury. There would likely be economic damage caused by shipping delays and disruption of service.

PROBABILITY

Based on recent experience, it seems likely that in Mountrail County there will be railroad incidents of unknown number and severity in the next five years.



Figure 5.8-7 White Earth Railroad Crossing

CHANGES IN DEVELOPMENT

Mountrail County has experienced residential, commercial, and industrial growth in recent years. As the county continues to develop, more people and businesses will be traveling and conflicts between the traveling public and the railroads are inevitable. Without zoning and/or land use limitations on areas close to the railroad, a threat remains of the impact of any derailed cars on adjacent development. Mitigation Strategy #40 addresses this concern and the concern mentioned above about the speed of the trains passing through cities.

EXISTING CAPABILITIES

Many of the first responders in the county are prepared for a railroad incident and some are also hazardous materials trained. North Dakota Legislature's railroad inspection program, which has identified thousands of train and track defects in the last six years, is scheduled to sunset in 2025.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. In Mountrail County, no critical, strategic, or key facility is expected to be physically damaged by a major transportation incident, but any related fires or explosion could cause damage.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for both major vehicular and major rail transportation incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

While major vehicular and major rail transportation incidents are likely in Mountrail County over the next five years, these hazard events are compounded because of the hazardous materials transported along them. The county and its regional partners are well-prepared to respond to these events, but coordination and communication is essential.

Related Mitigation Strategies

- Mitigation strategy #16 “Develop/collect education material...” addresses major transportation incidents.
- Mitigation strategy #26 seeks to continue to ensure that inter-department radio communication equipment meets local needs.
- Mitigation strategy #27 addresses participation in the North Dakota SRN 2020 program.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.
- Mitigation strategy #39 identifies the need to identify locations that would benefit from new railroad crossing arms.
- Mitigation strategy #40 initiates the concept of a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.

5.9 OTHER HAZARD INCIDENTS - CIVIL DISTURBANCE AND VIOLENCE



Figure 5.9-1 Mountrail County Courthouse

HAZARD PROFILE

Another type of hazard incident involves civil disturbances and violence. Civil disturbances can occur when groups, organizations, or distraught individuals with political grievances, economic disputes or social issues act with potentially disastrous or disruptive results. Some North Dakota jurisdictions' Hazard Plans are designed to address immediate concerns to the people and businesses of Mountrail County on the potential for active attacker⁴¹ incidents and cyber-security attacks.

⁴¹ This term is used instead of “active shooter” to include a range of attack methodologies.

PAST OCCURRENCES

There have been active attacker and cyber security incidents in the State of North Dakota but to date none in Mountrail County.

VULNERABILITIES

A few locations in Mountrail County, like the county courthouse, have security at the entrance but most government offices and businesses do not and remain vulnerable to civil disturbances and violence.

North Dakota's Information Technology Department regularly reminds us that our "day-to-day life depends on the country's 16 sectors of critical infrastructure, which supply food, water, financial services, public health, communications, and power along with other networks and systems. A disruption to this system, which is operated via the internet, can have significant and even catastrophic consequences for our nation."

EXTENT/MAGNITUDE

Active attacker and cyber security incidents are a national concern that can have significant local implications,

IMPACT

The immediate impact of an active attacker or cyber security incident is limited but as news of the event spreads, the fear of violence or threat of a copycat incident exacerbates the initial impact.

PROBABILITY

As stated above,, it is not very likely that Mountrail County will experience hazard incidents of these types in the next five year, but it is possible.

CHANGES IN DEVELOPMENT

Mountrail County that has experienced residential, commercial, and industrial growth. As the county continues to develop, more people and businesses will be exposed to these threats.

ACTIVE ATTACKER INCIDENT

Active Attacks are examples of human-caused hazards that are intentional and often planned. The attack can be perpetrated by an individual or group. Nationally, groups involved include eco-terrorism/ terrorists, state sponsors of terrorism, gangs, organized crime, and homegrown violent extremism/extremists. These attacks can take place at large venue locations such as stadiums, government facilities, industrial facilities, or even outdoor festivals. Schools can present a special hazard when emergency situations arise as they are a gathering place for a large number of people, mostly children and/or young adults.

EXISTING CAPABILITIES

The Mountrail County Sheriff Department and the Police Departments in New Town and Stanley provide the primary response capabilities for any active attacker incident. Additional assistance is available from adjacent counties, and the Three Affiliated Tribes Police Department. See Chapter 7.

CRITICAL, STRATEGIC AND KEY FACILITIES

Critical, strategic, and key facilities are discussed in Section 7.2 and mapped in Annex A thru Annex G. In Mountrail County, no critical, strategic, or key facility is expected to be physically damaged by the actions of an active attacker, but as potential targets of an attack are unknown, it is possible.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for an active attacker incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Active attacker incidents are a national problem without easy solutions. Evacuation and other protocols are needed in every location where people gather, and local coordination is essential.

Related Mitigation Strategies

- Mitigation strategy #16 “Develop/collect education material...” addresses active attacker incidents.
- Mitigation strategy #22 seeks to identify evacuation shelters for evacuation during an active attack incident.
- Mitigation strategy #28 encourages continuing to support mutual aid agreements and on-scene incident command.

CYBER ATTACK

Electronic attack using one computer system against another in order to intimidate people or disrupt other systems is a cyber-attack. A cyber-attack may last from minutes to days depending upon the type of intrusion, disruption, or infection. Nationally, targets have included private businesses, utilities, and public services and transportation facilities. In North Dakota, the state's Department of Information Technology (NDIT) estimates that the department has experienced about 237 million cybersecurity attacks each month with the attacks seeking personal information for fraudulent purposes. The department has reported that many of the hackers are blocked and do not succeed⁴².

EXISTING CAPABILITIES

Recent attacks on infrastructure components have shown that cyber security has been a relatively low priority in the development of computer software and internet systems.

⁴² www.grandforksherald.com

Today, cyber-security and critical infrastructure protection are among the most important national and local security issues, and they will only become more challenging in the years to come.

North Dakota's cybersecurity strategy, which was accelerated by the passing of Senate Bill 2110 in February 2019, has focused largely on giving the NDIT authority on cybersecurity matters for the state's 400 public entities. In the past year, the strategy has broadened with targeted initiatives, such as a statewide awareness campaign, incorporating efforts to make individuals more resilient against cyber-attacks⁴³.

Local efforts need to focus on protecting critical infrastructure from all hazards by identifying and managing physical/cyber risks and enhancing resilience through public education and a collaboration between the public and private sector critical infrastructure communities.

KEY ISSUES AND RELATED MITIGATION STRATEGIES

Key Issues are identified for each hazard addressed in this Hazard Plan. The key issues for a cyber-attack incidents are listed below as well as the mitigation strategies which have been designed to address the issues.

Key Issues

Cyber security measures are in place through the county's internet service provider. Existing protection for the city governments, schools, business, agencies and individual persons and households is unknown.

Related Mitigation Strategy

- #Mitigation strategy #16 "Develop/collect education material..." addresses cyber-security.

⁴³ www.govtech.com



6

RISK ASSESSMENT



6 Risk Assessment

This chapter utilizes information in Chapter 4 Hazard Identification, Chapter 4 Natural Hazards, and Chapter 5 Technological/Human-Caused Hazards to estimate the potential for loss of life, personal injury, property damage or loss, and economic loss from the hazard events. This assessment encourages communities within the county to understand their potential hazard risks, and to help them develop and prioritize mitigation strategies that can reduce these risks in future hazard events.

6.1 OVERVIEW

The first part of the risk assessment is an analysis of the overall risk for each hazard with a tool called the Calculated Priority Risk Index (CPRI). The CPRI values are obtained by assigning a numerical ranking to each of four hazard characteristics, then calculating an index value based on a weighting scheme. The characteristics, definitions of rankings and weighting scheme are presented below. It is important to note that the CPRI is a tool utilized as the basis for the hazard risk priority rankings and a platform for discussion so that the county and its cities can make a more informed determination on the ranking of each hazard and whether there is a need for a mitigation strategy to respond to each,

Another area of consideration is noting that even though a jurisdiction may have a high probability to experiencing a hazard, it does not necessarily mean their vulnerability is higher. For instance, the denser the population is the more vulnerable they are to the impacts of an EF1 tornado, whereas a sparsely populated area may have a high probability for an EF1 tornado, but their vulnerability overall is less.

6-2 PRIORITIZING THREATS AND HAZARDS

The CPRI criteria, which includes four categories: Probability, Impact, Warning Time, and Duration. These categories determine the level of analysis given to a hazard in subsequent the risk assessment process; they do not suggest that a hazard would have only a limited impact. In order to focus on the most critical hazards, those assigned a level of high or moderate significance were given more extensive attention in the remainder of this analysis (quantitative analysis or loss estimation), while those with a low planning significance were addressed in more qualitative ways

CPRI FORMULA:

$$\text{CPRI value} = [(\text{Probability} \times .45) + (\text{Magnitude} \times .30) + (\text{Warning Time} \times .15) + (\text{Duration}$$

Once hazards were prioritized, mitigation strategies were developed to address highly scored hazards, See Appendix 2 – Developing the Mitigation Strategies.

Table 6.2-1 RISK FACTOR ASSESSMENT				
CATEGORY	LEVEL	CRITERIA	INDEX	%
Probability What is the likelihood of a hazard event occurring in a given year?	Unlikely	Less than 1% annual probability	1	45%
	Possible	1% to 49.9% annual probability	2	
	Likely	50% to 90% annual probability	3	
	Highly likely	Greater than 90% annual probability	4	
Impact In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?	Minor	Very few injuries. Minor property damage and minimal disruption on quality of life. Temporary shutdown of critical facilities.	1	30%
	Limited	Minor injuries. More than 10% of property damaged or destroyed. Complete shutdown of critical facilities for more than one day.	2	
	Critical	Multiple deaths/injuries possible. More than 25% of property damaged or destroyed in area. Complete shutdown of critical facilities for more than one week.	3	
	Catastrophic	High number of deaths/injuries. More than 50% of property in area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.	4	
Warning Time Is there some lead time associated with the hazard event? Have warning measures implemented?	More than 24 HRS	Self-Defined	1	15%
	12 to 24 HRS	Self-Defined	2	
	6 to 12 HRS	Self-Defined	3	
	Less than 6 HRS	Self-Defined	4	
Duration How long does the hazard event usually last?	Less than 6 HRS	Self-Defined	1	10%
	Less than 24 HRS	Self-Defined	2	
	Less than 1 week	Self-Defined	3	
	More than 1 week	Self-Defined	4	

INPUT TO RISK FACTOR SCORING

Input to these calculations came from the risk factor scores. Two scores, "Warning Time" and "Duration," are based on previous experience with the hazard. Two other scores, Probability and Impact are based on experience with the hazard plus community input.

in the community survey and at public meetings input, two related questions were included to address the hazard risk:

Question 2

In your opinion, how likely is it that these hazard events will impact the part of the county where you live in the next five years?

Question 3

In your opinion, if any of these hazard events happen, how much impact would they have on the people and businesses in the part of the county where you live?

Survey responders were given a table with each hazard listed and a choice of responses. Meeting participants were asked the same questions and given two-page paper score sheets that included a box (Figure 6.2-1) for each hazard and asked to circle their responses. The results of the community survey and meeting input were combined and recorded by responder's location.

Countywide scores are presented as Table 6.2-2 and the scores for the cities and unincorporated Mountrail County are included in Annex A to Annex H.

Based on their CPRI, the hazards were separated and color-coded into three categories of planning significance:

- High (3.0-4.0)
- Moderate (2.0-2.95)
- Low (1.1-1.95)

Drought	Probability	Unlikely
		Possible
		Likely
		Highly Likely
	Magnitude / Severity	Negligible
		Limited
		Critical
		Catastrophic

Flooding	Probability	Unlikely
		Possible
		Likely
		Highly Likely
	Magnitude / Severity	Negligible
		Limited
		Critical
		Catastrophic

Hazardous Materials Release Saltwater Spill	Probability	Unlikely
		Possible
		Likely
		Highly Likely
	Magnitude / Severity	Negligible
		Limited
		Critical
		Catastrophic

Hazardous Materials Release In Transit – Truck or Rail	Probability	Unlikely
		Possible
		Likely
		Highly Likely
	Magnitude / Severity	Negligible
		Limited
		Critical
		Catastrophic

Figure 6.2-1 Sample Risk Score Sheets

Table 6.2-2 HAZARDS, RISKS AND VULNERABILITIES Mountrail County Totals	
Natural Hazards	Significance/Threat
Drought	2.55
Flood	2.01
Landslide	1.14
Severe Windstorm/Tornado	2.69
Earthquake	1.81
Severe Hailstorm	2.72
Extreme Heat	2.29
Severe Snowstorm	3.10
Severe Ice Storm	2.76
Wildland/Rural Fire	2.12
Other Hazards⁴⁴	Significance/Threat
Fort Peck Dam Failure	1.87
White Earth Dam Failure	1.97
Public Health Incident	2.70
Oil Spill	3.04
Saltwater Spill	2.73
Hazardous Material Release - In Transit (Truck or Rail)	2.79
Hazardous Material Release - Missile Silo Facilities	1.76
Hazardous Material Release - Other Fixed Site	2.22
Shortage Of Critical Materials	1.93
Active Attacker	1.62
Cyber Attack	1.79
Severe Structural Fire	2.26
Major Transportation Incident	2.36



⁴⁴ Infrastructure failure beyond dam failure was not included in the community survey and therefore not included in this CPRI scoring. Mitigation strategies have been included because of the importance of the threat

6-3 CHANGES IN HAZARD RANKINGS

The priorities of Mountrail County and its cities and the focus of this Hazard Plan are those hazards having “high” or “moderate” risk, as determined through the risk and vulnerability assessments. Lower risk hazards will continue to be evaluated but will not necessarily be a high priority for mitigation strategies in the plan. Priorities have not changed but the risk levels of some hazards have changed. The best example of this change relates to consideration of drought.

When the 2015 Hazard Plan was adopted, drought was not a hazard of concern. The 2015 Hazard Plan described North Dakota’s flood to drought hydrological cycle and noted “Dakota is in a wet cycle, which will end at some point. Once the current cycle ends, the likelihood of drought may increase, and the vulnerabilities associated with drought will once again become an issue for this largely agricultural area.” In 2020, drought became a hazard of much greater concern.

This Hazard Plan also widens the county’s focus to respond to a broader range of hazard-related issues and to memorialize productive and beneficial actions that the county and the cities have been doing. For example, the on-going challenge of finding volunteers to work in fire and rescue operations is identified as Mitigation Strategy #17.

LOCAL HAZARD RANKING

Table 6.2-3 illustrates the differing concerns about hazard events among residents in different areas of the county. Colors within the table identify each hazard.

Table 6.2-3 LOCAL HAZARD RANKING ⁴⁵							
Rank	Mountrail County	New Town	Palermo	Parshall	Plaza	Ross	Stanley
#1	Severe Snowstorm	Oil Spill	Severe Snowstorm	Severe Snowstorm	Severe Snowstorm	Severe Snowstorm	Major Transport. Incident
#2	Oil Spill	Disease Outbreak	Drought	Severe Ice Storm	Severe Hailstorm	Drought	Oil Spill
#3	HazMat Incident - In Transit	HazMat Incident - In Transit	Oil Spill	Severe Structural Fire	Severe Ice Storm	Oil Spill	Severe Snowstorm
#4	Severe Ice Storm	Severe Snowstorm	HazMat Incident - In Transit	Oil Spill	HazMat Incident - Fixed Site	HazMat Incident - In Transit	Severe Ice Storm
#5	Severe Hailstorm	HazMat Incident - Fixed Site	Saltwater Spill	Major Transportation Incident	HazMat Incident - In Transit	Saltwater Spill	Saltwater Spill

⁴⁵ As results from Palermo and Ross were very limited, results from unincorporated Mountrail County were used.



7

CAPACITY
ASSESSMENT

7 Capacity Assessment

7.1 OVERVIEW

This assessment reiterates the reality that the local jurisdictions of Mountrail County have variable capabilities. Due to the number of recent disasters, many local officials, community leaders, and the public are aware of the need for mitigation and practical solutions for their jurisdictions.



Figure 7.1-1 Training Class - New Town Volunteer Fire Department and Parshall Fire Department

Mitigation activities are divided into four categories: administrative and technical, education and outreach, financial, and planning and regulatory. Each identified resource in the four categories can be used to implement mitigation strategies and access funding for projects.

- **Administrative and Technical Capabilities**
Identification of administrative and technical capabilities, which include staff, their skills, and tools for mitigation planning to implement specific mitigation actions.
- **Education and Outreach Capabilities**
Identification of education and outreach programs, and methods already in place to communicate hazard-related information. The community survey indicates that the community considers Facebook is the best way for you to receive information.
- **Financial Capabilities**
Identification of access to or eligibility to use funding resources for hazard mitigation for jurisdictions.
- **Planning and Regulatory Capabilities**
Jurisdictional plans, policies, codes, and ordinances adopted and in place that prevent and reduce the impacts of hazards. The local governments expand on and improve these existing policies and programs to meet current and projected needs.

Table 7.1-1 ADMINISTRATIVE AND TECHNICAL CAPABILITIES									
		County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
	Administrative								
1	County/City Council or Commission								
2	Local Emergency Planning Committee (LEPC) participation								
3	Mutual Aid Agreements								
7	Planning and Zoning Commission								
	Staff								
1	Emergency Management/Local Coordinators								
2	Sheriff/Police Chief								
3	Fire Chief								
4	911 Coordinator/Director and User Board								
5	Public Works and/or Road Department								
6	Building Official/Inspector/Board								
7	Engineering Services (in-house or contractual)								
8	Planning and Zoning Administrator								
9	Floodplain Administrator ⁴⁶								
10	GIS Coordinator								
11	Public Health								
	Technical								
1	GIS Services								
2	Emergency Warning Sirens								
3	Generators at Critical Facilities (permanent)								
4	HAZUS Analysis								
5	Fire Index Signs								

Table 7.1-2 EDUCATION AND OUTREACH CAPACITY/AVAILABILITY									
		County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
1	Local Government Website								
2	Local Government Facebook								
3	Emergency Management Website with Education								
4	Emergency Management Facebook with Education								

⁴⁶ The MHA Fort Berthold Reservation. Which is partly in Mountrail County but not a participating jurisdiction, also has a Floodplain Administrator.

Table 7.1-3 PLANNING AND REGULATORY CAPABILITIES		County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
1	Building Code								
2	Burn Bans								
3	Comprehensive Plan/Land Use Plan								
4	Emergency Action Plans (Dams)								
5	Emergency Operations Plan								
6	Evacuation and/or Shelter Plan(s)								
7	FEMA Flood Map								
8	National Flood Insurance Program (NFIP)								
9	Hazard Buffers								
10	Hazard Mitigation Plan Update Participation								
11	LEPC Participation								
12	Local Emergency Operations Plan								
13	Planning/Zoning Commission								
14	Snow Removal Priority Program								
15	Zoning								

INTEGRATING HAZARD PLAN STRATEGIES INTO PLANNING MECHANISMS

One way for a local government to implement the recommendations of this Hazard Plan is to integrate its recommendations into existing local government regulations and practices. Due to the limited resources of each jurisdiction, few planning mechanisms exist in Mountrail County and its cities as shown in Table 7.1-1. As mentioned in Chapter 2, Mountrail County, unlike many other rural North Dakota counties, has adopted a Comprehensive Plan which reflects many of the issues addressed in this Hazard Plan. Currently County Zoning is being updated to respond to those issues, including the military facility buffers mentioned in this Hazard Plan.

Zoning ordinances are a useful tool in implementing the mitigation strategies set forth in a local government’s hazard mitigation plan. Development in Mountrail County and the cities is regulated by zoning. Parshall, Plaza, Ross, New Town, Stanley, and White Earth have their own zoning. The county, New Town and Stanley have a designated Planning and Zoning Administrator; other jurisdictions rely on

Table 7.1-4 IMPLEMENTATION AND ADMINISTRATION LEAD	
Local Jurisdiction	Lead
Mountrail County	Mountrail County DEC
New Town	City Mayor or Designee
Palermo	City Mayor or Designee
Parshall	City Mayor or Designee
Plaza	City Mayor or Designee
Stanley	City Mayor or Designee
White Earth	City Mayor or Designee

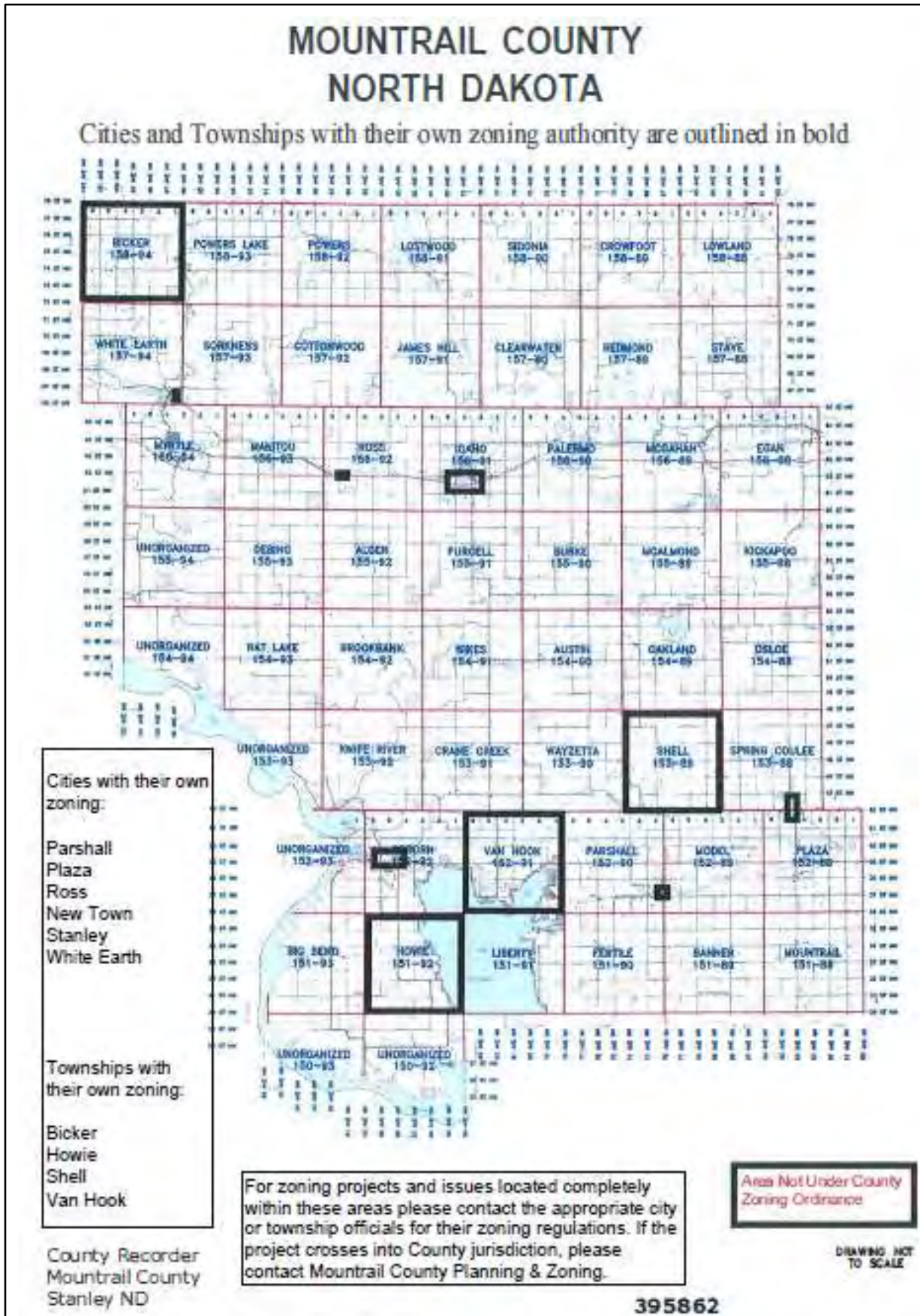


Figure 7.1-2 Mountrail County Zoning Authority Map

their Planning and Zoning Commissions. Four Townships: Bicker, Howie, Shell, and Van Hook also have their own zoning. The balance of the county is regulated by the Mountrail County Zoning Ordinance (Figure 7.1-2).

The jurisdictions that do not have a planning mechanism support countywide initiatives, as they do in zoning matters. This support is demonstrated by their participation in this Hazard Plan.

Table 7.1-4 indicates the Implementation and Administration lead in each jurisdiction for implementing this Hazard Plan. Some jurisdictions have a Planning and Zoning Administrator on staff with the assignment of "receiving applications, issuing certificates of occupancy, building permits and other permits" Usually, that person also holds one or more additional staff positions. The majority of jurisdictions, however, do not have this staff person and rely on their Planning and Zoning Commissions and continuing to coordinate with the county in supporting countywide initiatives. Adoption of this Hazard Plan reflects their commitment. See also Chapter 9, Section 9.4 which describes the annual review of progress on the countywide initiatives.

Mountrail County has also adopted the North Dakota State Building Code which prohibits construction on steep slopes. The Code does provide: "Local governments that have not elected to adopt and enforce the state building code are responsible for assuring that plans and specifications for alterations and new construction of their buildings comply with the state building code." Historically, landslide events in Mountrail County have required little attention.

7.2 CRITICAL, STRATEGIC, AND KEY FACILITIES

In Hazard Plans, the list of critical facilities typically includes hospitals, fire stations, police stations, storage of critical records, and similar facilities. Many hazard plans, including this one, expand the list to include facilities that need to operate during the time of a hazard event. These facilities fall into several categories:

- Facilities that are essential to countywide health and welfare becomes especially important following hazard events. Examples include the county emergency operations center, law enforcement and fire facilities hospitals, clinics, and community shelters.
- Utility systems whose disruption would have a significant impact.
- Facilities with a high density of population, especially those containing vulnerable populations⁴⁷. Examples include schools, retirement homes and large employers.
- Facilities that are a key element to the local economy and could cause significant economic damage if their function were disrupted.
- Historic, cultural, and natural resource areas that are important to the community.
- Table 7.2-1 shows the utility providers serving the population, businesses, and local governments in Mountrail County. Annex A thru Annex G also include mapping of these and other critical facilities.

⁴⁷ See Chapter 2.

Table 7.2-1 EMERGENCY RESPONSE FACILITIES AND CAPACITY								
Emergency Response and Related Services/Facilities	County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
FIRE AND RESCUE SERVICES								
1 Fire Department: New Town Fire Department								
2 Fire Department: Parshall Fire Protection								
3 Fire Department: Plaza Fire Protection								
4 Fire Department: Stanley Fire Department/Stanley Rural Fire Department								
5 Three Affiliated Tribes Fire Management								
6 Fire Department: Tioga*								
AMBULANCE SERVICES (see Figure 7.2-2)								
1 Ambulance Service: New Town Ambulance								
2 Ambulance Service: Parshall Ambulance								
3 Ambulance Service: Plaza Ambulance								
4 Ambulance Service: Tioga Ambulance								
5 Ambulance Service: Community Ambulance*								
HOSPITALS AND MEDICAL CLINICS								
1 Hospital: Mountrail County Medical Center								
2 Medical Clinic: T.H. Reiarson Rural Health Clinic								
3 Medical Clinic: Trinity Community Clinic								
4 Medical Clinic: Elbowoods Medical Clinic								
5 Medical Clinic: Parshall Health Care Clinic								
LAW ENFORCEMENT								
1 Mountrail County Sheriff's Office								
2 Law Enforcement: New Town								
3 Law Enforcement: Stanley								
4 Law Enforcement: MHA								
LOCAL RESPONSE TO OIL, GAS OR SALTWATER INCIDENT								
1 On site: Response from oil and gas companies.								
2 Off-site - notification to state and federal agencies following established protocols.								
SPECIAL RESPONSE UNITS								
1 Regional Hazmat Teams are available to assist with hazmat incidents providing technical assistance, hazard assessment, decontamination, hot zone entry, mitigation action/supplies, and monitoring. The primary Hazmat Technician Level Team serving Mountrail County is based in Minot, and the Hazmat Operations Level Team is located in Williston.								
2 Specialty Units: (Bomb Squad, Dive, Search & Rescue Minot, and Willison Fire Dept.								
3 State Specialty Units: BCI or N.D. Highway Patrol								
AIRPORTS								
1 New Town Municipal Airport								
2 Parshall Hankins Airport								
3 Stanley Municipal Airport								

	County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
POST OFFICES								
1	New Town Post Office							
2	Parshall Post Office							
3	Plaza Post Office							
4	Ross Post Office							
5	Stanley Post Office							
SNOW REMOVAL RESPONSIBILITIES								
1	State roads – State							
2	County roads – Mountrail County							
3	City roads – cities							
4	MHA roads - reservation roads							
5	BIA roads – BIA roads							
6	Access roads to missile sites – US Air Force							
<p>Note: An asterisk in any part of this table denotes emergency response services available to jurisdiction through a jurisdiction or private companies located in neighboring jurisdictions. For example, in April 2021 firefighters from New Town, Mandaree, Parshall, Plaza, and Stanley plus the New Town Ambulance and Three Affiliated Tribes Law Enforcement responded to an apartment complex fire in New Town.</p>								

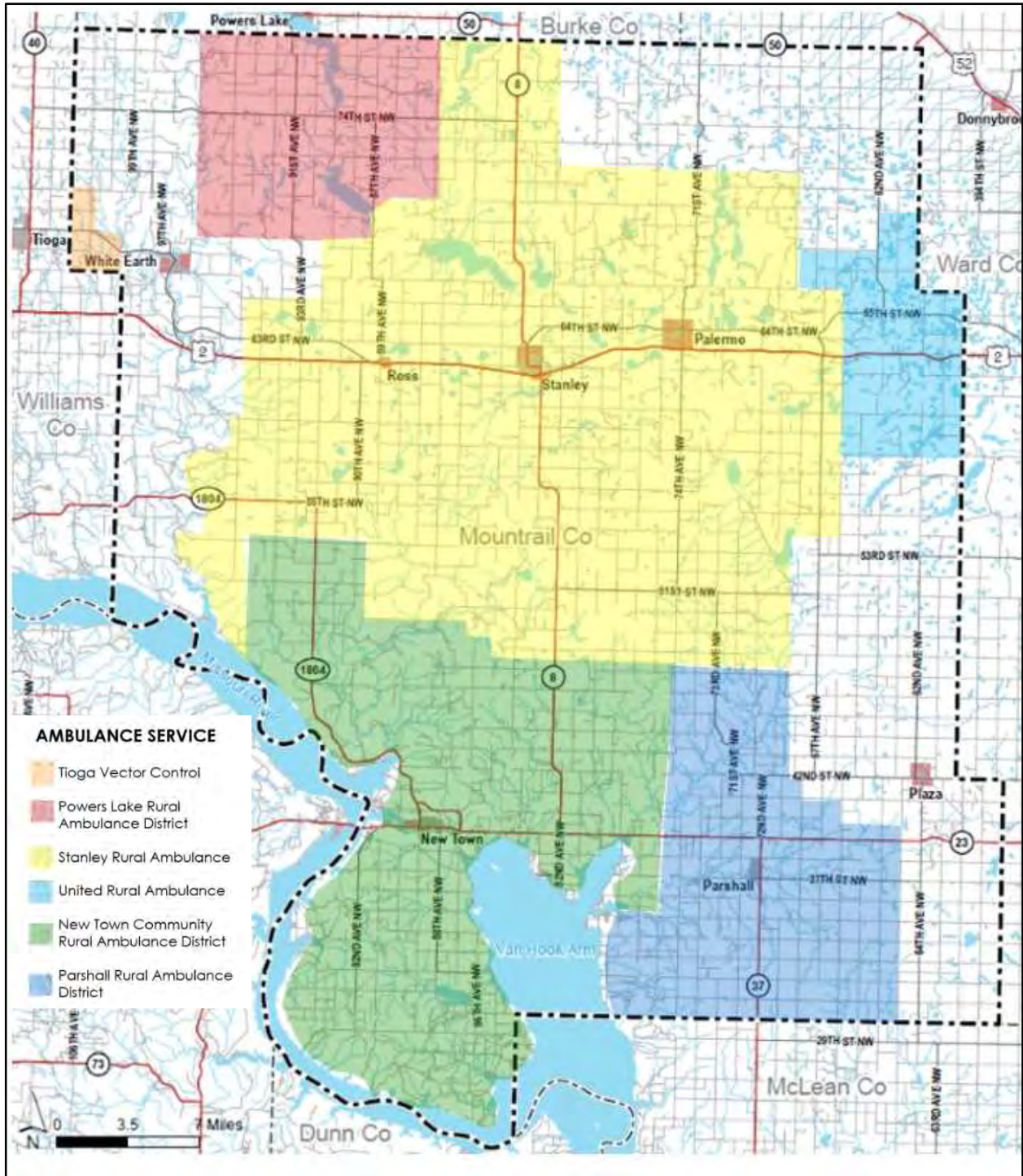


Figure 7.2-2 Ambulance Service Districts

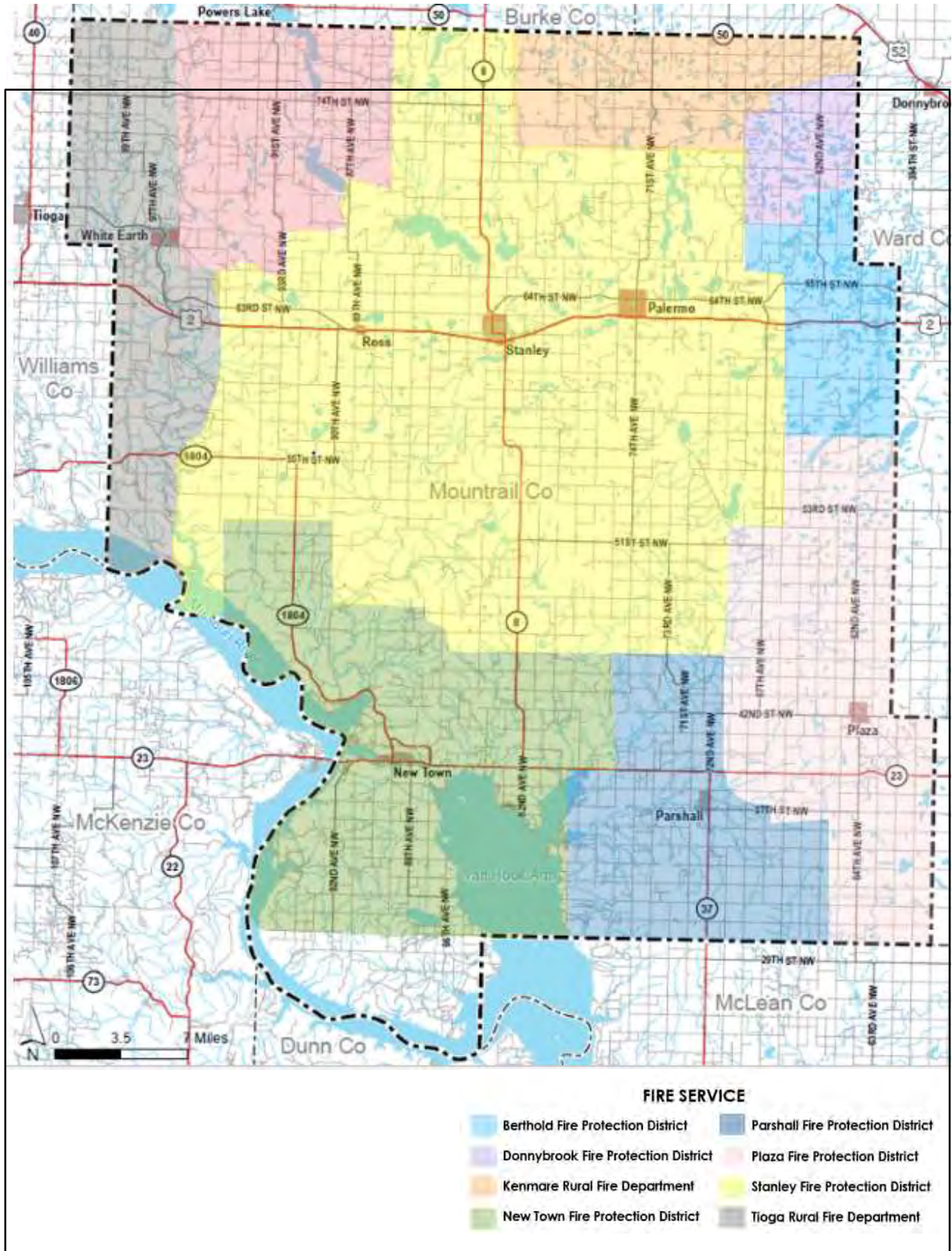


Figure 7.2-3 Fire Service

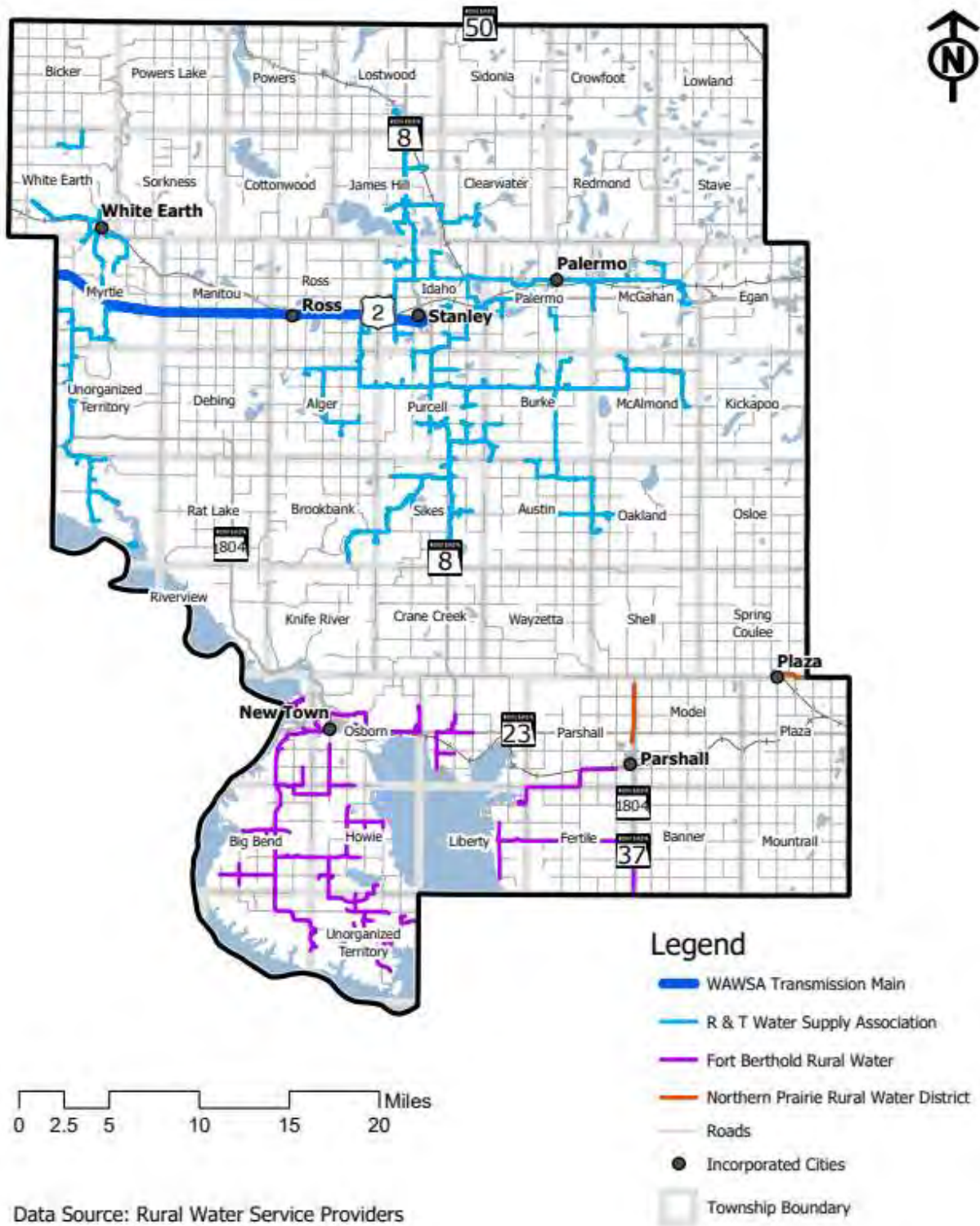


Figure 7.2-4 Rural Water Service
 This Figure is Map M of the County Comprehensive Plan

Table 7.2-1 UTILITY PROVIDERS		County	New Town	Palermo	Parshall	Plaza	Ross	Stanley	White Earth
1	Electricity: Mountrail-Williams Electric Cooperative								
2	Natural Gas: Hess Corporation								
3	Natural Gas: MDU								
4	Water: Individual Well								
5	Water: R&T Water District								
6	Water: Northern Prairie Water District								
7	Water: Fort Berthold Rural Water District								
8	New Town wells								
9	Water: Municipal Water Treatment System								
WATER SOURCES									
Groundwater									
Surface Water									

PUBLIC WATER SUPPLY

As shown in table 7.2-1, water supplies for the cities and rural areas of Mountrail County come from a number of sources. Public water system sources include both groundwater and surface water. Even through the recent drought event with additional need for irrigation, water supplies have been adequate to meet local demands. Because of overall increased demands, the timely treatment of raw water has been challenging at times.

Groundwater

New Town has its own wells and water treatment system. The other municipal water treatment systems use the rural water districts for raw water. The aquifers providing water include the New Town Aquifer, East Fork/Shell Creek Aquifer, Ray Aquifer, and the Sentinel Butte Foundation.

Surface Water

Lake Sakakawea provides irrigation, industrial for county users as well as the municipal water for Parshall. In the past there have been issues with water intake from Lake Sakakawea at Parshall. Intake from the lake was extended further into the lake when the drought from 1988 to 1992 caused the lake level to fall⁴⁸. In addition to six wells in the Ray Aquifer, the R&T Water District meets 55% of its needs with treated water from the City of Williston which draws from the Missouri River.

⁴⁸ Climatic and Hydrologic Aspects of the 1988-1992 Drought and the Effect on People and Resources of North Dakota, North Dakota State Water Commission, 1994.

It should be noted that the on-going Southwest Pipeline Project in southwestern North Dakota is developing a regional water system providing water to communities and rural water users south of Mountrail County with intake at the bottom of Lake Sakakawea's Renner Bay.

Table 7.2-3 EVACUATION SHELTERS IN MOUNTRAIL COUNTY⁴⁹		
OPERATED BY MOUNTRAIL COUNTY		OPERATED BY MHA
Stanley	Parshall	New Town
American Lutheran Church	Parshall Civic Center	Northern Lights Wellness Center
Memorial Building	Parshall School	MHA Veterans Affairs Building
Our Saviors Church	New Town	New Town High School
South Complex	New Town School	Edwin Lee Elementary School
Queen of the Rosary	United Church of Christ	Parshall
Stanley Public School	Plaza	Parshall Lucky Mound Veterans Memorial Hall
	Plaza Public School ⁵⁰	
	First Lutheran Church	

EVACUATION AND STORM SHELTERS

Both Mountrail County and MHA maintain or have access to facilities within the county that could be used both as evacuation and as storm shelters in a hazard event. These buildings vary in character and potential. Table 7.2-3 lists the evacuation shelters.

In addition, both Mountrail County and MHA have access to other evacuation and storm shelters that are located outside of the county. They include:

- MHA facilities located outside of Mountrail County
- Garrison City Hall (McLean County)
- Halliday School (Dunn County)
- Watford Civic Center (McKenzie County).

FEMA⁵¹, describes a storm shelter/safe room is a hardened structure specifically designed to meet FEMA criteria and provide near-absolute protection in extreme wind events including tornados. An evacuation shelter is a facility that does not meet FEMA's stringent wind-related standards but can provide refuge from fire, hazardous materials releases, loss of power or flooding. According to MHA, their facilities listed in Table 7.2-3, also meet storm shelter/safe room requirements.

Both the Red Cross and Salvation Army have assisted Mountrail County residents in previous disaster events. Their assistance would be important in designating any of the potential shelters as recognized emergency shelter. The Salvation Army offers meals and clean up kits. Shelter assistance is not available. The Red Cross services include:

- Immediate emergency assistance to disaster victims

⁴⁹ These facilities have potential to serve as a shelter

⁵⁰ MOU with Ward County

⁵¹ www.fema.gov/emergency-managers/risk-management/safe-rooms

- Immediate emergency assistance to disaster victims
- Recovery emergency assistance to disaster victims
- Mass Care
- Assistance to emergency responders thru fixed or mobile feeding operations.



8

MITIGATION
GOALS +
STRATEGIES

8 Mitigation Goals + Strategies

8.1 COUNTY MITIGATION STRATEGIES – 2015 HAZARD PLAN

Table 8-1 presents the four goals and related mitigation strategies which were included in the 2015 Hazard Plan for unincorporated Mountrail County. Many are carried forward as discussed below.

Table 8.1-1 COUNTY MITIGATION STRATEGIES – 2015 HAZARD PLAN	
Goal 1: Protect Public health and safety before, during, and after hazard events.	
Strategy	1.1
Strategy description	Purchase and install additional warning sirens
Strategy	1.2
Strategy description	Purchase and install emergency power generators at community facilities, to protect the public during hazard events
GOAL 2	
Goal 2: Ensure post-disaster operability of critical assets and infrastructure.	
Strategy	2.1
Strategy description	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster
Strategy	2.2
Strategy description	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster, including bridges and culverts
GOAL 3	
Goal 3: Increase public awareness of hazards and support for mitigation activities.	
Strategy	3.1
Strategy description	Develop and implement public education and hazard awareness program.
GOAL 4	
Goal 4: Provide long-term mitigation solutions to hazard-prone areas through both structural and non-structural means.	
Strategy	4.1
Strategy description	Construct, purchase, or retrofit safe room(s)
Strategy	4.2
Strategy description	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.
Strategy	4.3
Strategy description	Institute weed control measures, including mowing, around towns.

2015 MITIGATION STRATEGIES – STATUS

Noteworthy progress has been made on the highest ranked goal of the 2015 Hazard Plan, the installation of new warning sirens. See Table 8.1-2 and Figure 8.1-1 through Figure 8.1-8. That progress is enhanced by the county’s commitment to operate all warning sirens within the county through the county’s 911 operation. Other mitigation strategies have been carried forward, some with adjustments to reflect current conditions.

Table 8.1-2 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	On-going Exceptional progress - see "Installation of New Warning Signals" below	Strategy 20 Strategy 21
1.2 + 2.1	Purchase and install additional emergency power generators at community facilities and at critical facilities and infrastructure . . .	On-going Inventory and other consideration needed.	Strategy 18 Strategy 19
2.2	Harden and/or protect critical facilities and infrastructure . . . (including bridges and culverts	On-going County Engineering/Road and Bridge Department function	Strategy 5
3.1	Develop and implement public education and hazard awareness	On-going Expanded focus with adjusted strategy	Strategy 16
3.2	Develop and implement public education program for the construction of fire break networks .	Strategy 3.2 is combined with Strategy 3.1. Firebreak training is included in firefighter training. The previous CPR reference appears to be an error.	Strategy 16
4.1	Construct, purchase or retrofit safe room(s)	Additional evaluation needed.	Strategy 22 Strategy 23 Strategy 24 Strategy 25
4.2	Collect, tract, organize and store data ...	On-going	Strategy 15 Strategy 26
4.3	Institute weed control measures, including mowing, around towns.	The Mountrail County Ag Agency/Weed Control has been established	Strategy 37 Strategy 38

INSTALLATION OF NEW WARNING SIRENS SINCE 2015

New warning sirens have been installed in each city:

- | | | |
|------------------------|------------------------|---------------------------|
| New Town – 1 new siren | Plaza – 1 new siren | White Earth – 1 new siren |
| Palermo – 1 new siren | Ross – 1 new siren | |
| Parshall – 1 new siren | Stanley – 3 new sirens | |

In addition, a new siren was installed at each of three recreational areas (Van Hook, Parshall Bay and White Earth Bay). The sound plan map for each of the cities and the recreational area facilities showing the acoustical analysis is shown in Figure 8.1-1 through Figure 8.1-8.

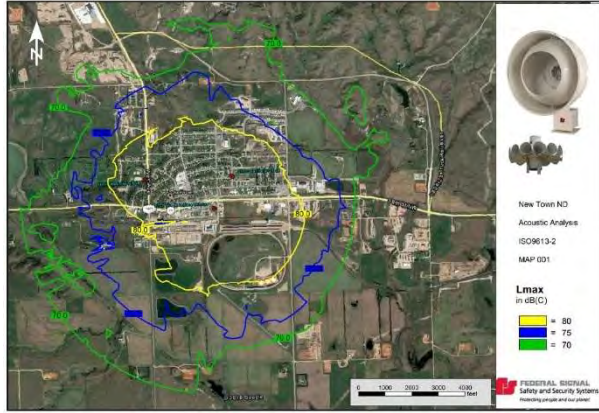


Figure 8.1-1 New Town Siren Sound Plan

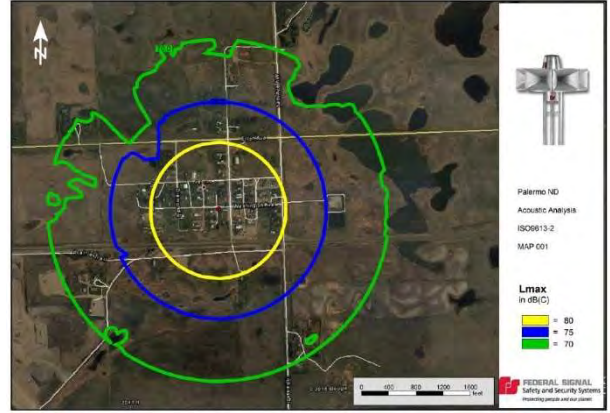


Figure 8.1-2 Palermo Siren Sound Plan



Figure 8.1-3 Parshall Siren Sound Plan

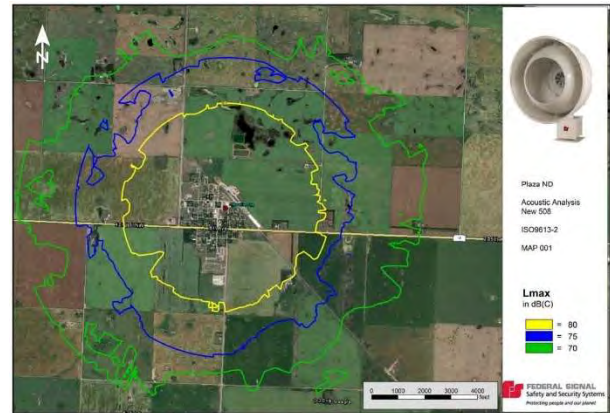


Figure 8.1-4 Plaza Siren Sound Plan



Figure 8.1-5 Ross Siren Sound Plan



Figure 8.1-6 White Earth Siren Sound Plan



Figure 8.1-7 Van Hook Siren Sound Plan



Figure 8.1-8 Parshall Bay Siren Sound Plan

8.2 MITIGATION GOALS AND STRATEGIES

The Hazard Plan serve as a blueprint for reducing or avoiding long-term vulnerabilities to the hazards identified in the Risk Assessment (Chapter 6).

It identifies Mountrail County's prioritized goals and mitigation strategies for reducing loss of life and property. Goals are usually expressed as broad policy statements representing desired long-term results. Mitigation strategies are implementation steps to attain the identified goals.

The 2015 Mountrail County Multi-Jurisdictional Hazard Mitigation Plan, adopted four overarching goals supported by nine mitigation strategies:

- Goal 1:** Protect public health and safety before, during, and after hazard events.
- Goal 2:** Ensure post-disaster operability of critical assets and infrastructure.
- Goal 3:** Increase public awareness of hazards and support for mitigation activities.
- Goal 4:** Provide long-term mitigation solutions to hazard-prone areas through both structural and non-structural means.

These goals represent the priorities of Mountrail County and its cities today as they did in 2015. No changes are proposed, and the four goals are carried over into this Hazard Plan. The mitigation strategies for the county and participating jurisdictions were developed through discussion with local officials, stakeholders, and other interested members of the public. A broad range of potential mitigation strategies were considered.

Appendix 2 describes the development of the mitigation strategies including details on the ranking and selection. Mitigation strategies were prioritized to assess and select from the range of mitigation options, using FEMA's STAPLEE Method for the benefit-cost review. Appendix 2 Table A2-7 illustrates this detailed analysis. The STAPLEE Method was also used in the 2015 Plan. Cost-benefit is discussed on page 10 of that Appendix. cost-benefit These priorities are included in the Mitigation Strategies tables. Implementation and administration are the responsibility of the position or agency indicated on page

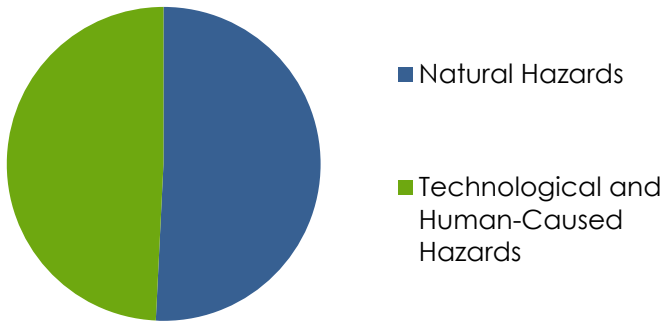


Figure 8.2-1 Focus of the Draft Mitigation Strategies

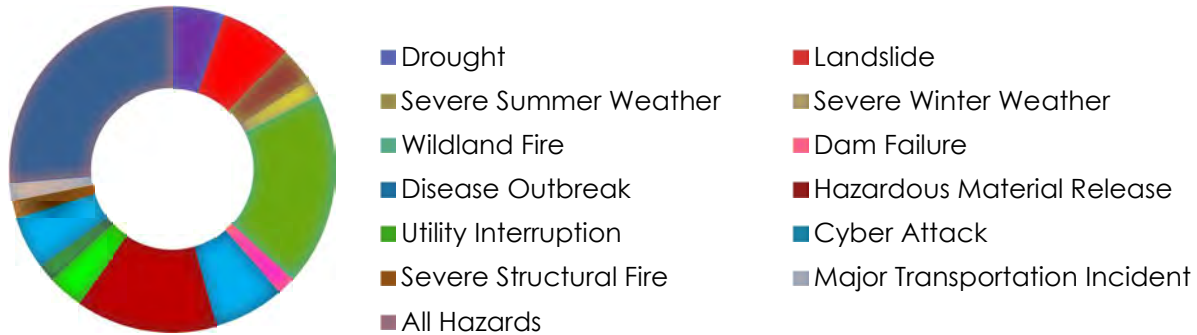


Figure 8.2-2 Hazards Addressed in the Mitigation Strategies

132. The mitigation strategies were also categorized according to characteristics such as mitigation technique and hazards addressed. The mitigation strategies are characterized in the next two figures. As shown in Figure 8.2-1, the focus of 51% of the draft mitigation strategies address natural hazards and the balance address technology and human-caused hazards. Figure 8.2-2 indicates the hazards addressed.

Mitigation strategies that are essential in reducing the effects of hazards on buildings and infrastructure included those related to compliance with adopted building codes, the training and coordination of first responders, required setbacks from landslide areas and required setbacks from facilities and areas with high potential for a hazardous materials incidents.

8.3 FINALIZING THE MITIGATION STRATEGIES

On August 10, 2021, draft Mitigation Strategies were transmitted to county and city elected leaders and their key staff members for review. This draft material was specific to each jurisdiction addressing their risks and capacity:

- The cities and the county face varying flood-related risks.
- Only one city, White Earth, is at risk from a high dam.
- Only one city, Stanley is at risk from a significant dam.
- Some cities are exposed to the Air Force facilities and others are distant from them.
- Some cities have their own fire departments; others rely on agreements with neighboring jurisdictions.

- Some cities have their own police departments; most rely on the county sheriff.
- The cities and the county face varying oil and gas production risks.
- Tornado-related risks to those living in mobile homes or vacationing at campgrounds vary significantly across the county.

The transmittal requested that reviewers give careful consideration to the mitigation strategies and specifically requested the addition of physical projects. Telephone conversations followed and the request for review and input was included on city council agendas. It was anticipated that additional infrastructure/construction projects could be identified during this review. Responses from the local governments indicated agreement with the draft material; no additional projects were suggested. Additional columns were then included in the Mitigation Strategies tables to add priorities and costs. The revised tables were included in the final draft transmitted by the county to NDDDES.

In December 2021 following the initial NDDDES review, the mitigation strategies tables were revised to add champions and potential funding sources for each strategy. The updated mitigation strategies in Table 8.3-1 apply to unincorporated Mountrail County. Mitigation strategies for the cities are included in Annex A thru Annex G. These are adjusted to reflect each individual city.

MITIGATION GOALS AND RELATED MITIGATION STRATEGIES

As mentioned above, the four Mitigation Goals in the 2015 Mountrail County Multi-Hazard Mitigation Plan have been carried forward in this Hazard Plan. The list of Mitigation Strategies has expanded to address specific actions that meet the previously adopted goals. Some strategies relate to multiple goals.

GOAL 1

Protect Public health and safety before, during, and after hazard events.
Mitigation Strategy #1 thru #46

GOAL 2

Ensure post-disaster operability of critical assets and infrastructure.
Mitigation Strategy #4, #12, #17, #18, #21, #24, #28 and #41

GOAL 3

Increase public awareness of hazards and support for mitigation activities.
Mitigation Strategy #1, #11, #15, #24, #29, #30 and #32

GOAL 4

Provide long-term mitigation solutions to hazard-prone areas through both structural and non-structural means.
Mitigation Strategy #1 thru #46

Table 8.3-1 MITIGATION STRATEGIES - MOUNTRAIL COUNTY							
#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME ⁵²
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time and Resources	County Disaster Emergency Coordinator (DEC)		County	Ongoing
2	Review the White Earth Dam Emergency Action Plan when updates are submitted.	Dam Failure	Medium/ Staff Time and Resources	County DEC	City of White Earth	County	Ongoing
3	Initiate a collaboration with other jurisdictions located close to the Missouri River, plus state and federal agencies to increase local understanding of the risk from any failure of the Fort Peck Dam and to discuss emergency preparedness.	Dam Failure	Medium/ Staff Time and Resources	County DEC, County Commission	Other counties, cities, DWR, SWC, DES, FEMA, USACE	State, SWC, + fed'l grants	Short-Term
4	Identify any repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flood	Low/ Staff Time and Resources	County Engineer	County DEC	County/ County, state, + fed'l grants	Short-Term
5	Encourage local participation in the National Flood Insurance Program.	Flood	Medium/ Staff Time and Resources	County DEC	City Floodplain Administrators	County	Ongoing
6	Map Tier II reporting facilities.	HazMat - Fixed Sites	Low/ Staff Time and Resources	County DEC + County GIS		County	Long Term

⁵² Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
7	Revise local zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time and Resources	County P&Z Administrator	Oil and Gas Companies	County	Short Term
8	Consider revising local zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time and Resources	County P&Z Administrator	County Commission	County/ County, state, + fed'l grants	Short Term
9	Revise the Mountrail County Zoning Ordinance to encourage future development to locate at least ½ mile from identified military facilities and to prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time and Resources	County P&Z Administrator	Minot AFB	County/ County, state, + fed'l grants	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time and Resources	County P&Z Administrator	Minot AFB	County	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time and Resources	County DEC	County Commission	County/ County, state, + fed'l grants	Ongoing
12	Update county protocol to make mapping of the landslide areas found on the N.D. Geological Survey 1:24,000 Landslide Area Map Series available for review by a property owner or applicant during development review	Landslide	Medium/ Staff Time and Resources	County DEC + County P&Z Administrator	ND Geological Society	County/ County, state, + fed'l grants	Long Term
13	Assure that Mountrail County has an adopted FEMA-approved Multi-Hazard Mitigation Plan	Multiple Hazards	High/	County Commission	County DEC	County	Ongoing

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
			Staff Time and Resources				
14	Continue to cooperate with the Department of Agriculture regarding education and emergency response for drought	Drought	Low/ Staff Time and Resources	County DEC	ND Department of Agriculture	County/ State	Ongoing
15	Collect, track, organize, and store data about community-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County	Ongoing
16	Develop/collect educational materials on hazard awareness and preparedness. Make them available to the public during the year as appropriate through the use of available alternatives like websites, social media, utility inserts etc. Topics could include preparing for severe winter and summer storms, water conservation, sheltering in place, flooding, generator use, wildfire protection, drought and water use, cyber security, shelter locations, ND One Call (811), etc. Share with the cities.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Local Newspapers and Mountrail County Cities	County/ County, state, + fed'l grants	Ongoing
17	Continue to support the recruitment and training of volunteers to address wildland and structural fire protection and ambulance services,	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County/ County, state, + fed'l grants	Ongoing
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County	Mid Term

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
19	Purchase/apply for funding and install emergency power generators at critical facilities, as needed, to ensure operability of the asset post-hazard event.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County/ County, state, + fed'l grants	Long Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County	Ongoing
21	Purchase/apply for funding and install emergency warning sirens, as needed	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	Mountrail County Cities	County/ County, state, + fed'l grants	Long Term
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming stations after power loss.	Multiple Hazards	High/ Medium	County DEC	County Commission	County/ County, state, + fed'l grants	Ongoing
23	With a focus on campgrounds with no existing shelter facilities, evaluate the need and prioritize locations for new shelters. Appendix 5 includes information on these campgrounds.	Multiple Hazards	High/ High	County DEC	County Commission	County/ County, state, + fed'l grants	Short Term
24	If the conclusion of the need study (Mitigation Strategy 22) is positive, develop plans to construct tornado and other shelters	Multiple Hazards	High/ High	County DEC	County Commission	County/ County, state, + fed'l grants	Mid Term
25	When and where shelters are available, make that information available to the public and supply needed materials/equipment and staffing for the shelter	Multiple Hazards	Medium/ High	County Commission, County DEC	Red Cross	County/ County, state, + fed'l grants	Long Term

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	County DEC	County Commission	County/ County, state, + fed'l grants	Ongoing
27	Participate in the North Dakota SRN 2020 program.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	County Commission	County/ County, state, + fed'l grants	Ongoing
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	County DEC	County Commission	County	Ongoing
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time and Resources	County DEC	County Commission	County/ County, state, + fed'l grants	Ongoing
30	Cooperate with public health to increase awareness of methods for prevention of infectious disease.	Public Health Incident	Low/ Staff Time and Resources	County Public Health	County Commission	County	Ongoing
31	Cooperate with public health to continue the influenza vaccination outreach program for school-aged children.	Public Health Incident	Medium/ Staff Time and Resources	County Public Health	County Commission	County	Ongoing
32	Support documentation of "lessons learned" during the COVID-19 Pandemic.	Public Health Incident	Medium/ Staff Time and Resources	County DEC	County Public Health County Commission	County	Short Term
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time and Resources	County DEC		County	Ongoing

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	County Engineer	County Commission	County	Ongoing
36	In order to prepare for the next Hazard Plan update, collect articles and news features on solar flares and magnetic storms impacting North Dakota. Include this topic in any community survey related to the next plan update. Participate in educational events hosted by NDDES on this topic	Space Weather	Low/ Staff Time and Resources	County DEC	NDDES	County	Ongoing
36	Work with Rural Water to establish hydrants in areas distant from existing hydrants	Structural + Wildland/ Rural Fire	Medium/ Staff Time and Resources	County Engineer	Local Fire Departments	County	Mid Term
37	Continue to support programs assisting farmer and ranchers in need during times of drought,	Drought	High/ Staff Time and Resources	County Commission	USDA, ND Department of Water Resources, ND Department of Agriculture, and others	County	Ongoing
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time and Resources	County Commission	Local Fire Departments	County/ County, state, + fed'l grants	Long Term
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time and Resources	County Engineer	County Sheriff	County	Ongoing

**Table 8.3-1
MITIGATION STRATEGIES - MOUNTRAIL COUNTY**

#		HAZARDS	PRIORITY/ COST	CHAMPION(S)	PARTNERS	POTENTIAL FUNDING	TARGET TIMEFRAME <small>52</small>
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time and Resources	County DEC City Mayors	City Councils	County/City	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time and Resources	County Engineer	Mountrail-Williams Elec.	County	Ongoing
42	Encourage wildland/rural fire suppression training for rural fire departments.	Wildland/ Rural Fire	High/ Staff Time and Resources	County DEC	Local Fire Departments	County/ County, state, + fed'l grants	Ongoing
43	Coordinate with rural landowners to identify and gain access to water sources for fire suppression	Wildland/ Rural Fire	Medium/ Staff Time and Resources	County Engineer	Local Fire Departments	County/ County, state, + fed'l grants	Ongoing
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time and Resources	County Commission	Local Fire Departments	County	Ongoing
45	Continue to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time and Resources	County Engineer	ND DOT	County/ County, state, + fed'l grants	Ongoing
46	Continue to review construction under the North Dakota State Building Code and consider adopting fire codes and fire suppression requirements in new construction.	Multiple Hazards	Medium/ Staff Time and Resources	County Commission, County DEC	Local Fire Departments	County	Ongoing



9

PLAN REVIEW +
FUTURE UPDATES



9 Plan Review and Future Updates

9.1 PLAN REVIEW

The years since the 2015 Hazard Plan was adopted have seen significant changes in Mountrail County as elsewhere. This Hazard Plan has responded to those changes. This chapter summarizes how the county responded to those changes and identifies the direction for future updates.

CHANGES IN DEVELOPMENT

As Section 1.4 describes, Mountrail County has changed significantly since the 2015 Hazard Plan was adopted due to the impact of the oil and gas industry. With very few exceptions, this development has not increased the risk of hazards to the persons and business of Mountrail County. These exceptions are noted in the hazard profiles.

PLAN PROGRESS

The 2015 Hazard Plan identified four goals and nine mitigation strategies. Chapter 8 reviews the county's progress on each.

CHANGES IN PRIORITIES

The priorities of Mountrail County and its cities and the focus of this Hazard Plan are those hazards having "high" or "moderate" risk, as determined through the risk and vulnerability assessments. Lower risk hazards will continue to be evaluated but will not necessarily be a high priority for mitigation strategies in the plan. Priorities have not changed but the risk levels of some hazards have changed. The best example of this change relates to consideration of drought (Section 6.2).

The scope of the Hazard Plan has broadened from the 2015 Hazard Plan. Whereas the previous plan focused on a few mitigation strategies with a focus on the need for emergency sirens, this Hazard Plan widens the county's focus to respond to a broader range of hazard-related issues and to memorialize the productive and beneficial actions of Mountrail County and the cities.

9.2 PLAN MAINTENANCE

Plan maintenance ensures that the Hazard Plan will remain useful to Mountrail County for many years. This chapter discusses how the Hazard Plan will be evaluated and enhanced over time through its annual and periodic reviews. It also outlines how the plan will be integrated into existing planning mechanisms and how the public will continue to be involved in a sustained hazard mitigation planning process.

ANNUAL EVALUATION

Monitoring of this Hazard Plan is required to ensure that its goals and mitigation strategies are current and that county hazard mitigation efforts are completed in a

timely manner. The Hazard Plan is designed to be user-friendly and intended to be a living document, one that can be updated over time as risks, vulnerabilities and local priorities evolve, proposed projects are completed, and new projects identified. Members of the LEPC led by the Mountrail County DEC, will review the adopted mitigation goals and policies at one meeting each year to identify the progress with the strategy and if any changes are required.

The Mountrail County DEC will set a time during one LEPC meeting each year to monitor and evaluate the Hazard Plan. A record of the discussion will be maintained for reference during the next five-year plan update. Every year, the topics will include:

- Discussion of progress for the ongoing projects and those scheduled for that year.
- Are there any obstacles to accomplishing the project?
- Should the project's priority or timeline be adjusted?
- Review if the zoning changes designed to address setbacks from Air Force installations and oil and gas facilities, etc. have been drafted and/or adopted. Consider if an appearance of a LEPC representative would be helpful.
- Are there new challenges to address?
- Discussion of upcoming funding opportunities.

PERIODIC EVALUATION

At the option of the Mountrail County DEC, the agenda of a LEPC meeting should address significant changes in the identified risks and vulnerabilities which would impact adopted Hazard Plan priorities. At a minimum, the LEPC should address any Presidential Declaration that impacts Mountrail County.

FIFTH-YEAR EVALUATION

The Mountrail County DEC is responsible for overseeing the five-year update process. Work should begin approximately 18 months prior to the expiration of the current plan. Collaboration with representatives from the cities will be facilitated by this timeline. A creative community outreach element is needed and collaboration with regional agencies and the Emergency Managers of adjacent counties is anticipated.

This Hazard Plan will be thoroughly reviewed by the LEPC every five years to determine whether there have been any significant changes in Mountrail County that may necessitate changes in mitigation strategies proposed. New development in identified hazard areas, an increased exposure to hazards, an increase or decrease in capacity to address hazards, and changes to federal or state legislation are examples of factors that may affect the necessary content of the Hazard Plan.

This Hazard Plan review provides Mountrail County and municipal officials with an opportunity to evaluate which strategies have been successful and to identify needed changes in the implementation of specific mitigation measures. During the five-year plan review process, the following questions will be considered as criteria for assessing the effectiveness and appropriateness of the Hazard Plan:

- Do the goals address expected conditions or are modifications needed?
- Has the nature or magnitude of any hazard risk changed?
- Are the current/planned resources appropriate for implementing the Hazard Plan?

- Are there new or evolving implementation problems, technical, political, legal issues, or coordination challenges?
- Have the outcomes occurred as expected?
- Did departments and agencies participate as planned?

9.3 ONGOING COMMUNITY OUTREACH

Mitigation Strategy # addresses ongoing community outreach by providing hazard-related information to the local newspaper and posting the same material on the County websites and Facebook pages. Topics would change with the season and current events.

9.4 INTEGRATION INTO EXISTING PLANNING MECHANISMS

The LEPC led by the Mountrail County DEC, will remain charged with ensuring that local programs, proposals, and activities that are related to or have an impact on the county's hazard mitigation priorities are:

- Consistent with, or do not conflict with, the goals and mitigation strategies included in the Hazard Plan and
- Will not contribute to increased hazard vulnerability in Mountrail County.

Examples of these local programs, proposals, and activities reviews include:

- Reviews and updates of an emergency operations plan update
- Review of zoning code or comprehensive plan amendments
- Review and updates of building and other local codes
- Input regarding local budget discussions regarding mitigation strategies that require funding

This could be accomplished through a yearly update on a LEPC meeting agenda to address progress by the county and participating jurisdictions with specific attention to Mitigation Strategies #7, #8, #9, #10 and #12. Monitoring Forms are included in Appendix 6

9.5 UPDATING THE PLAN

Following the five-year review, updates and revisions will be addressed according to the plan amendment process outlined below.

PUBLIC INVOLVEMENT

Public participation is an integral component to the hazard mitigation planning process. The on-going outreach described above will be expanded to include updates on plan development and articles encouraging community involvement. Community meetings would be split: one early in the project and another to review the draft plan. The aim would be to have an in-person meeting in each city during plan preparation.

A public survey would assess the level of concern the public has with certain hazards and to better understand what measures they have been taken, or are willing to take, to reduce hazard impacts.

REGIONAL AGENCY COORDINATION

At a minimum, regional agencies and the emergency managers of adjacent counties will be contacted early in the plan preparation process and again when the initial draft plan is ready for review. Additional coordination is encouraged.

PLAN AMENDMENT ELEMENTS

Key elements in updating the Hazard Plan include the following:

Update the Goals and Mitigation Strategies

This task, completed using information developed in the annual and periodic reviews, will address community priorities, concerns, and capabilities.

Update the Hazard Profiles

As needed, the local profile for each identified hazard (description, previous occurrences, vulnerability, probability, magnitude, etc.) will be updated and the hazards ranked using a Calculated Priority Risk Index (CPRI) based on several factors including impact, likelihood, spatial reach, frequency of occurrence, and warning time.

Community Review and Comment

The final draft plan will be posted online for public for approximately 30 days prior to the Mountrail Commission meeting to approve transmittal of the draft plan to NDDES for compliance review. A notice that the draft plan is available for review will be emailed to those on the project mailing list, including county leadership, regional agencies, the Cities of Stanley, New Town, Parshall, Plaza, Palermo, Ross and White Earth, the Emergency Managers of all adjacent counties, and identified regional agencies. After completion of the review period, a meeting will be scheduled for the Commission to approve transmittal of the plan for compliance review.

Hazard Plan Adoption

After review by the Commission, the plan will be transmitted to NDDES for a compliance review together with the Local Mitigation Plan Review Tool. Any required revisions will be resolved to reach "Approved Pending Adoption" status. Mountrail County and all participating jurisdictions will adopt the plan at a public hearing and the resolutions will be inserted in the plan prior to printing and distribution.

MOUNTRAIL COUNTY, NORTH DAKOTA MULTI-HAZARD MITIGATION PLAN



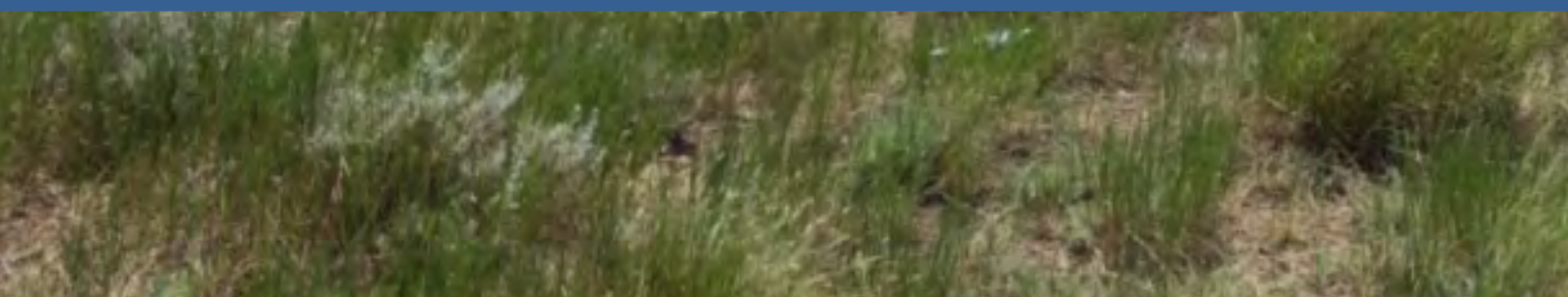
**Adopted by Mountrail County on September 19, 2022
Submitted to the North Dakota
Department of Emergency Services on October 3, 2022**

ANNEX A-ANNEX H + APPENDICES



ANNEXES

Annex A	City of New Town
Annex B	City of Palermo
Annex C	City of Parshall
Annex D	City of Plaza
Annex E	City of Ross
Annex F	City of Stanley
Annex G	City of White Earth
Annex H	Mountrail County Unincorporated Areas



ANNEX A – ANNEX H

COMMUNITY PROFILES, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

Chapters 1-9 have a countywide focus and include information on the cities. The background information included in those chapters is not duplicated in each Annex.

Annex A to Annex G recognize that the cities are unique. Progress includes information specific to each city and city-specific mitigation strategies. Annex H focuses on the unincorporated areas of the county.

ANNEX A
City of New Town

Annex A – City of New Town

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

A-1 COMMUNITY PROFILE

GEOGRAPHY

New Town is located on State Highway 23 in south-central Mountrail County just east of the crossing of Lake Sakakawea by the Four Bears Bridge.



POPULATION

Table A-1 provides population counts and recent growth estimates for New Town as compared to the County overall.

Table A-1 POPULATION AND GROWTH City of New Town						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is considering the community's vulnerable population and critical infrastructure. Table A-2 indicates that the county's vulnerable population is slightly lower than the state's but that it varies among the cities

with New Town’s vulnerable population percentage similar to statewide totals. considered vulnerable.

Table A-2 VULNERABLE POPULATION			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

A-2 FUTURE DEVELOPMENT

Based on the city’s existing development pattern, Map D of the Mountrail County Comprehensive Plan indicates reflects the expectation that most of the city’s future development will continue to be located within a mile of the city’s limits,

A-3 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County’s natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities’ experience. Flood-related information, however, is very site-specific.

FLOODING

Within Mountrail County, FEMA has developed Flood Insurance Rate Maps (FIRM) for Parshall and White Earth. In other areas of the county, including New Town, FEMA’s Base Level Engineering (BLE) coverage which shows flood prone areas can be useful to local governments. Figure A1a and Figure A1b reflect FEMA’s BLE water surface elevation mapping for New Town.

Vulnerability

According to the BLE mapping, a few areas within the city are vulnerable to 100-year flooding. They include the coulees running north-south through the city, the ball field, the roads around the Elementary School and High School and areas along Sanish Bay. Two low-lying areas in the city’s northeast and the property west of the Northrop-Grummon facility on Hwy 23 are open surrounded by development. The BLE maps show flooding of the city’s wastewater treatment ponds and parts of the transload facility. The mentioned roadways, especially the intersection of Hwy 23 and 3rd Street North could be considered critical infrastructure.

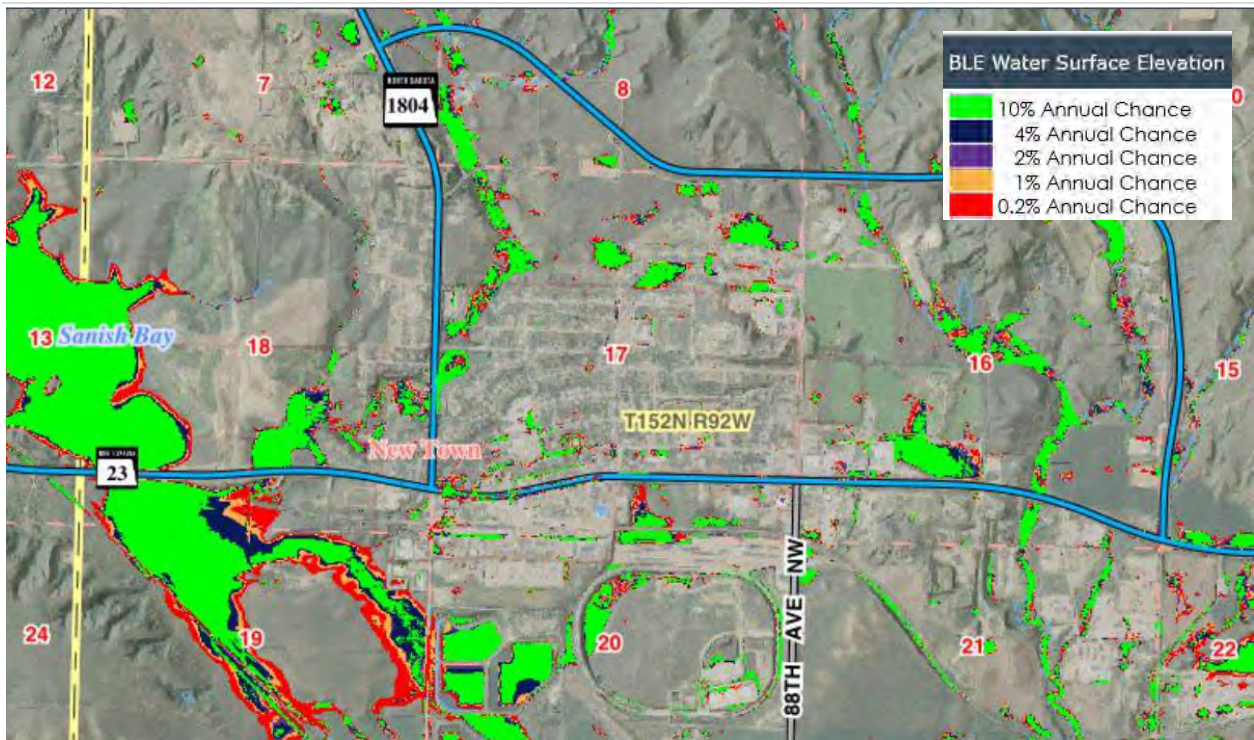


Figure A1a Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

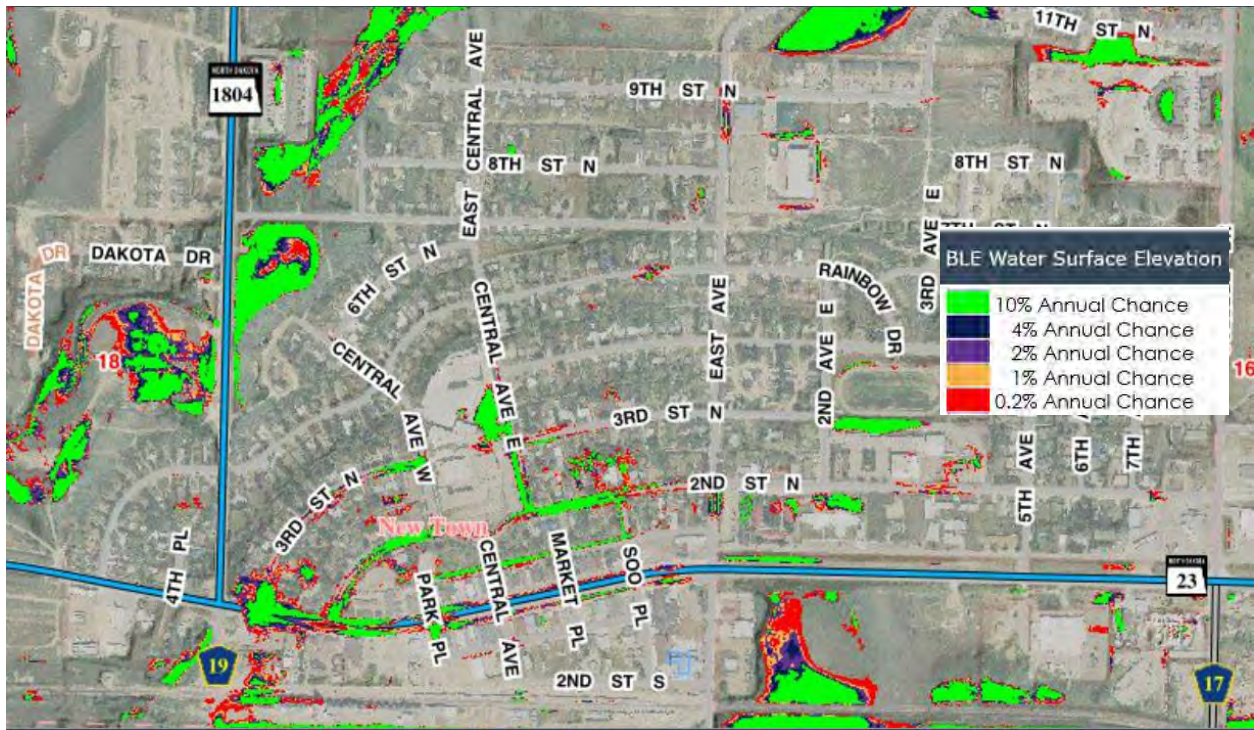
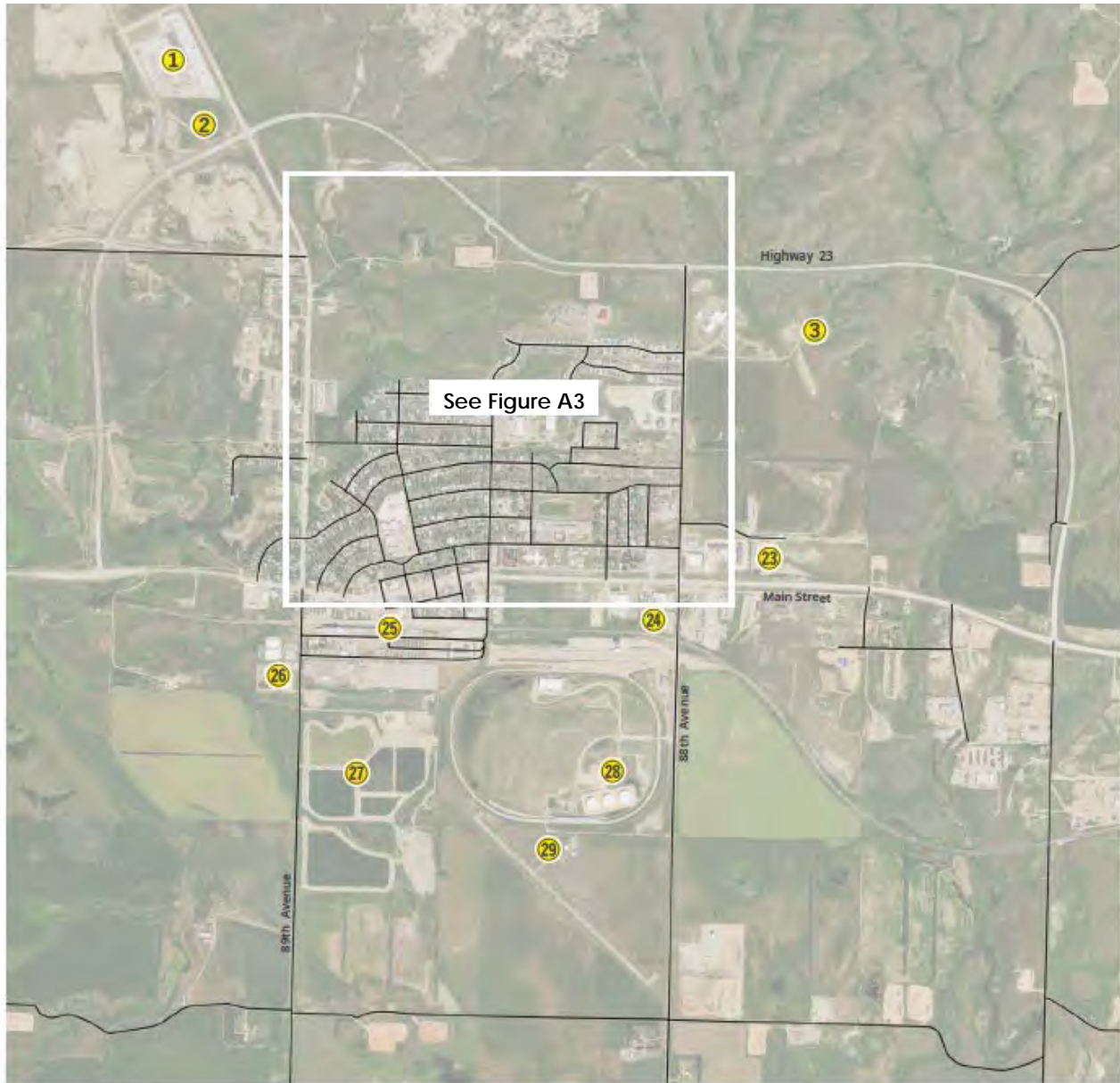


Figure A1b Flood Risk Assessment Map (enlarged)
<https://ndram.dwr.nd.gov>

A-4 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The locations of these facilities are shown in Figure A2 and Figure A3.



- | | |
|--------------------------------------|--|
| ① Cenex | ②③ Jason's Super Foods |
| ② United Quality Cooperative | ②④ Gerald Fox Justice Center |
| ③ Lakeside Senior Community Center * | ②⑤ Wildcat Minerals |
| | ②⑥ New Town Water Treatment Facility * |
| | ②⑦ New Town Wastewater Treatment Ponds |
| | ②⑧ CP Oil Facility |
| | ②⑨ New Town Municipal Airport |

Figure A2 New Town Key Facilities



- | | |
|---|---|
| ④ Elbowoods Memorial Health Center | ⑭ Cenex |
| ⑤ MHA Nation Tribal * | ⑮ Cornerstone Bank |
| ⑥ MHA Nation Tribal (Head Start Program) | ⑯ MHA DOT |
| ⑦ MHA Nation Tribal North Segment (Northern Lights) | ⑰ US Post Office |
| ⑧ Nueta Hidatsa Sahnish College | ⑱ New Town City Hall & Police Department |
| ⑨ New Town Public Schools (M.S./H.S.) | ⑲ Dakota West Credit Union |
| ⑩ Edwin Loe Elementary School | ⑳ Family Dollar |
| ⑪ US DOI Bureau of Indian Affairs | ㉑ Northrop Grumman |
| ⑫ Larsen Service Drug | ㉒ MHA Nation Tribal Court & Police Department |
| ⑬ Trinity Community Clinic | |

Figure A3 New Town Key Facilities

A-5 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of New Town were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is not a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is an active participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, New Town depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- The New Town Fire Department provides general fire suppression and rescue capabilities and offers public awareness and educational programs. The fire department has no capability for hazardous materials response.
- The New Town Ambulance Service provides emergency response, patient care, and patient transport.

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

EDUCATION AND OUTREACH CAPACITY

The city utilizes its website and Facebook page to inform residents on hazard events.

A-6 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table A-3 HAZARDS, RISKS AND VULNERABILITIES City of New Town		
Natural Hazards	Mountrail County	New Town
Drought	2.55	2.05
Flooding	2.01	1.45
Landslide	1.14	1.30
Severe Windstorm/Tornado	2.69	2.80
Earthquake	1.81	1.75
Severe Hailstorm	2.72	2.66
Extreme Heat	2.29	2.51
Severe Snowstorm	3.10	3.15
Severe Ice Storm	2.76	2.50
Wildland Fire	2.12	1.95
Other Hazards		
Fort Peck Dam Failure	1.87	2.05
White Earth Dam Failure	1.97	2.05
Public Health Incident	2.70	3.25
Oil Spill	3.04	3.40
Saltwater Spill	2.73	2.65
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	3.20
Hazardous Material Release - Missile Silo Facilities	1.76	2.60
Hazardous Material Release - Other Fixed Site	2.22	3.05
Shortage Of Critical Materials	1.93	2.50
Active Attacker	1.62	2.20
Cyber Attack	1.79	2.65
Severe Structural Fire	2.26	2.65
Major Transportation Incident	2.36	2.20



A-7 MITIGATION STRATEGIES - NEW TOWN

Table A-4 MITIGATION STRATEGIES					
# ¹		HAZARDS	PRIORITY ² / COST ³	CHAMPION	TARGET TIMEFRAME ⁴
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
3	Initiate a collaboration with other jurisdictions located close to the Missouri River, plus state and federal agencies to increase local understanding of the risk from any failure of the Fort Peck Dam and to discuss emergency preparedness.	Dam Failure	Medium/ Staff Time + Resources	Mayor City Auditor	Short-Term
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Resources	Mayor City Auditor	Short-Term
5	Evaluate the feasibility of enrolling the city in the the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going-
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	Mayor City Auditor	Short Term

¹ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations..

² Priorities are derived from the CPRI calculations and community input.

³ Costs reflect the ranking criteria in Appendix 3, Table A3-3

⁴ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table A-4 MITIGATION STRATEGIES					
# ¹		HAZARDS	PRIORITY ² / COST ³	CHAMPION	TARGET TIMEFRAME ⁴
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate through the use of available alternatives like websites, social media, utility inserts etc.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going

Table A-4 MITIGATION STRATEGIES					
# ¹		HAZARDS	PRIORITY ² / COST ³	CHAMPION	TARGET TIMEFRAME ⁴
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/ TBD	Mayor City Auditor	On-going

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County’s progress in addressing the 2015 Mitigation Strategies. The table below presents the City of New Town’s progress in addressing its 2015 Mitigation Strategies.

Table A-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of New Town			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Carried over One new emergency warning siren was installed in the city and one in the nearby Van Hook recreational area	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
3.1	Develop and implement public education and hazard awareness program.	Carried over with expanded focus and partners	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15



LUTHERAN CHURCH OF THE CROSS
1858

ANNEX B
City of Palermo

Annex B

CITY OF PALERMO

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

B-1 COMMUNITY PROFILE

GEOGRAPHY

Palermo is located on State Highway 2 in central Mountrail County about nine miles east of Stanley.



POPULATION

Table B-1 provides population counts and recent growth estimates for Palermo as compared to the County overall.

Table B-1 POPULATION AND GROWTH City of Palermo						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is considering the community's vulnerable population and critical infrastructure. Table B-2 indicates that the county's vulnerable population is slightly lower than the state's but that it varies among the cities with Palermo's vulnerable population percentage significantly lower than statewide and countywide totals.

Table B-2 VULNERABLE POPULATION			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

B-2 HAZARD IDENTIFICATION



Chapters 4 and 5 presented Mountrail County's natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities' experience. Flood-related information, however, is very site-specific.

FLOOD

Within Mountrail County, FEMA has developed Flood Insurance Rate Maps (FIRM) for Parshall and White Earth. In other areas of the county, including Palermo, FEMA's Base Level Engineering (BLE) coverage which shows flood prone areas can be useful to local governments. Figure D1 reflects FEMA's BLE mapping. Figure B1a and Figure B1b reflect FEMA's BLE water surface elevation mapping for Palermo.

Vulnerability

According to the BLE mapping, a few areas within the city are vulnerable to 100-year flooding. They are focused between Washington Street and the railroad but include the city park. The city did not designate anything as critical infrastructure.

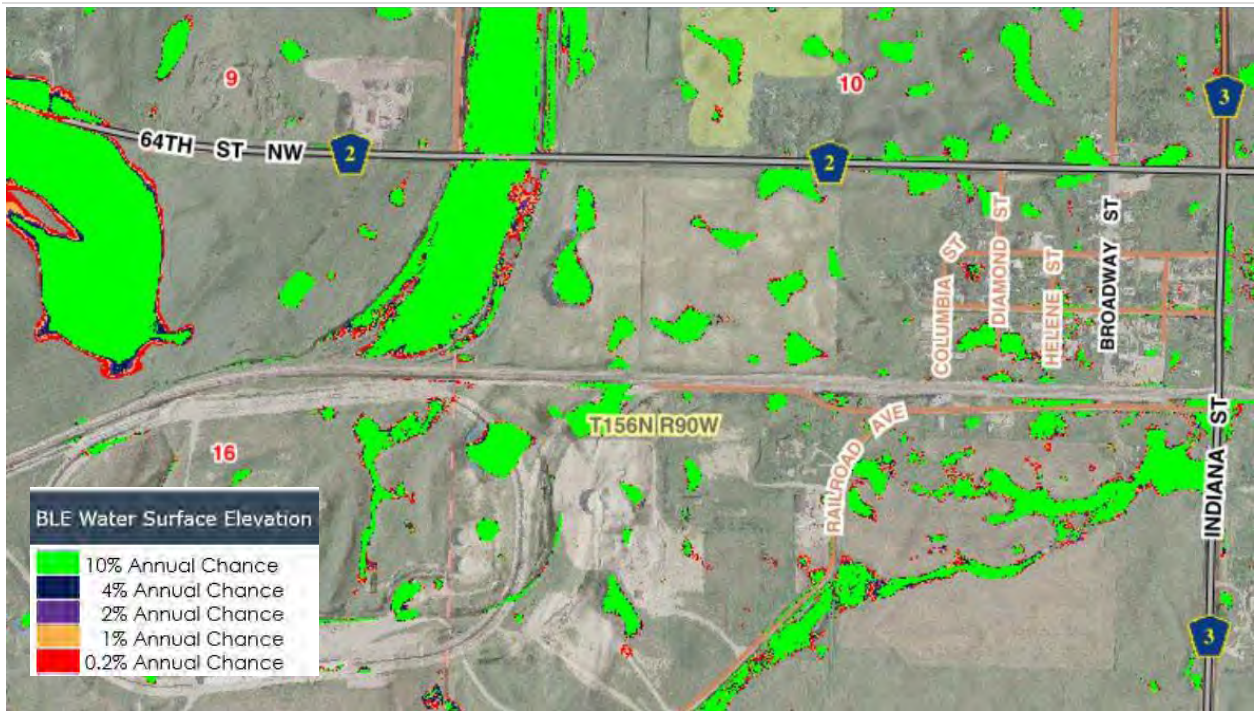


Figure B1a Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>



Figure B1b Flood Risk Assessment Map (enlarged)
<https://ndram.dwr.nd.gov>

B-3 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The locations of these facilities are shown in Figure B2.



① BNSF (Palermo) Oil Facility

Figure B2 Palermo Key Facilities



Figure B3 Palermo Key Facilities (See Figure B2)

B-4 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of Palermo were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is not a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is an active participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, Palermo depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- Fire Department:
- Ambulance Service:

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

EDUCATION AND OUTREACH CAPACITY

The city utilizes its website and Facebook page to inform residents on hazard events.

B-5 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table B-3 HAZARDS, RISKS AND VULNERABILITIES City of Palermo ⁵		
	Mountrail County	Palermo
Natural Hazards		
Drought	2.55	2.93
Flooding	2.01	1.53
Landslide	1.14	1.00
Severe Windstorm/Tornado	2.69	2.35
Earthquake	1.81	2.09
Severe Hailstorm	2.72	2.24
Extreme Heat	2.29	2.28
Severe Snowstorm	3.10	2.99
Severe Ice Storm	2.76	2.02
Wildland Fire	2.12	2.32
Technological and Human-Caused Hazards		
Fort Peck Dam Failure	1.87	1.68
White Earth Dam Failure	1.97	1.73
Public Health Incident	2.70	2.46
Oil Spill	3.04	2.91
Saltwater Spill	2.73	2.62
HAZARDOUS MATERIAL RELEASE - In Transit (Truck Or Rail)	2.79	2.62
Hazardous Material Release - Missile Silo Facilities	1.76	2.37
Hazardous Material Release - Other Fixed Site	2.22	2.51
Shortage Of Critical Materials	1.93	1.95
Active Attacker	1.62	2.07
Cyber Attack	1.79	2.16
Severe Structural Fire	2.26	2.41
Major Transportation Incident	2.36	2.36



B-6 MITIGATION STRATEGIES - PALERMO

⁵ With only a limited number of surveys from the City of Palermo, the totals for unincorporated Mountrail County were used for this table

Table B-4 MITIGATION STRATEGIES City of Palermo					
# ⁶		HAZARDS	PRIORITY ⁷ / COST ⁸	CHAMPION	TARGET TIMEFRAME ⁹
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Evaluate the feasibility of enrolling the city in the the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going

⁶ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations..

⁷ Priorities are derived from the CPRI calculations and community input.

⁸ Costs reflect the ranking criteria in Appendix 3, Table A3-3

⁹ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table B-4 MITIGATION STRATEGIES City of Palermo					
# ⁶		HAZARDS	PRIORITY ⁷ / COST ⁸	CHAMPION	TARGET TIMEFRAME ⁹
	through the use of available alternatives like websites, social media, utility inserts etc.		Staff Time + Resources		
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term

Table B-4 MITIGATION STRATEGIES City of Palermo					
# ⁶		HAZARDS	PRIORITY ⁷ / COST ⁸	CHAMPION	TARGET TIMEFRAME ⁹
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/ TBD	Mayor City Auditor	On-going

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County’s progress in addressing the 2015 Mitigation Strategies. The table below presents the City of Palermo’s progress in addressing its 2015 Mitigation Strategies.

Table B-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of Palermo			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Carried over One new emergency warning siren was installed in the city	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
3.1	Develop and implement public education and hazard awareness program.	Carried over with expanded focus and partners	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15

ANNEX C
City of Parshall

Annex C

CITY OF PARSHALL

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

C-1 COMMUNITY PROFILE

GEOGRAPHY

Parshall is located on State Highway 23 in south-central Mountrail County approximately 19 miles east of New Town. According to the United States Census Bureau, the city has a total area of 0.55 square miles.



POPULATION

Table C-1 provides population counts and recent growth estimates for Parshall as compared to the County overall.

Table C-1 POPULATION AND GROWTH City of Parshall						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is considering the community's vulnerable population and critical infrastructure. Table C-2 indicates that the county's vulnerable population is slightly lower than the state's but that it varies among the cities with Parshall's vulnerable population percentage similar to countywide totals and about 10% less than statewide totals.

Table C-2 VULNERABLE POPULATION City of Parshall			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

C-2 FUTURE DEVELOPMENT

Based on the city's existing development pattern, Map D of the Mountrail County Comprehensive Plan indicates reflects the expectation that most of the city's future development will be located within a mile of the city's limits, The city's commercial development continues to expand along ND 28. The city is also experiencing new residential development northwest of previous development areas.

C-3 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County's natural and technological/ human-caused hazards. For most hazards, that information effectively addresses the cities' experience. Flood-related information, however, is very site-specific.

FLOODING

FEMA has developed Flood Insurance Rate Maps (FIRM) for two cities within Mountrail County, Parshall and White Earth. Figure C1 reflects FEMA's FIRM mapping for the City of Parshall. In addition to the FIRM maps, FEMA has developed Base Level Engineering (BLE) coverage, which shows flood prone areas, can be useful to local governments. Figure C3a and Figure C3b depict FEMA's BLE mapping for the city.

Vulnerability

According to the BLE mapping, a few areas within the city are vulnerable to 100-year flooding. They are focused in the same area as the FIRM. These low-lying areas appear to be undeveloped and include no critical facilities.

FLOOD INSURANCE RATE MAP

These are FEMA’s official maps of a community that delineate the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs) and the risk premium zones applicable to the community. Participation in the Flood Insurance Rate Map (FIRM) program is voluntary. In Mountrail County, both Parshall and White Earth participate.

Table C-3 COMMUNITIES PARTICIPATING IN THE NATIONAL FLOOD INSURANCE PROGRAM						
CID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Eff Map Date	Reg-Emer Date
380073	PARSHALL	MOUNTRAIL	11/29/74	03/18/86	03/18/86(M)	03/18/86
380074	WHITE EARTH	MOUNTRAIL	12/20/74	10/01/86	10/01/86(L)	10/01/86

Source: www.fema.gov/cis/ND.pdf

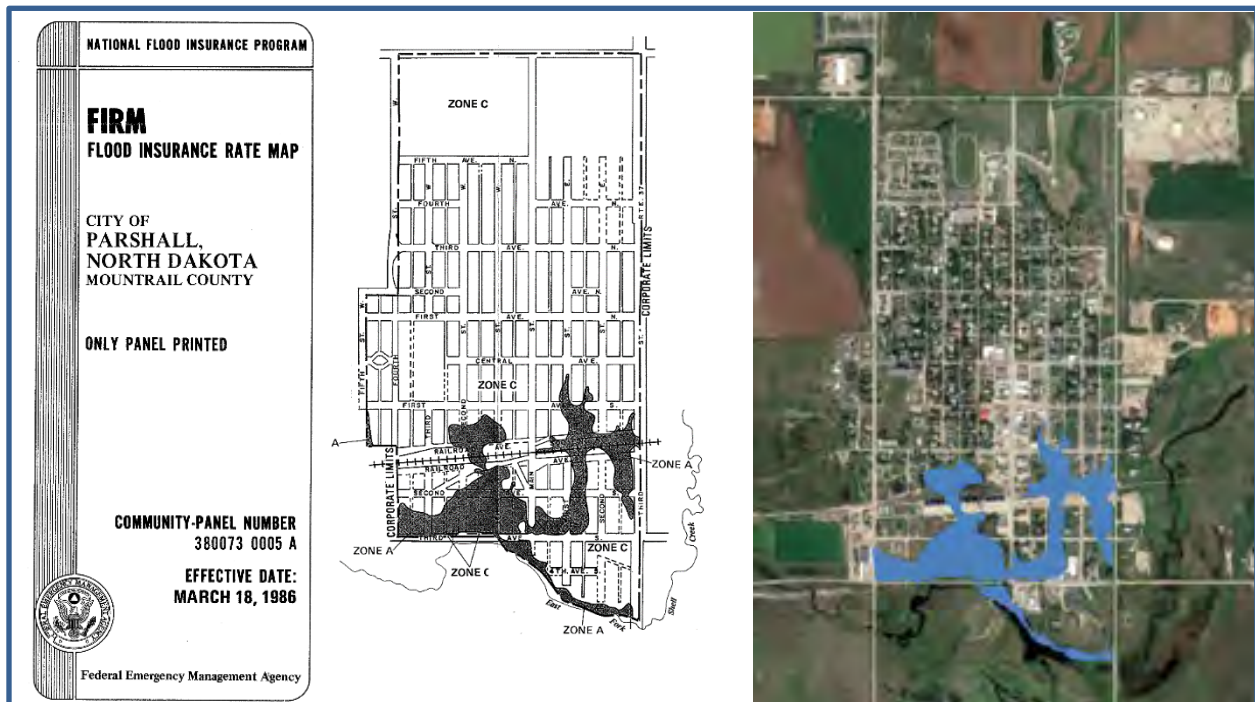


Figure C3-1 U.S. Geological Survey.- East Fork Shell Creek near Parshall ND

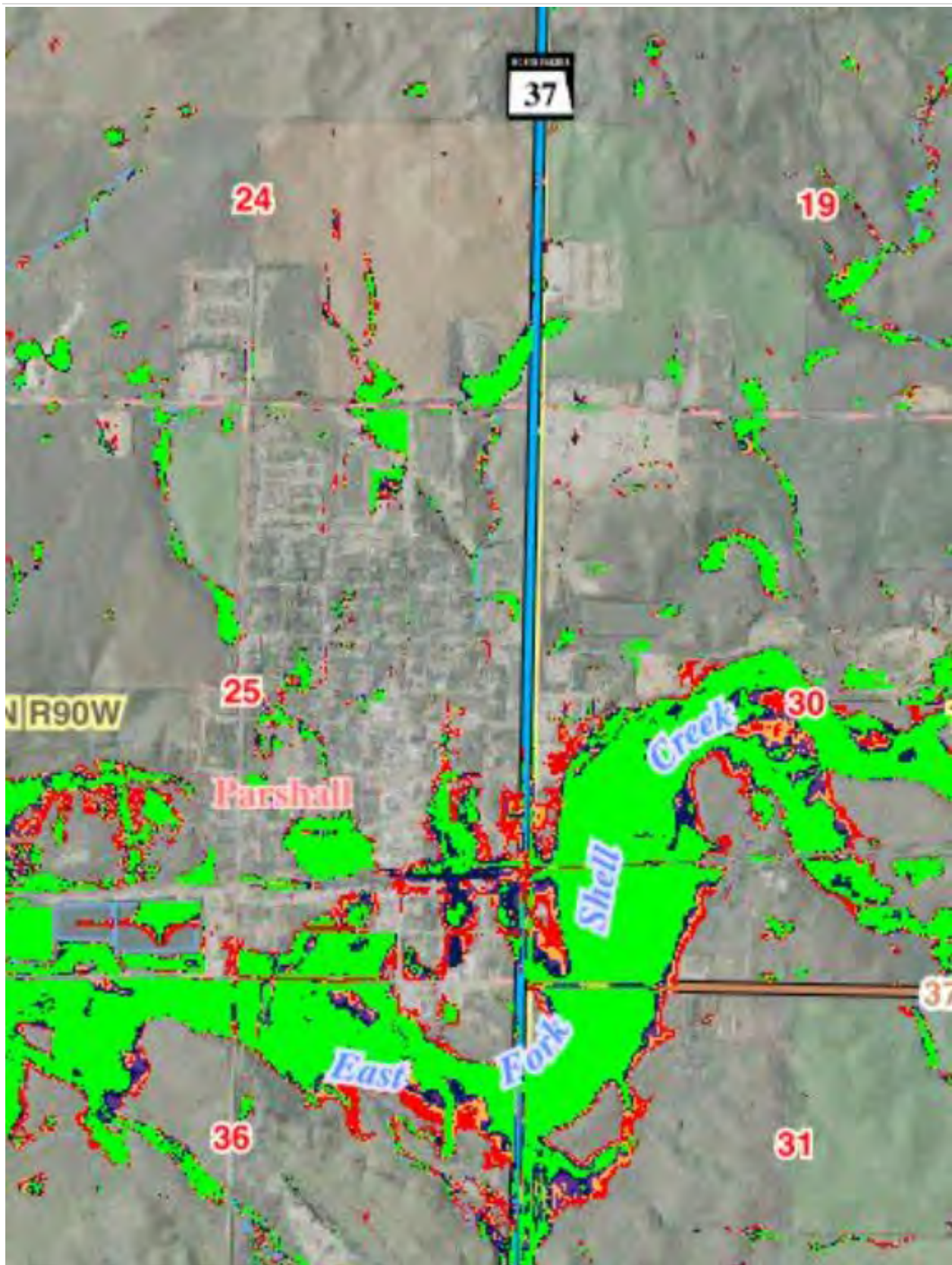


Figure C3a Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

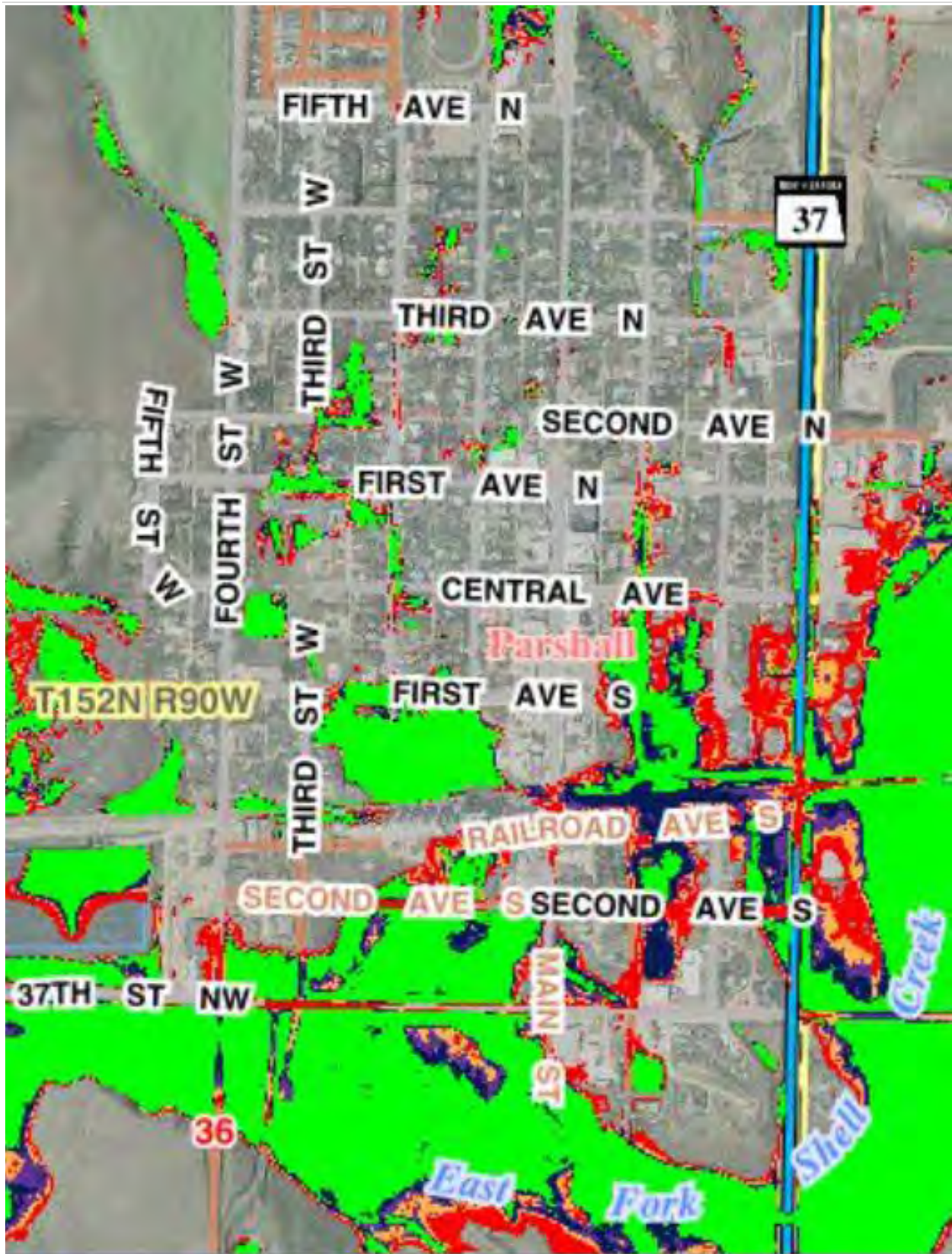


Figure C3b Flood Risk Assessment Map (enlarged)
<https://ndram.dwr.nd.gov>

C-4 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The locations of these facilities are shown in Figure C4 and Figure C5.



- ① Family Dollar
- ② North County Oil
- ③ ND DOT Truck Station
- ④ Cenex
- ⑤ Parshall High School
- ⑦ Parshall Municipal Services *
- ⑧ Parshall Rural Fire District
- ⑨ Parshall-Lucky Mound Veterans Memorial Hall
- ⑩ Parshall-Hankins Airport



Figure C4 Parshall Key Facilities



- ⑥ Rockview Pharmacy
- ⑦ Reservation Telephone Cooperative
- ⑧ Parshall Elementary School
- ⑨ Parshall Library & Parshall City Hall
- ⑩ Reservation Telephone Cooperative
- ⑪ MHA Public Safety Division of Drug Enforcement
- ⑫ Cornerstone Bank
- ⑬ Parshall Food Pride
- ⑭ Fire Department
- ⑮ US Post Office
- ⑯ Parshall Health Center Clinic



Figure C5 Parshall Key Facilities (enlarged)

C-5 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of Parshall were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is an active participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, Parshall depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- The Parshall Rural Fire Protection District provides general fire suppression and rescue capabilities and offers public awareness and educational programs. The fire department has no capability for hazardous materials response.
- The Parshall Rural Ambulance Service provides emergency response, patient care, and patient transport.

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

EDUCATION AND OUTREACH CAPACITY

The city utilizes its website and Facebook page to inform residents on hazard events.

C-6 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table C-4 HAZARDS, RISKS AND VULNERABILITIES City of Parshall		
	Mountrail County	Parshall
Natural Hazards		
Drought	2.55	2.55
Flooding	2.01	2.50
Landslide	1.14	1.20
Severe Windstorm/Tornado	2.69	2.85
Earthquake	1.81	2.10
Severe Hailstorm	2.72	3.15
Extreme Heat	2.29	2.65
Severe Snowstorm	3.10	3.35
Severe Ice Storm	2.76	3.25
Wildland Fire	2.12	2.20
Other Hazards		
Fort Peck Dam Failure	1.87	2.20
White Earth Dam Failure	1.97	2.65
Public Health Incident	2.70	2.95
Oil Spill	3.04	3.20
Saltwater Spill	2.73	2.90
HAZARDOUS MATERIAL RELEASE - In Transit (Truck Or Rail)	2.79	3.00
Hazardous Material Release - Missile Silo Facilities	1.76	2.95
Hazardous Material Release - Other Fixed Site	2.22	2.80
Shortage Of Critical Materials	1.93	
Active Attacker	1.62	2.60
Cyber Attack	1.79	2.75
Severe Structural Fire	2.26	3,25
Major Transportation Incident	2.36	3.10



C-7 MITIGATION STRATEGIES – PARSHALL

Table C-5 MITIGATION STRATEGIES City of Parshall					
# ¹⁰		HAZARDS	PRIORITY ⁷ / COST ⁸	CHAMPIONS	TARGET TIMEFRAME ¹¹
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
3	Initiate a collaboration with other jurisdictions located close to the Missouri River, plus state and federal agencies to increase local understanding of the risk from any failure of the Fort Peck Dam and to discuss emergency preparedness.	Dam Failure	Medium/ Staff Time + Resources	Mayor City Auditor	Short-Term
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Encourage local participation in the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z Administrator	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going

¹⁰ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations..

¹¹ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table C-5 MITIGATION STRATEGIES City of Parshall					
# ¹⁰		HAZARDS	PRIORITY ⁷ / COST ⁸	CHAMPIONS	TARGET TIMEFRAME ¹¹
	mitigation needs for use in the next plan update		Staff Time + Resources		
16	Provide educational materials to the public during the year as appropriate through the use of available alternatives like websites, social media, utility inserts etc.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation	Structural + Wildland/	Medium/	Mayor City Auditor	Long Term

Table C-5 MITIGATION STRATEGIES City of Parshall					
# ¹⁰		HAZARDS	diu	CHAMPIONS	TARGET TIMEFRAME ¹¹
	management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Rural Fire	Staff Time + Resources		
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/TBD	Mayor City Auditor	On-going
48	Review the city's adopted Floodplain Ordinance.	Flooding	Low/ Staff Time+ Resources	Mayor City Auditor	Mid-Term



2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County's progress in addressing the 2015 Mitigation Strategies. The table below presents the City of Parshall's progress in addressing its 2015 Mitigation Strategies.

Table C-6 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of Parshall			
#	2015 Mitigation Strategy	Status/Progress	New Strategy
1.1	Purchase and install additional warning sirens	Carried over One new emergency warning siren was installed in the city and one in the nearby Parshall Bay recreational area	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
3.1	Develop and implement public education and hazard awareness program including public education and awareness of the National Flood Insurance Program..	Carried over with expanded focus and partners	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15



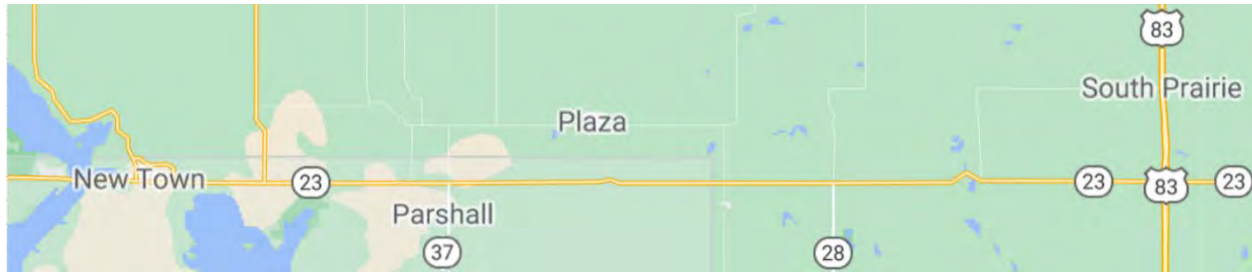
ANNEX D
City of Plaza

Annex D

CITY OF PLAZA

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

D-1 COMMUNITY PROFILE



GEOGRAPHY

Plaza is located north of State Highway 23 in south-central Mountrail County. It is approximately 30 miles east of New Town.

POPULATION

Table D-1 provides population counts and recent growth estimates for Plaza as compared to the County overall.

Table D-1 POPULATION AND GROWTH City of Plaza						
Community	2010		2019		Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is considering the community's vulnerable population and critical infrastructure. Table D-2 indicates that the county's vulnerable population is slightly lower than the state's but that it varies among the cities with Plaza's vulnerable population percentage similar to countywide totals and about 10% less than statewide totals.

Table D-2 VULNERABLE POPULATION			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

D-2 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County's natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities' experience. Flood-related information, however, is very site-specific.

FLOODING

Within Mountrail County, FEMA has developed Flood Insurance Rate Maps (FIRM) for Parshall and White Earth. In other areas of the county, including Palermo, FEMA's Base Level Engineering (BLE) coverage which shows flood prone areas can be useful to local governments. Figure D1 reflects FEMA's BLE mapping. Figure B1a and Figure B1b reflect FEMA's BLE water surface elevation mapping for Palermo.

Vulnerability

According to the BLE mapping, a few areas within the city are vulnerable to 100-year flooding. They are focused in the northern area of the city and in two low-lying areas running north-south through the city. No critical facilities are located in these areas.

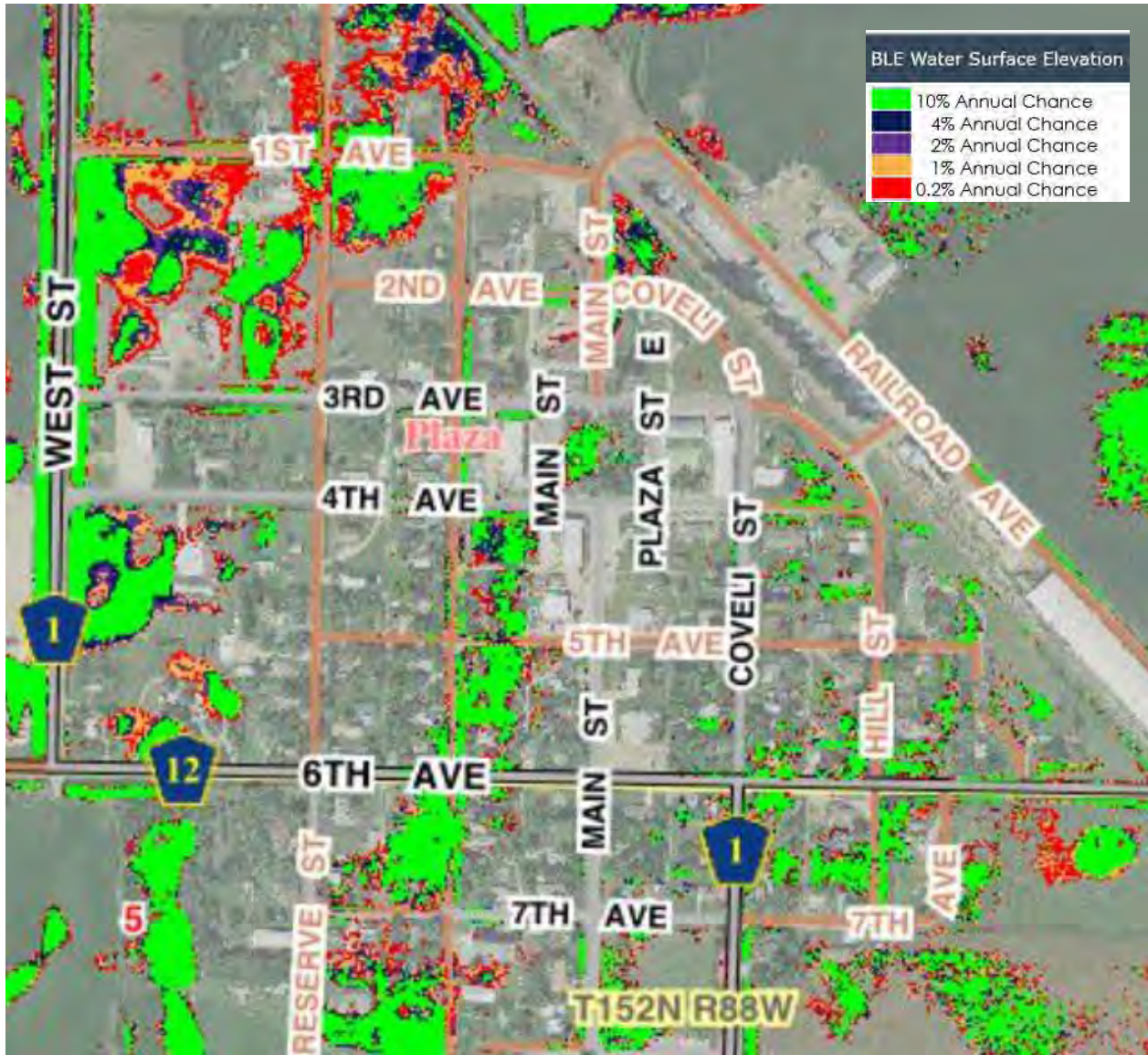


Figure D1 Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

D-3 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The locations of these facilities are shown in Figure D2.



- | | |
|--------------------------------|------------------------------|
| ① Wastewater Treatment Ponds * | ⑤ US Post Office |
| ② Truison Field Airport * | ⑥ Plaza City Fire Department |
| ③ Plaza-Makoti Equity Elevator | ⑦ Plaza Elementary School |
| ④ County Market | ⑧ Cenex |

Figure D2 Plaza Key Facilities

D-4 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of Plaza were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is not a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is a participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, Plaza depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- Fire
- Ambulance Service

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

D-5 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table D-3 HAZARDS, RISKS AND VULNERABILITIES City of Plaza		
	Mountrail County	Plaza
Natural Hazards		
Drought	2.55	2.05
Flooding	2.01	2.35
Landslide	1.14	1.45
Severe Windstorm/Tornado	2.69	2.80
Earthquake	1.81	2.05
Severe Hailstorm	2.72	3.40
Extreme Heat	2.29	2.95
Severe Snowstorm	3.10	3.45
Severe Ice Storm	2.76	3.25
Wildland Fire	2.12	1.05
Other Hazards		
Fort Peck Dam Failure	1.87	2.05
White Earth Dam Failure	1.97	2.35
Public Health Incident	2.70	2.50
Oil Spill	3.04	2.95
Saltwater Spill	2.73	2.95
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	3.05
Hazardous Material Release - Missile Silo Facilities	1.76	3.05
Hazardous Material Release - Other Fixed Site	2.22	3.35
Shortage Of Critical Materials	1.93	2.05
Active Attacker	1.62	1.30
Cyber Attack	1.79	1.75
Severe Structural Fire	2.26	2.20
Major Transportation Incident	2.36	2.65



D-6 MITIGATION STRATEGIES - PLAZA

Table D-4 MITIGATION STRATEGIES City of Plaza					
# ¹²		HAZARDS	PRIORITY ¹³ / COST ¹⁴	CHAMPION	TARGET TIMEFRAME ¹⁵
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Evaluate the feasibility of enrolling the city in the the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going

¹² Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations..

¹³ Priorities are derived from the CPRI calculations and community input.

¹⁴ Costs reflect the ranking criteria in Appendix 3, Table A3-3

¹⁵ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table D-4 MITIGATION STRATEGIE City of Plaza					
# ¹²		HAZARDS	PRIORITY ¹³ / COST ¹⁴	CHAMPION	TARGET TIMEFRAME ¹⁵
	through the use of available alternatives like websites, social media, utility inserts etc.		Staff Time + Resources		
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term

Table D-4 MITIGATION STRATEGIE City of Plaza					
# ¹²		HAZARDS	PRIORITY ¹³ / COST ¹⁴	CHAMPION	TARGET TIMEFRAME ¹⁵
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/ TBD	Mayor City Auditor	On-going

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County’s progress in addressing the 2015 Mitigation Strategies. The table below presents the City of Plaza’s progress in addressing its 2015 Mitigation Strategies.

Table D-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of Plaza			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Carried over One new emergency warning siren was installed in the city and one in the nearby Van Hook recreational area	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
3.1	Develop and implement public education and hazard awareness program.	Carried over with expanded focus and partners	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15

ANNEX E
City of Ross

Annex E

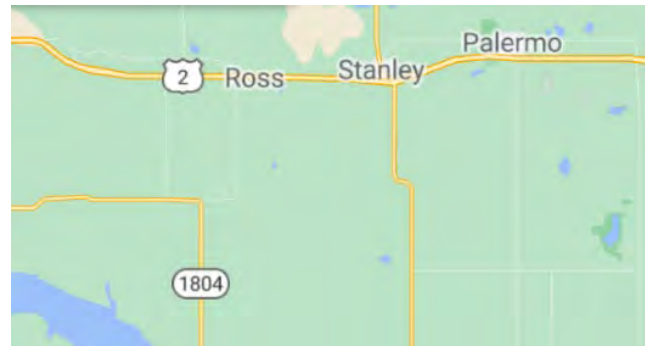
CITY OF ROSS

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

E-1 COMMUNITY PROFILE

GEOGRAPHY

Ross is located on US 2 approximately eight miles west of Stanley. The city has a total area of 0.28 square miles.



POPULATION

Table E-1 provides population counts and recent growth estimates for Ross and the County overall.

Table E-1 POPULATION AND GROWTH City of Ross						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is considering the community's vulnerable population and critical infrastructure. Table E-2 indicates that the county's vulnerable population is slightly lower than the state's but that it varies among the cities

with Ross’s vulnerable population percentage significantly less than countywide and statewide totals. Ross very low percentage of population over 65 years old is notable.

Table E-2 VULNERABLE POPULATION City of Ross			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

E-2 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County’s natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities’ experience. Specific flood-related information follows.

FLOODING

Within Mountrail County, FEMA has developed Flood Insurance Rate Maps (FIRM) for Parshall and White Earth. In other areas of the county, including Ross, FEMA’s Base Level Engineering (BLE) coverage which shows flood prone areas can be useful to local governments. Figure E1 reflects FEMA’s BLE mapping.



Figure E1 Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

Vulnerability

According to the BLE mapping, a few areas within the city are vulnerable to 100-year flooding. These low-lying areas are focused at the city's edges and appear to be undeveloped. No critical facilities are located in these areas.

E-3 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after a hazard event. The locations of these facilities are shown in Figure E1.



- ① Bakken Transload (Grain)
- ② United Quality Cooperative (Grain)
- ③ US Post Office
- ④ Statoil Pipelines

Figure E2 Ross Key Facilities

E-4 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of Ross were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is not a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is a participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, Ross depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

The Mountrail County Sheriff's Office provides law enforcement services to the city, the Stanley Rural Fire Department provides fire protection services and Stanley provides ambulance services. Snow removal service is provided by the city.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

E-5 RISK ASSESSMENT

Decades ago, a tornado hit Ross and residents sheltered in underground safe rooms “bomb shelters”. The city has not experienced such weather extremes in recent years. This section addresses the hazards and vulnerability assessments that are currently rated as having the highest risks.

Table E-3 HAZARDS, RISKS AND VULNERABILITIES City of Ross ¹⁶		
Natural Hazards	Mountrail County	Ross
Drought	2.55	2.93
Flooding	2.01	1.53
Landslide	1.14	1.00
Severe Windstorm/Tornado	2.69	2.35
Earthquake	1.81	2.09
Severe Hailstorm	2.72	2.24
Extreme Heat	2.29	2.28
Severe Snowstorm	3.10	2.99
Severe Ice Storm	2.76	2.02
Wildland Fire	2.12	2.32
Other Hazards		
Fort Peck Dam Failure	1.87	1.68
White Earth Dam Failure	1.97	1.73
Public Health Incident	2.70	2.46
Oil Spill	3.04	2.91
Saltwater Spill	2.73	2.62
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	2.62
Hazardous Material Release - Missile Silo Facilities	1.76	2.37
Hazardous Material Release - Other Fixed Site	2.22	2.51
Shortage Of Critical Materials	1.93	1.95
Cyber Attack	1.79	2.16
Severe Structural Fire	2.26	2.41
Major Transportation Incident	2.36	2.36



E-7 MITIGATION STRATEGIES - ROSS

¹⁶ With only a limited number of surveys from the City of Ross, the totals for unincorporated Mountrail County were used for this table

Table E-4 MITIGATION STRATEGIES City of Ross					
# ¹⁷		HAZARDS	PRIORITY ¹⁸ / COST ¹⁹	CHAMPION	TARGET TIMEFRAME ²⁰
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Evaluate the feasibility of enrolling the city in the the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z Administrator	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z Administrator	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going

¹⁷ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations.

¹⁸ Priorities are derived from the CPRI calculations and community input.

¹⁹ Costs reflect the ranking criteria in Appendix 3, Table A3-3

²⁰ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table E-4 MITIGATION STRATEGIES City of Ross					
# ¹⁷		HAZARDS	PRIORITY ¹⁸ / COST ¹⁹	CHAMPION	TARGET TIMEFRAME ²⁰
	through the use of available alternatives like websites, social media, utility inserts etc.		Staff Time + Resources		
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term

Table E-4 MITIGATION STRATEGIES City of Ross					
# ¹⁷		HAZARDS	PRIORITY ¹⁸ / COST ¹⁹	CHAMPION	TARGET TIMEFRAME ²⁰
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
47	Identify improvements to water source/supply to ensure availability and operability of critical assets/infrastructure that depends on water for operation.	Multiple Hazards	Medium/TBD	Mayor City Auditor	On-going

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County’s progress in addressing the 2015 Mitigation Strategies. The table below presents the City of Ross’ progress in addressing its 2015 Mitigation Strategies.

Table E-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of Ross			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Carried over One new emergency warning siren was installed in the city and one in the nearby Van Hook recreational area	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
2.3	Identify improvements to water source/supply to ensure availability and operability of critical assets/infrastructure that depends on water for operation.	On-going Carried over	Strategy 47
3.1	Develop and implement public education and hazard awareness program.	Carried over with expanded focus and partners	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15



Stanley, ND

AMTRAK

ANNEX F
City of Stanley

Annex F

CITY OF STANLEY

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

F-1 COMMUNITY PROFILE

GEOGRAPHY

Stanley is located on US 2 in central Mountrail County, approximately 31 miles north of New Town and 55 miles west of Minot.



POPULATION

Table F-1 provides population counts and recent growth estimates for Stanley as compared to the County overall.

Table F-1 POPULATION AND GROWTH City of Stanley						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is to address a community’s vulnerable population and critical infrastructure. Table F-2 indicates the county’s vulnerable population is slightly lower than the state’s but that it varies among the cities. The vulnerable population percentage of the city’s total in Stanley is higher than all other Mountrail County cities except White Earth.

Table F-2 VULNERABLE POPULATION City of Stanley			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

F-2 FUTURE DEVELOPMENT

Based on the city’s existing development pattern, Map D of the Mountrail County Comprehensive Plan indicates reflects the expectation that most of the city’s future development will be located within a mile of the city’s limits,

The city’s zoning map was last updated in 2015. As the zoning map indicates, the City of Stanley has envisioned their future development expanding the city’s current footprint with a focus on the ND 8 corridor. (Figure F1)

Much of the future development is expected to be commercial (red) with industrial uses (pink) proposed away from the core of the city.

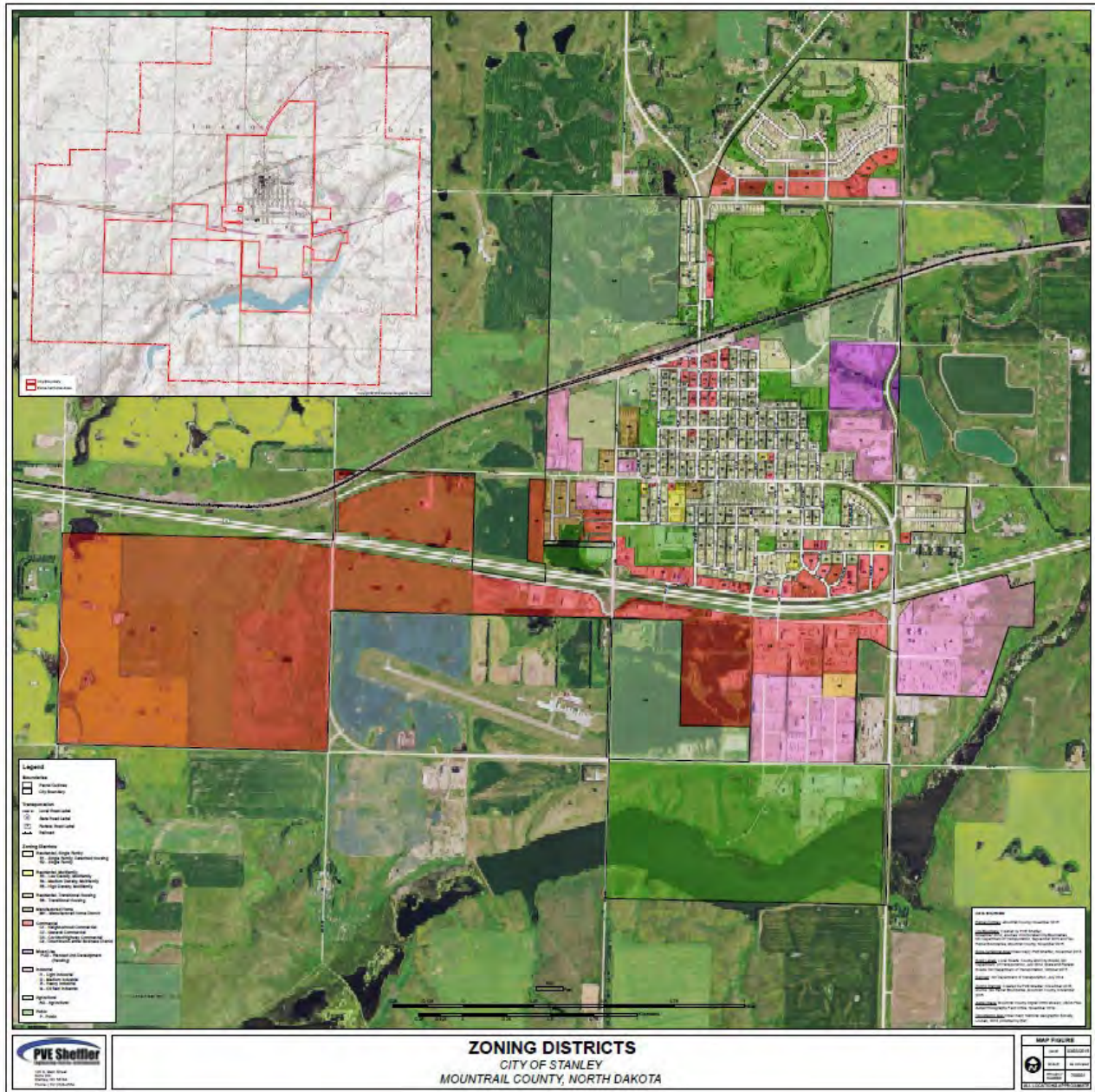


Figure F1 Zoning Map – City of Stanley

F-3 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County’s natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities’ experience. Specific flood-related information follows.

FLOODING

FEMA has developed Flood Insurance Rate Maps (FIRM) for two cities within Mountrail County, Parshall and White Earth. In other areas, including Stanley, FEMA’s Base Level Engineering (BLE) coverage shows flood prone areas. This information is useful to local

governments and can be used as a data source to supplement effective FIRMs when following established procedures. Figure F2a and Figure F2b reflect FEMA's BLE water surface elevation mapping for Stanley.

Vulnerability

According to the BLE mapping, a number of areas within the city are vulnerable to 100-year (10% Annual Chance) flooding. Except for one low-lying area meandering northeast to southwest through the city and the area around the Stanley Reservoir, these low-lying areas are focused at the city's edges and appear to be undeveloped. No critical facilities are located in these areas but the Stanley Community Schools complex appears to abut a large area designated as 10% annual chance of flooding.



Figure F2a Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

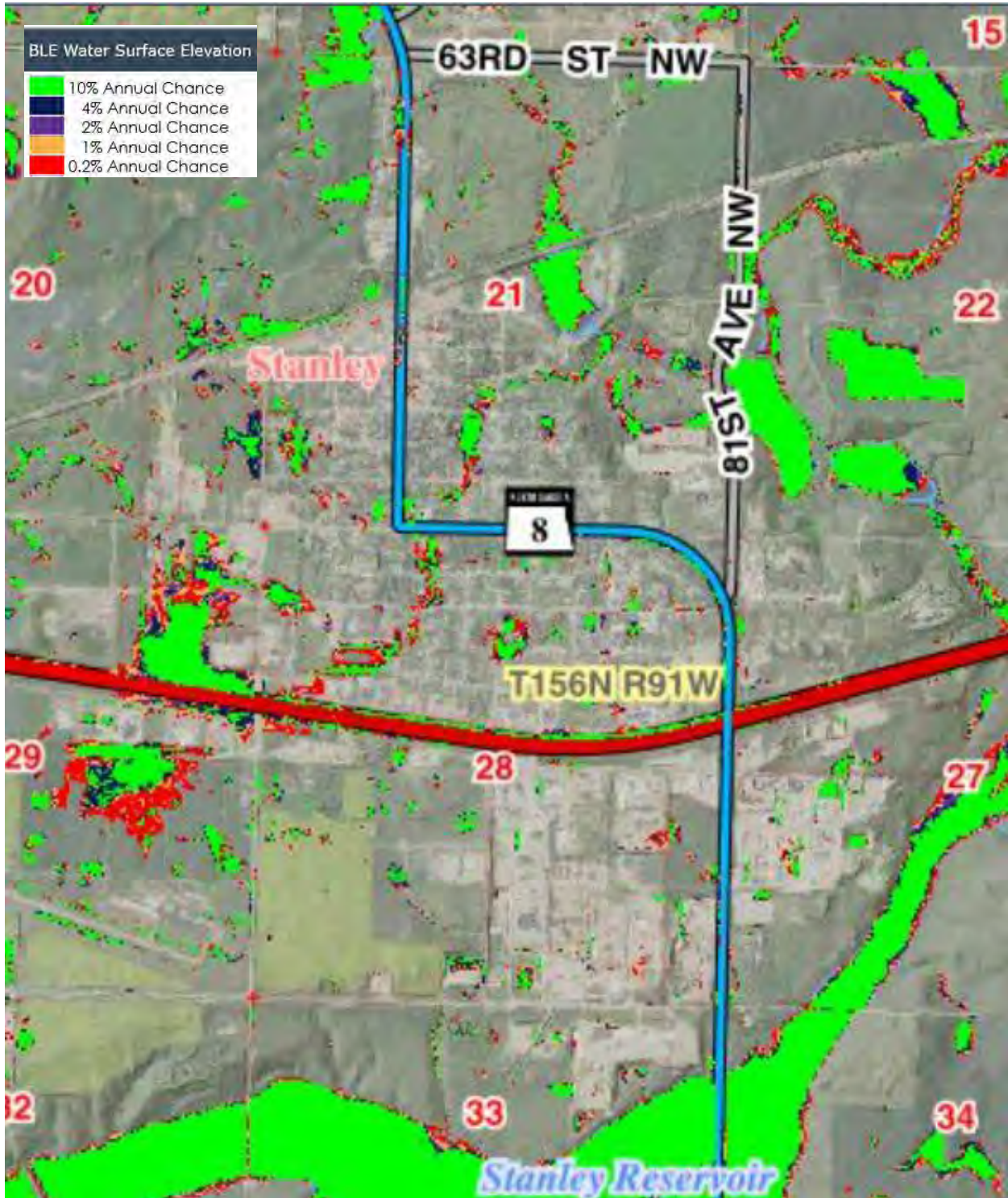


Figure F2b Flood Risk Assessment Map
<https://ndram.dwr.nd.gov>

F-4 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The locations of these facilities are shown in Figure F3 and Figure F4.

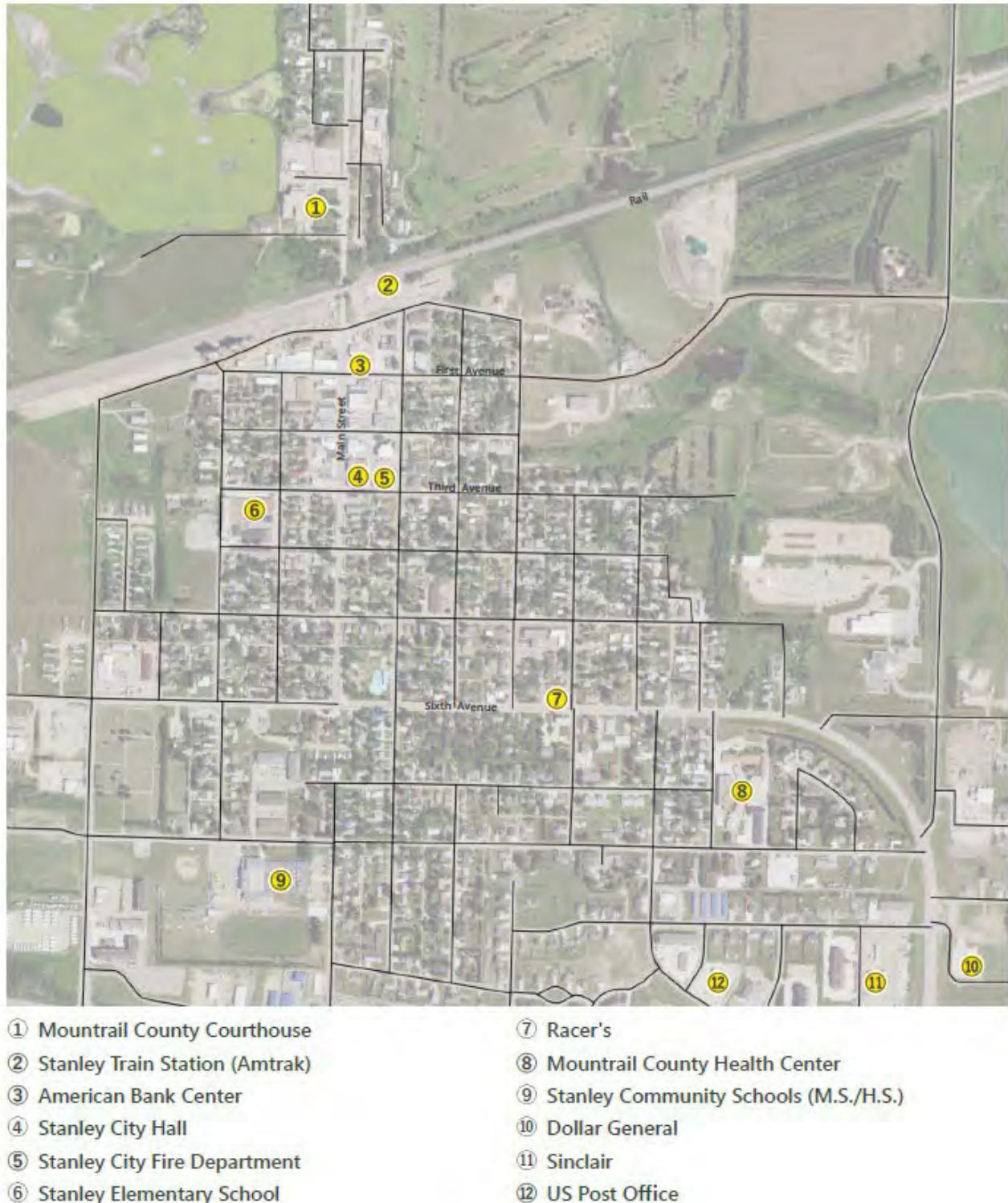


Figure F3 Stanley Key Facilities



- | | |
|--------------|---|
| ⑬ Fuel Force | ⑰ Enbridge Pipelines |
| ⑭ Cash Wise | ⑱ Schmidt's Industrial Park |
| ⑮ Holiday | ⑲ Stanley Municipal Airport |
| ⑯ Cenex | ⑳ BNSF (Stanley) Transload Facility (Oil/Grain) |

Figure F4 Stanley Key Facilities

F-5 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of Stanley were provided by city representatives through surveys and interviews. They are summarized below,

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is not a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is an active participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, Stanley depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- The Stanley Fire Department provides general fire suppression and rescue capabilities and offers public awareness and educational programs. The fire department has no capability for hazardous materials response.
- The Stanley Ambulance Service provides emergency response, patient care, and patient transport.

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

Stanley, which is the county seat, has an elected mayor and city council that provide administrative and fiscal oversight for the city.

EDUCATION AND OUTREACH CAPACITY

The city utilizes its website and Facebook page to inform residents on hazard events.

F-6 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table F-3 HAZARDS, RISKS AND VULNERABILITIES City of Stanley		
	Mountrail County	Stanley
Natural Hazards		
Drought	2.55	2.50
Flooding	2.01	2.12
Landslide	1.14	1.16
Severe Windstorm/Tornado	2.69	2.53
Earthquake	1.81	2.10
Severe Hailstorm	2.72	2.77
Extreme Heat	2.29	2.14
Severe Snowstorm	3.10	2.93
Severe Ice Storm	2.76	2.80
Wildland Fire	2.12	2.19
Other Hazards		
Fort Peck Dam Failure	1.87	2.03
White Earth Dam Failure	1.97	2.03
Public Health Incident	2.70	2.69
Oil Spill	3.04	3.04
Saltwater Spill	2.73	2.70
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	2.82
Hazardous Material Release - Missile Silo Facilities	1.76	2.44
Hazardous Material Release - Other Fixed Site	2.22	2.54
Shortage Of Critical Materials	1.93	2.26
Active Attacker	1.62	1.88
Cyber Attack	1.79	1.77
Severe Structural Fire	2.26	2.43
Major Transportation Incident	2.36	3.95



F-7 MITIGATION STRATEGIES – STANLEY

Table F-4 MITIGATION STRATEGIES City of Stanley					
# ²¹		HAZARDS	PRIORITY ²² / COST ²³	CHAMPION	TARGET TIMEFRAME ²⁴
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Evaluate the feasibility of enrolling the city in the National Flood Insurance Program	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z	Short Term
10	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate	Multiple Hazards	Medium/ Resources	Mayor City Auditor	On-going

²¹ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the test of some have been adjusted for individual locations..

²² Priorities are derived from the CPRI calculations and community input.

²³ Costs reflect the ranking criteria in Appendix 3, Table A3-3

²⁴ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table F-4 MITIGATION STRATEGIES City of Stanley					
# ²¹		HAZARDS	PRIORITY ²² / COST ²³	CHAMPION	TARGET TIMEFRAME ²⁴
	through the use of available alternatives like websites, social media, utility inserts etc.		Staff Time + Resources		
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term

Table F-4 MITIGATION STRATEGIES City of Stanley					
# ²¹		HAZARDS	PRIORITY ²² / COST ²³	CHAMPION	TARGET TIMEFRAME ²⁴
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazards	Medium/ TBD	Mayor City Auditor	On-going

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County’s progress in addressing the 2015 Mitigation Strategies. The table below presents the City of Stanley’s progress in addressing its 2015 Mitigation Strategies.

Table F-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of Stanley			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Carried over Three new emergency warning siren were installed in the city	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
1.3	Purchase equipment to allow for rebroadcast of NOAA weather alerts on local radio stations.	Carried over	Strategy 1
1.4	Increase siren capacity in rural areas of city.	Carried over Combined with 1.1	Strategy 20
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster	Carried over Inventory and other consideration needed.	Strategy 18
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Carried over County Engineering/Road and Bridge Department function	Combined with 1.1
3.1	Develop and implement public education and hazard awareness program.	Carried over with expanded focus	Strategy 16
3.2	Purchase NOAA weather radios for critical and public facilities throughout the city	Carried over and combined with 1.3	Strategy 1
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15

ANNEX G

City of White Earth

Annex G

CITY OF WHITE EARTH

PROFILE, KEY FACILITIES, HAZARD RISKS AND MITIGATION STRATEGIES

G-1 COMMUNITY PROFILE

GEOGRAPHY

White Earth located approximately 22 miles west of the City of Stanley is one of the oldest cities in the county. According to the United States Census Bureau, the city has a total area of 1.50 square miles of land.



POPULATION

Table G-1 provides population counts and recent growth estimates for White Earth as compared to the County overall.

Table G-1 POPULATION AND GROWTH City of White Earth						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
New Town	1,925	25.1%	2,592	25.4%	667	34.6%
Palermo	74	1.0%	98	1.0%	24	32.4%
Parshall	903	11.8%	1,288	12.6%	385	42.6%
Plaza	171	2.2%	207	2.0%	36	21.1%
Ross	97	1.3%	111	1.1%	14	14.4%
Stanley	1,458	19.0%	2,677	26.2%	1,219	83.6%
White Earth	80	1.0%	93	0.9%	13	16.3%
Total Incorporated	4,708	61.4%	7,066	69.2%	2,358	50.1%
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

VULNERABLE POPULATION

An important element of any hazard mitigation plan is to address a community’s vulnerable population and critical infrastructure. Table G-2 indicates the county’s vulnerable population is slightly lower than the state’s but that it varies among the cities.

Approximately 61.3% of White Earth population is considered vulnerable. This percentage is significantly higher than any other city in the county and the state.

Table G-2 VULNERABLE POPULATION City of White Earth			
	Population Under 18	Population Over 65	Total Vulnerable Population
NORTH DAKOTA	22.9%	14.4%	37.30%
New Town	29.3%	8.4%	37.70%
Palermo	26.0%	7.5%	33.50%
Parshall	27.8%	8.5%	36.30%
Plaza	25.0%	11.2%	36.20%
Ross	20.4%	0.9%	21.30%
Stanley	22.6%	15.8%	38.40%
White Earth	59.9%	1.4%	61.30%
MOUNTRAIL COUNTY	25.8%	11.1%	36.90%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

G-2 HAZARD IDENTIFICATION

Chapters 4 and 5 presented Mountrail County’s natural and technological/human-caused hazards. For most hazards, the information in those chapters effectively addresses the cities’ experience. Specific flood-related information follows.

FLOODING

FEMA has developed Flood Insurance Rate Maps (FIRM) for two cities within Mountrail County, Parshall and White Earth. Figure G1 reflects FEMA’s FIRM mapping for White Earth. In addition to the FIRM maps, FEMA has developed Base Level Engineering (BLE) coverage, which shows flood prone areas, can be useful to local governments. Figure G3a and Figure G3b depict FEMA’s BLE mapping for the city.

FLOOD INSURANCE RATE MAP

These are FEMA’s official maps of a community that delineate the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs) and the risk premium zones applicable to the community. Participation in the Flood Insurance Rate Map (FIRM) program is voluntary. In Mountrail County, both Parshall and White Earth participate.

Table G-3 COMMUNITIES PARTICIPATING IN THE NATIONAL FLOOD INSURANCE PROGRAM						
CID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Eff Map Date	Reg-Emer Date
380073	PARSHALL	MOUNTRAIL	11/29/74	03/18/86	03/18/86(M)	03/18/86
380074	WHITE EARTH	MOUNTRAIL	12/20/74	10/01/86	10/01/86(L)	10/01/86

Source: www.fema.gov/cis/ND.pdf

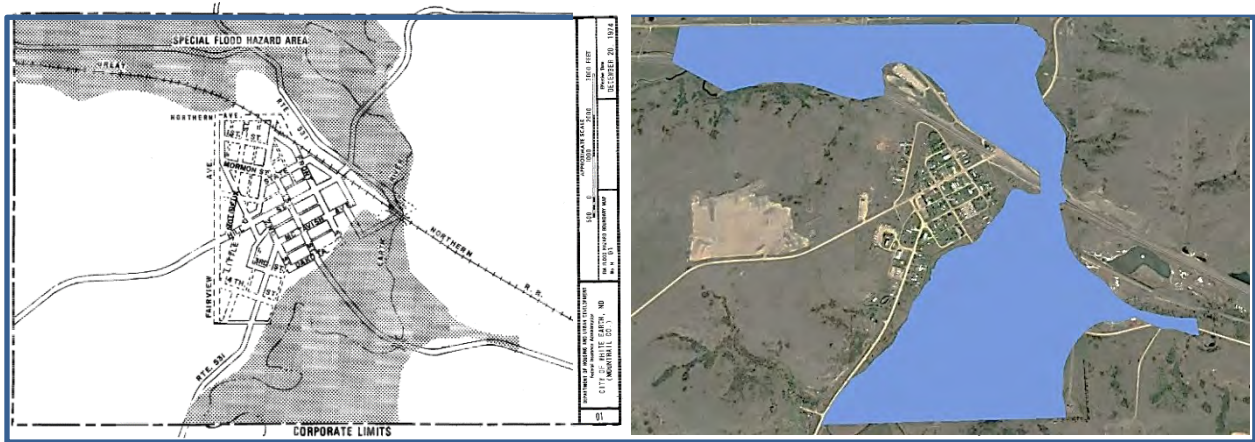


Figure G1 FEMA FIRM Special Flood Hazard Area – White Earth

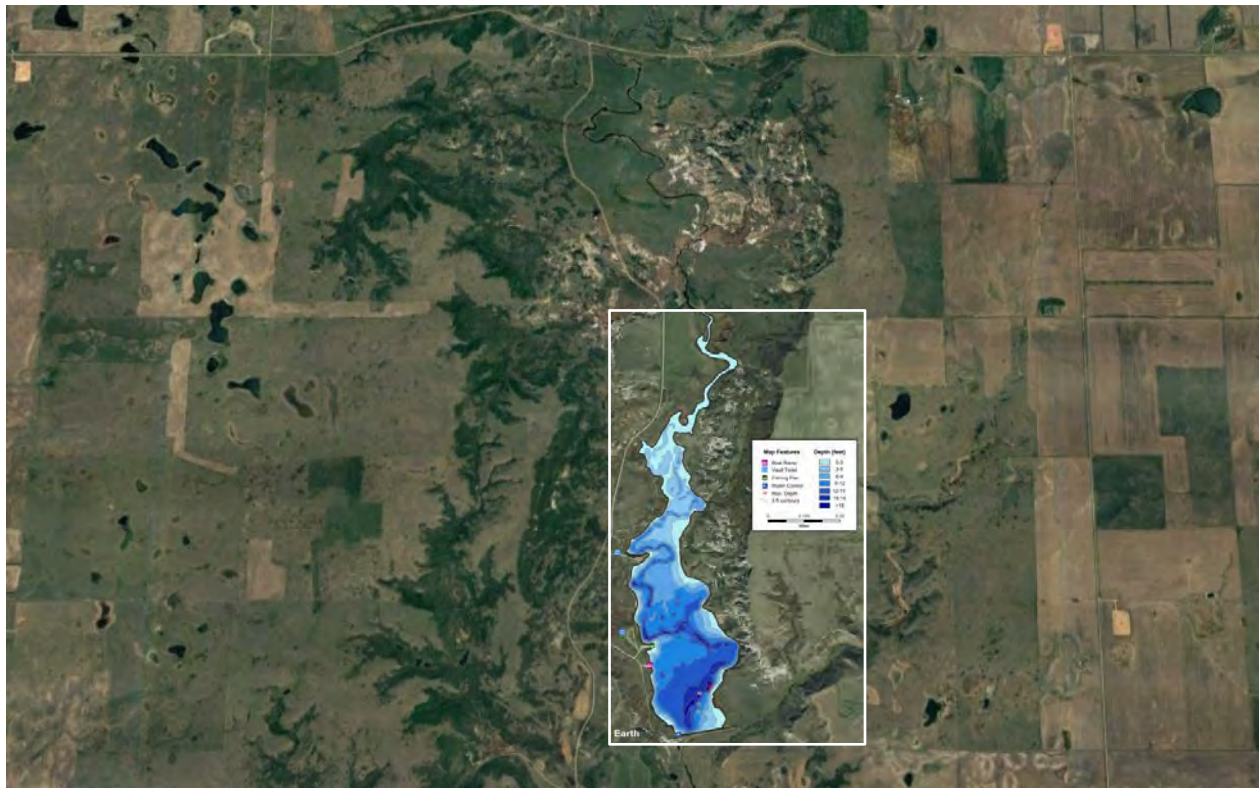


Figure G2 White Earth Dam Context Area with North Dakota Game and Fish Department Overlay

FEMA has also developed Base Level Engineering (BLE) coverage showing overall flood prone areas. This information is useful to local governments and can be used as a data source to supplement effective FIRMs when following established procedures. Figure G3a and Figure G3b depict FEMA's BLE mapping for the city.

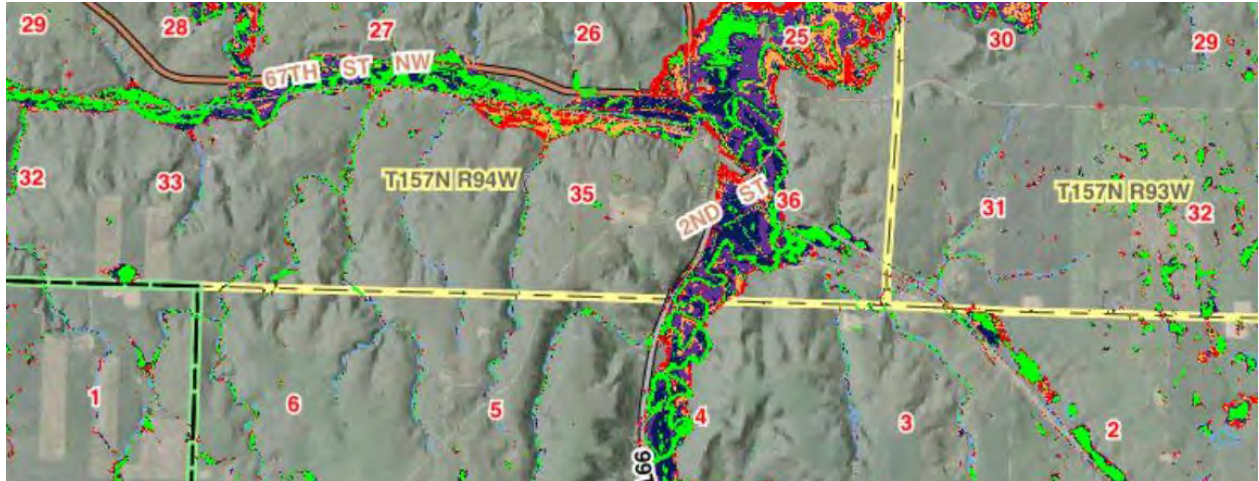


Figure G3a FEMA's Base Level Engineering Mao - White Earth

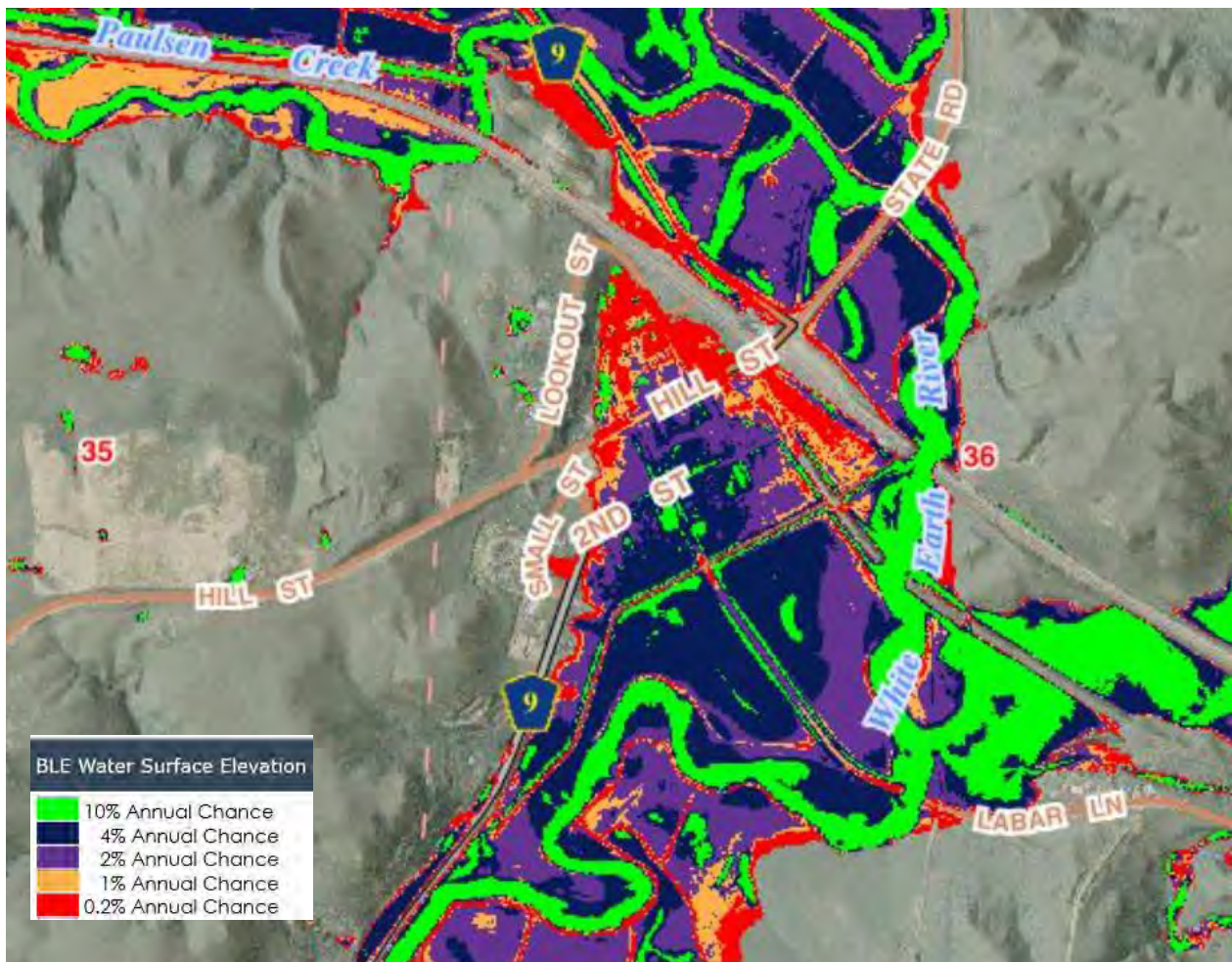


Figure G3b FEMA's Base Level Engineering - White Earth (enlarged)

Vulnerability

According to the BLE mapping, a number of areas within the city are vulnerable to 100-year flooding. These low-lying areas, which follow the White Earth River and Folsom Creek are more extensive than the FIRM. The city has not identified any critical facilities but there homes in this area.

G-3 KEY FACILITIES

Although some hazard plans limit their focus to key governmental facilities, this Hazard Plan addresses both public and other facilities needed during and after hazard event, The city has not identified any of these facilities.



Figure G4 White Earth Key Facilities

G-4 CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities to address hazard events. Further discussion on the tools and resources in place and available to the City of White Earth were provided by city representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the city's decision-making process.
- The city is a participant in the National Flood Insurance Program
- The city is participating in the development of the Mountrail County Hazard Mitigation Plan Update.
- The city is a participant in the Mountrail County LEPC.

INTERGOVERNMENTAL COORDINATION

- Like other municipalities within Mountrail County, White Earth depends on the framework established by the county and state government for technical assistance, and on the state and federal government for funding.
- The city participates in Mutual Aid Agreements to assist the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- Fire Department
- Ambulance Service

PLANNING SERVICES

The city issues construction/building permits and has a Planning and Zoning Board that meets monthly.

ADMINISTRATIVE AND FISCAL CAPACITY

The city has an elected mayor and city council that provide administrative and fiscal oversight for the city.

G-5 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table G-3 HAZARDS, RISKS AND VULNERABILITIES City of White Earth		
	Mountrail County	White Earth
Natural Hazards		
Drought	2.55	1.90
Flooding	2.01	1.90
Landslide	1.14	1.60
Severe Windstorm/Tornado	2.69	2.50
Earthquake	1.81	1.60
Severe Hailstorm	2.72	3.10
Extreme Heat	2.29	2.95
Severe Snowstorm	3.10	3.45
Severe Ice Storm	2.76	3.25
Wildland Fire	2.12	3.00
Other Hazards		
Fort Peck Dam Failure	1.87	0.55
White Earth Dam Failure	1.97	2.80
Public Health Incident	2.70	3.25
Oil Spill	3.04	2.95
Saltwater Spill	2.73	2.65
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	3.35
Hazardous Material Release - Missile Silo Facilities	1.76	3.35
Hazardous Material Release - Other Fixed Site	2.22	3.35
Shortage Of Critical Materials	1.93	3.25
Active Attacker	1.62	2.05
Cyber Attack	1.79	2.20
Severe Structural Fire	2.26	3.40
Major Transportation Incident	2.36	3.40



G-6 MITIGATION STRATEGIES – WHITE EARTH

Table G-4 MITIGATION STRATEGIES City of White Earth					
# ²⁵		HAZARDS	PRIORITY ²⁶ / COST ²⁷	CHAMPION	TARGET TIMEFRAME ²⁸
1	Encourage homeowners' use of weather radios.	All Weather Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
4	Identify repetitively flooded roadways that would benefit from culverts and seek funding for that work.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Short-Term
5	Encourage local participation in the National Flood Insurance Program and consider FEMA's Community Rating System	Flooding	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
7	Revise city zoning to add setbacks of appropriate distances for new housing from oil and gas facilities.	HazMat – Fixed Sites	Medium/ Staff Time + Resources	City P&Z	Short Term
8	Consider revising city zoning to require consideration of established hazardous materials routes (truck and rail) in approving new residential development and facilities where people gather.	HazMat – In Transit	Medium/ Staff Time + Resources	City P&Z	Short Term
9	Revise city zoning to encourage future development to locate at least ½ mile from military facilities and prohibit development within the 1,200-foot military easement.	HazMat - Minot AFB Facilities	Medium/ Staff Time + Resources	City P&Z	Short Term
10	Establish a procedure to require immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of an identified military facility.	HazMat - Minot AFB Facilities	High/ Staff Time + Resources	City P&Z	Short Term
11	Continue supporting hazardous materials training for responders	HazMat Incident (All types)	High/ Staff Time + Resources	Mayor City Auditor	On-going
14	Continue on-going assessments of city vulnerabilities to and experience with hazards and monitor mitigation strategy projects	Multiple Hazards	Low/ Staff Time + Resources	Mayor City Auditor	On-going
15	Collect, track, organize, and store data about city-specific vulnerabilities, and mitigation needs for use in the next plan update	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
16	Provide educational materials to the public during the year as appropriate	Multiple Hazards	Medium/ Resources	Mayor City Auditor	On-going

²⁵ Mitigation strategy # are consistent whether the table applies to the county or one of the cities. Not all mitigation strategies apply to every jurisdiction and the text of some have been adjusted for individual locations..

²⁶ Priorities are derived from the CPRI calculations and community input.

²⁷ Costs reflect the ranking criteria in Appendix 3, Table A3-3

²⁸ Target timeframes based on staff availability and funding Short Term = 2022-2023, Mid-Term= 2024-2025 and Long Term = 2025-2026

Table G-4 MITIGATION STRATEGIES City of White Earth					
# ²⁵		HAZARDS	PRIORITY ²⁶ / COST ²⁷	CHAMPION	TARGET TIMEFRAME ²⁸
	through the use of available alternatives like websites, social media, utility inserts etc.		Staff Time + Resources		
17	Continue to support the recruitment and training of volunteers for fire protection and ambulance services	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
18	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	Mid Term
20	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
22	Identify existing buildings with potential for retrofit use as tornado shelters. shelters for evacuation, or warming /cooling stations.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
23	Cooperate with Mountrail County in its evaluation, focused on campgrounds, of the need and location for shelters	Multiple Hazards	High/ High	Mayor City Auditor	Short Term
25	If and when shelters are available, make that information available to the public and cooperate regarding needed materials and equipment and staffing for the shelter	Multiple Hazards	Medium/ High	Mayor City Auditor	Long Term
26	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards	High/ Medium	Mayor City Auditor	On-going
28	Continue to support mutual aid agreements and on-scene incident command.	Multiple Hazards	High/ Staff Time	Mayor City Auditor	On-going
29	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services including snow removal services, as needed.	Multiple Hazards	Medium/ Staff Time + Resources	Mayor City Auditor	On-going
33	Encourage Sky Warn weather spotting training (in person and/or online) for county residents	Severe Storms	Low/ Staff Time + Resources	Mayor City Auditor	On-going
34	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm	High/ Staff Time	Mayor City Auditor	On-going
38	In wildland-urban interface areas, consider providing vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Structural + Wildland/ Rural Fire	Medium/ Staff Time + Resources	Mayor City Auditor	Long Term

Table G-4 MITIGATION STRATEGIES City of White Earth					
# ²⁵		HAZARDS	PRIORITY ²⁶ / COST ²⁷	CHAMPION(S))	TARGET TIMEFRAME ²⁸
39	Identify locations that would benefit from new railroad crossing arms.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	On-going
40	Initiate a collaboration with other jurisdictions located on a railroad line to address concerns about railroad speed and safety.	Transportation Incident	High/ Staff Time + Resources	Mayor City Auditor	Short Term
41	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions	Low/ Staff Time + Resources	Mayor City Auditor	On-going
44	Continue to use burn bans when appropriate	Structural + Wildland/ Rural Fire	High/ Staff Time + Resources	Mayor City Auditor	On-going
45	Continue to work with the county to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit	Low/ Staff Time + Resources	Mayor City Auditor	On-going
46	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	Multiple Hazard	Medium/ TBD	Mayor City Auditor	On-going
47	Remove abandoned buildings.	Structural + Wildland/ Rural Fire	Low/ Staff Time + Resources	Mayor City Auditor	On-going
48	Review the city's adopted Floodplain Ordinance.	Flooding	Low/ Staff Time + Resources	Mayor City Auditor	Mid-Term

2015 MITIGATION STRATEGIES – STATUS

Table 8.1-2 addresses Mountrail County's progress in addressing the 2015 Mitigation Strategies. The table below presents the City of White Earth's progress in addressing its 2015 Mitigation Strategies.

Table G-5 PROGRESS IN ADDRESSING THE 2015 MITIGATION STRATEGIES City of White Earth			
#	2015 Mitigation Strategy	Status/Progress	New Strategy #
1.1	Purchase and install additional warning sirens	Outstanding progress Carried over One new emergency warning siren was installed in the city and one in the nearby White Earth Bay recreational area.	Strategy 20
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events	Carried over Inventory and other consideration needed.	Strategy 18
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster		
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster	On-going Carried over	Strategy 46
3.1	Develop and implement public education and hazard awareness program.	Related to the county strategy to develop this information and share it with the cities. Carried over with expanded focus	Strategy 16
3.2	Develop and implement public education and awareness program for the National Flood Insurance Program.	Carried over, combined with 2015 Mitigation Action 3.2	Strategy 16
4.1	Construct, purchase, or retrofit safe room(s)	Carried over with expanded focus Need assessment and other study needed.	Strategy 22 Strategy 23 Strategy 25
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.	On-going Carried over	Strategy 15
4.3	Remove abandoned buildings.	Not significant progress. Carried over	Strategy 46



ANNEX H
Unincorporated
Mountrail County

Annex H

UNINCORPORATED MOUNTRAIL COUNTY HAZARD RISKS AND MITIGATION STRATEGIES

H-1 OVERVIEW

Background information presented in previous sections regarding Mountrail County is not duplicated in this annex.

Table H-1 POPULATION AND GROWTH Unincorporated Mountrail County						
Community	2010		2019		Total Change 2010- 2019	% Change 2010-2019
	Population	% of County	Estimate	% of County		
Total Unincorporated	2,965	38.6%	3,152	30.8%	187	6.3%
MOUNTRAIL COUNTY TOTAL	7,673		10,218		2,545	33.2%

Source: US Census Annual Estimates of the Resident Population for Incorporated Places in North Dakota: April 1, 2010 to July 1, 2019

H-2 CAPACITY ASSESSMENT

CAPACITY ASSESSMENT

To facilitate the inventory and analysis of local government capabilities for Mountrail County and its cities, a written questionnaire was provided to each jurisdiction, with a request that it be completed by a person or persons knowledgeable of the topics. An interview with a one or more representatives of each city followed.

Chapter 7 includes tables that address the capacity of the county and the cities. Further discussion on the tools and resources in place and available to Mountrail County were provided with county representatives through surveys and interviews. They are summarized below.

CURRENT/ON-GOING HAZARD MITIGATION EFFORTS

- Hazard mitigation plays a very limited role in the county's decision- making process.
- The county is a not participant in the National Flood Insurance Program.
- The county is leading the development of the Mountrail County Hazard Mitigation Plan Update.

INTERGOVERNMENTAL COORDINATION

- Like other county governments, Mountrail County depends on the framework established by the state government for technical assistance, and on federal government for funding.
- The county participates in Mutual Aid Agreements to assist the cities within the county and other local governments in the event an emergency occurs.

EMERGENCY SERVICES

- Fire department:
- Ambulance service

PLANNING SERVICES

The county has recently updated its Comprehensive Plan.

ADMINISTRATIVE AND FISCAL CAPACITY

The county has an elected county commission that provide administrative and fiscal oversight for the county.

EDUCATION AND OUTREACH CAPACITY

The Mountrail County website (www.co.mountrail.nd.us/pages/emergency-management) are available to inform residents on hazard events. The Mountrail County Disaster Emergency Services Facebook page are also available for this purpose.

H-3 FUTURE DEVELOPMENT

The Future Land Use Map indicates areas suitable for future development.

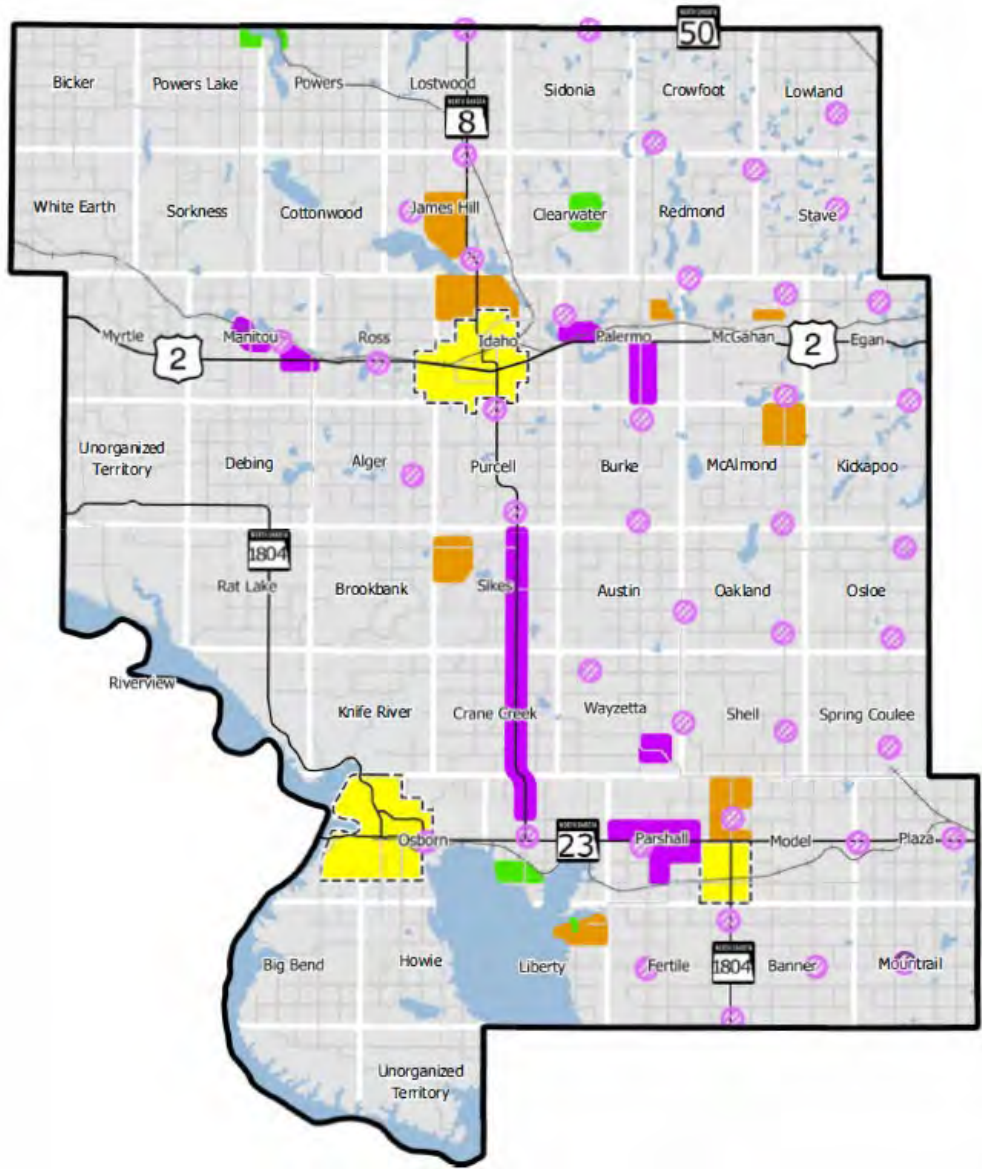


Figure H1 Mountrail County Future Land Use Map

H-3 PRELIMINARY HAZARD IDENTIFICATION

Chapter 3 presents a preliminary list of hazards to address in this Hazard Plan. was established by reviewing the list of hazards included in the North Dakota Enhanced Mitigation Plan, the previous Mountrail County Hazard Plan, the plans of adjacent counties, the hazard incidents included in the Presidential Declarations and the county’s weather events in the past five years. Countywide mitigation strategies and strategies were screened for each city respond to the hazards for with the highest risk scores.

H-4 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level.

Table H-2 HAZARDS, RISKS AND VULNERABILITIES Unincorporated Mountrail County		
Natural Hazards	Mountrail County	Unincorporated Mountrail County
Drought	2.55	2.93
Flooding	2.01	1.53
Landslide	1.14	1.00
Severe Windstorm/Tornado	2.69	2.35
Earthquake	1.81	2.09
Severe Hailstorm	2.72	2.24
Extreme Heat	2.29	2.28
Severe Snowstorm	3.10	2.99
Severe Ice Storm	2.76	2.02
Wildland Fire	2.12	2.32
Other Hazards		
Fort Peck Dam Failure	1.87	1.68
White Earth Dam Failure	1.97	1.73
Public Health Incident	2.70	2.46
Oil Spill	3.04	2.91
Saltwater Spill	2.73	2.62
Hazardous Material Release - In Transit (Truck Or Rail)	2.79	2.62
Hazardous Material Release - Missile Silo Facilities	1.76	2.37
Hazardous Material Release - Other Fixed Site	2.22	2.51
Shortage Of Critical Materials	1.93	1.95
Active Attacker	1.62	2.07
Cyber Attack	1.79	2.16
Severe Structural Fire	2.26	2.41
Major Transportation Incident	2.36	2.36



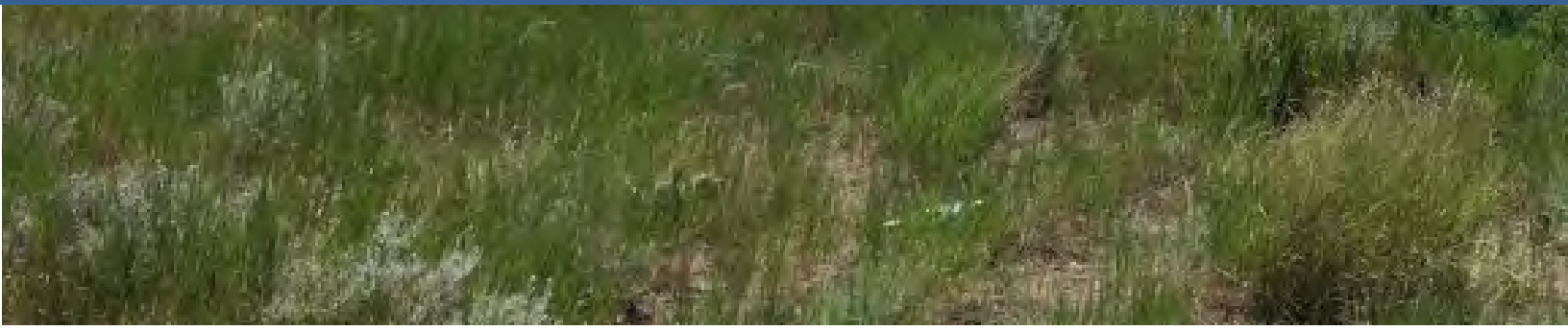
H-5 MITIGATION STRATEGIES – UNINCORPORATED COUNTY

The Mitigation Strategies for unincorporated Mountrail County are presented in Chapter 8, Table 8.3-1.



APPENDICES

- APPENDIX 1 Planning Process
- APPENDIX 2 Developing the Mitigation Strategies
- APPENDIX 3 Community Survey
- APPENDIX 4 Reportable Infectious Condition
- APPENDIX 5 Facilities with Increased Vulnerability to Tornadoes
- APPENDIX 6 Monitoring Forms
- APPENDIX 7 Final Approval Package



APPENDIX 1

Planning Process

Planning Process

PLANNING PROCESS OVERVIEW

RESOURCE ORGANIZATION

COMMUNITY OUTREACH

Details of the process to involve interested community members is described below.

June 18/19 + September 16, 2021 REVIEW AND COMMENT REQUESTS

In-person collaboration would have been preferred but with COVID-19 restrictions requests were sent by email to leaders and staff of the county and cities as well as the emergency managers of adjacent counties.

- The County Auditor, City Auditors and the leaders of response agencies were primary contacts and sources of local data from each local jurisdiction. They reviewed maps and draft documents, discussed issues, attended meetings, and provided important local insight.

During the first review and comment round, the cities were asked:

- Chapter 7 includes a number of Tables. Can you check whatever boxes apply?
- Annex (A-G) includes a map of Key Facilities. Any input on facilities that would need to operate even in an emergency?
- Page (which ever page applies to the jurisdiction) includes a general discussion of the city's capabilities. Of particular interest is which fire and ambulance services serve the city.
- There is a long list of Mitigation Strategies that the city may want to consider. They are just suggestion. It would be great if the city could pick 5-10 an/or add suggestions of their own.

During the second round, they were asked to review and comment on the draft Hazard Plan.

- During the first round, emergency managers for adjacent counties, the emergency manager for the Fort Berthold Reservation, and an emergency manager who had recently moved on to another position, were asked to review the "laundry list" of potential mitigation strategies" and the second round, the same list of professionals were asked to review and comment on the draft Hazard Plan.



CONSULTATION

Consultation with local and regional specialists was included in plan preparation. For some the exchanges were by email; for others it was a conference call. Topics addressed included:

- Drought forecasts for the counties of North Dakota
- Services available from the Red Cross and Salvation Army after a serious hazard event and staffing needs for shelters.
- Evaluation of structures for use as a tornado shelter
- Liability for a tornado shelter
- Local need for volunteers for fire departments and EMS
- Wildland fires, programs addressing the wildland/urban interface
- North Dakota landslides
- COVID-19 experience in the area
- 2020 U.S. Census and its data release timetable,
- Hazardous materials and their transportation routes and loading protocols
- North Dakota consumptive water use and priorities
- Air Force installations

Emergency managers of adjacent counties, MHA and an emergency manager who had worked in an adjacent county and recently transitioned to another position, were provided with draft sections in May 2021 and the draft document in August 2021 with a request for review and comments.

RISK ASSESSMENT

Identifying hazard characteristics and potential consequences, including effects on key facilities. Chapter 4 describes the characteristics, past occurrences, potential impact and probability and the effects on key facilities of natural hazards and Chapter 5 presents the same content for technology/human-caused hazards. Chapter 6 addresses risk assessment.

DEVELOPMENT OF MITIGATION STRATEGIES

Determining priorities and ways to minimize effects of identified hazards.

Appendix 3 describes development of the Mitigation Strategies.

PLAN IMPLEMENTATION AND PROGRESS MONITORING

Implementing this Hazard Plan brings it to life and periodic monitoring ensures that the Hazard Plan remains relevant as conditions change.

The county was very successful in implementing the 2015 Hazard Plan. Continued success is expected. Progress on implementing the Mitigation Strategies will be monitored by the LEPC. Chapter 9 describes this process.

COMMUNITY OUTREACH

Holding public meetings is challenging in a county as big and spread out as Mountrail County is and the challenge grew during the height of the COVID-19 pandemic. Outreach was undertaken in two phases, before and after the COVID-19 meeting

limitations. The community survey was available through the county website from the first stages of the development of the draft document until the review draft was posted.

OUTREACH - PHASE ONE

This phase included a LEPC meeting and in-person presentation in Stanley, Parshall and White Earth. The community survey was initiated in this phase and a link posted on the county website. Periodic emails were sent to stakeholders, adjacent counties, and regional agencies addressing project initiation and invitations to take the survey.

LEPC MEETING

A presentation of 71 slides provided an in-depth view of the planning process, both the natural and technology/human-caused hazards, and the importance of hazard mitigation planning. The agenda is shown on Slide 2. In an interactive exercise, LEPC members scored the hazards for probability and impact.

WEEK OF March 10, 2020

EVENING MEETINGS IN THE CITIES OF STANLEY, PARSHALL AND WHITE EARTH

All meetings were advertised in the local newspapers, at the city halls and through an email blast as Carron Day of Stantec, consultant to Mountrail County, presenting the topic "Mountrail County Hazard Mitigation Plan Update." Discussion at each city addressed the renewal of the Mountrail County Multi-Jurisdiction Hazard Mitigation Plan and the importance of community input. Attendees were encouraged to complete the on-line survey.

- In Stanley, Council Members present: Jacob Hellman, Zachary Gaaskjolen, Ty Taylor, Gary Weisenberger, Linda Wienbar, Tim Holte and David Minton. Others in attendance were City Auditor, Allyn Sveen; Planning & Zoning Administrator, Amanda Dennis; Chief of Police, Kris Halvorson; Public Works Director, Curtis Larson and City Attorney, Jordon Evert from the Furuseth Olson & Evert P.C. Law Firm. No public was present.
- In Parshall, all Council Members were present plus the City Auditor and a representative from the local newspaper. No public was present.
- In White Earth, the Mayor, all Council Members, and the City Auditor were present. The City Attorney and about eight members of the public were also in attendance.

OUTREACH - PHASE TWO

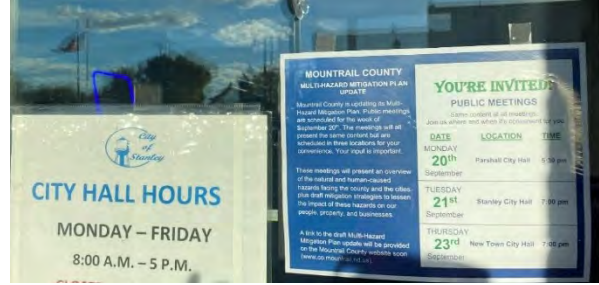
September 7, 2021

DRAFT PLAN AVAILABLE FOR PUBLIC REVIEW AND COMMENT

Following a lengthy period available for review by the county and cities and others, the revised draft plan was posted on the Mountrail County website. The link will be available through the adoption process. Emails informed those on the outreach list that the draft was available for review.



Phase Two outreach included conversations with many of the cities and in-person meetings with others. Email blasts were sent periodically to the list at the end of this section to announce project and website updates, provide links to draft documents and upcoming meeting dates.



Public hearings were held in late September 2021 in the cities of New Town, Parshall and Stanley. Community outreach will continue through plan adoption. Meeting announcements were delivered in person to city halls within the county plus grocery stores and gas stations. This information was clearly posted on the day of the public meetings as shown below. The three cities holding the meetings also included the meeting date and time on the city calendars. The City of New Town public meeting was also announced on the large outdoor messaging signage shown below. In addition, an article, calendar listing and public notice of the three meetings was provided through the local newspaper, the Mountrail County Promoter.





WEEK OF September 20, 2021

EVENING MEETINGS IN THE CITIES OF PARSHALL, STANLEY AND NEW TOWN

While individual PowerPoint presentations were developed for the presentations at Parshall, Stanley, and New Town, the presentations were very similar. Meeting turnout in all locations was disappointing: in all locations:

- In Parshall, the City Auditor set up the meeting, signs were on city hall and the adjacent library on the night of the meeting, but nobody appeared. There was an opportunity to gain input from the City Auditor on flooding, snow removal and other issues.
- The New Town meeting was very well advertised, but attendees included the City Auditor, Fire Chief and one Council Member. They wanted to see the presentation, had questions, and filled out a paper survey.
- Attendees at the Stanley meeting included the Mayor, Deputy Auditor, County Sheriff, The County DCA and a local newspaper reporter. They wanted to see the presentation and had questions. The mayor brought up the issue of the speed of trains through cities, including Stanley. After the meeting, the team adjusted the Hazard Plan and added a mitigation strategy to address the issue.

October 7, 2021

MORNING MEETINGS WITH THE MOUNTRAIL COUNTY COMMISSION

A public meeting was held before the Mountrail County Commission on October 7, 2021 to consider the draft Hazard Plan. Commissioners were provided with an overview, a draft copy of the Hazard Plan and separately a copy of the Mitigation Strategies.

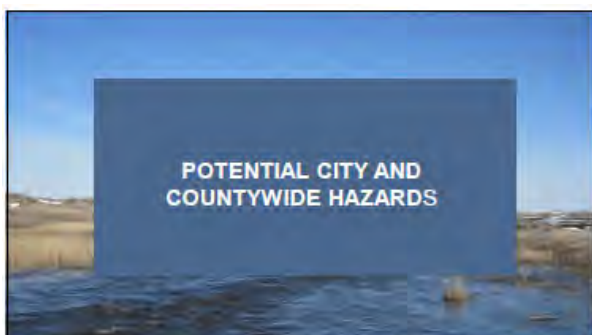
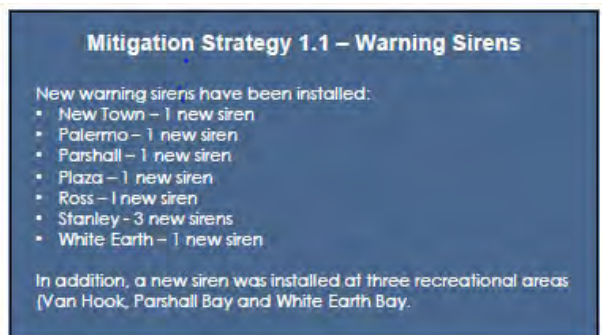
Again, this was an advertised meeting with the topic clearly stated. Attending that meeting were all of the Commission Members, the County Attorney County Auditor, and the County Sheriff. No members of the public were present. The Commission unanimously approve sending the Hazard Plan to NDDES for review.





Mitigation Strategies – Progress (page 212)

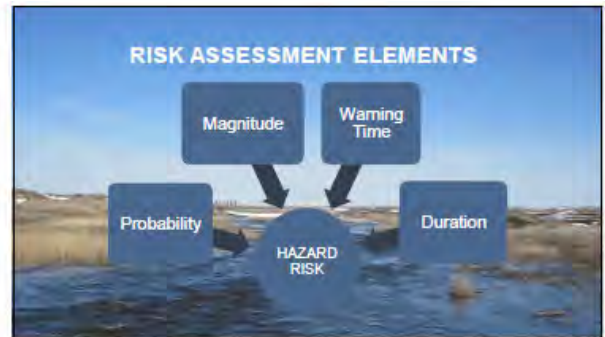
1.1 Purchase and install additional warning sirens	Exceptional
1.2 Purchase and install additional emergency power / generators at community facilities + at critical facilities and infrastructure ...	Updated in 2021 plan
2.2 Harden and/or protect critical facilities and infrastructure ... (including bridges and culverts)	No longer needed
3.1 Develop and implement public education and hazard awareness	Updated in 2021 plan
4.1 Construct, purchase, or retrofit safe room(s)	Updated in 2021 plan
4.2 Collect, tract, organize and store data ...	On-going



TECHNOLOGICAL/ HUMAN-CAUSED HAZARDS

Public Health Incident Haz Mat Incident Dam Failure Utility Interruption

Terrorism + Violence Major Transport Incident Major Urban Fire



MEETING SURVEY

DROUGHT

Probability: unlikely, possible, likely, highly likely

Magnitude / Severity: negligible, limited, catastrophic

ON-LINE SURVEY

Question
In your opinion, how likely is it that these hazard events will impact the part of the county where you live in the next five years?

FLOOD

Probability: unlikely, possible, likely, highly likely

Magnitude / Severity: negligible, limited, catastrophic

Question
In your opinion, if any of these hazard events happen, how much impact would they have on the people and businesses in the part of the county where you live?

County + City Priorities

Rank	Mountrail County	New Town	Palermo	Parshall	Plaza	Ross	Stanley
#1	Severe Snowstorm	Oil Spill	Severe Snowstorm	Severe Snowstorm	Severe Snowstorm	Severe Snowstorm	Major Transport Incident
#2	Oil Spill	Disease Outbreak	Drought	Severe Ice Storm	Severe Hailstorm	Drought	Oil Spill
#3	HazMat Incident - In Transit	HazMat Incident - In Transit	Oil Spill	Severe Structural Fire	Severe Ice Storm	Oil Spill	Severe Snowstorm
#4	Severe Ice Storm	Severe Snowstorm	HazMat Incident - In Transit	Oil Spill	HazMat Incident - Fixed Site	HazMat Incident - In Transit	Severe Ice Storm
#5	Severe Hailstorm	HazMat Incident - Fixed Site	Saltwater Spill	Major Transport/Off-Highway Incident	HazMat Incident - In Transit	Saltwater Spill	Saltwater Spill
#6	Disease Outbreak	Severe Windstorm/Tornado	HazMat Release - Fixed Site	HazMat Incident - In Transit	Oil Spill	HazMat Incident - Fixed Site	Disease Outbreak

Priorities – Unincorporated Mountrail

- 1 Severe Snowstorm
- 2 Oil Spill
- 3 Haz Mat Incident – In Transit (truck or rail)
- 4 Severe Ice Storm
- 5 Severe Hailstorm
- 6 Disease Outbreak

SEPTEMBER PUBLIC MEETINGS

MOUNTRAIL COUNTY MULTI-HAZARD MITIGATION PLAN UPDATE

Mountrail County is updating its Multi-Hazard Mitigation Plan. Public meetings are scheduled for the week of September 20th. The meetings will all present the same content but are scheduled in three locations for your convenience. Your input is important.

These meetings will present an overview of the natural and human-caused hazards facing the county and the county's draft mitigation strategies to lessen the impact of these hazards on our people, property, and businesses.

A link to the draft Multi-Hazard Mitigation Plan update is provided on the Mountrail County website (www.co.mountrail.nd.us).

DATE	LOCATION	TIME
MONDAY 20 th September	Parshall City Hall	9:30 pm
TUESDAY 21 st September	Stanley City Hall	7:00 pm
THURSDAY 23 rd September	New Town City Hall	7:00 pm

YOU'RE INVITED!

PUBLIC MEETINGS

Same content at all meetings. Join us where and when it's convenient for you!

SEPTEMBER PUBLIC MEETINGS

- FINALIZED DRAFT AFTER RECENT COMMUNITY AND STAKEHOLDER INPUT
- ADJUSTED THE DRAFT STRATEGIES
- ADDED A STRATEGY + RELATED TEXT/IMAGES – RAIL SPEED LIMITS

TRANSMITTAL HEARING TODAY

- REQUEST THAT YOU AGREE TO TRANSMIT THE DRAFT DOCUMENT TO NDDRS FOR REVIEW – approximately 45 days
- ADOPTION HEARINGS

NEXT STEPS

- RECEIVE NDDRS REVIEW/COMMENTS
- REVIEW ANY REQUESTED ADJUSTMENTS
- FINALIZE THE HAZARD PLAN
- ADOPTION RESOLUTIONS (all participating cities + Mountrail County)
- RETURN ADOPTED PLAN TO NDDRS

Thank You

MULTI-HAZARD MITIGATION PLAN UPDATE
Board of Mountrail County Commissioners
Transmittal Meeting – October 7, 2021

PARTICIPATING JURISDICTIONS

Participants from participating jurisdictions include those listed below. Many attended meetings. In addition, some provided information, documents, statistics, maps, etc. and/or reviewed and commented on draft material.

Mountrail County

Corey Bristol	County Sheriff
Warren Bogert	Emergency Manager
Stephanie Pappa	County Auditor
Wayne Olson	County Commissioner
ason Rice	County Commissioner
Trudy Ruland	County Commissioner
oan Hollekim	County Commissioner
Daniel Uran	County Commissioner
Rory Porth	Property Assessor GIS
Melissa Vachal	County Recorder
	Planning and oning

elly Wossner	City Auditor
amie Clemensen	Parshall Fire Ambulance

City of Plaza

Terry Reese	Mayor
Pemina Yellowbird	City Auditor
Farron Wold	Plaza Ambulance
Wayne Olson	County Commissioner

City of Ross

Wyatt M Seibel	Mayor
Diane Seibel	City Auditor

City of New Town

Daniel Uran	Mayor
Thomas Nash	City Council
ohn DeGroot	New Town Fire Chief
esse Baker	New Town Firefighter
Amanda Bibb	New Town Ambulance
ackie Halonen	Chief of Police
Eileen aun	City Auditor
Laurie Giffey	Ass t Auditor

City of Stanley

Gary Weisenberger	Mayor
Linda Wienbar	City Council
David Minton	City Council
acob Hellman	City Council
achary Gaask olen	City Council
Ty Taylor	City Council
Chad Hys ulien	City Council
Alltn Sveen	City Auditor
ason Barstad	Stanley Firefighter
Aaron Skarsgard	Stanley Firefighter
en Rensch	Stanley Ambulance
ris Halvorson	Chief of Police
Ada Ameson	Deputy City Auditor

City of Palermo

athryne Meckle	City Auditor
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City of Parshall

yle Christianson	Mayor
urt Clemensen	Parshall Fire Chief
Taylor Cascaden	Parshall Firefighter

City of White Earth

Greg Gunderson	Mayor
Rocky Dubose	Alderman
erald Ogden	Alderman
Gary Fladeland	Alderman
ustin LeBar	Alderman
Shannon Swain	City Auditor

Subject: Public Meetings - Mountrail County Hazard Mitigation Plan update

Join us to learn about the Hazard Mitigation Plan update. It addresses hazards and mitigation strategies for the county and the cities. Meeting content is the same at each meeting – come to the one that is convenient for you. Looking forward to seeing you. Feel free to share this invitation.

MOUNTRAIL COUNTY

MULTI-HAZARD MITIGATION PLAN UPDATE

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These meetings will present an overview of the natural and human-caused hazards facing the county and the cities plus draft mitigation strategies to lessen the impact of these hazards on our people, property, and businesses.

A link to the draft Multi-Hazard Mitigation Plan update will be provided on the Mountrail County website soon (www.co.mountrail.nd.us).

YOU'RE INVITED!

PUBLIC MEETINGS

Same content at all meetings. Join us where and when it's convenient for you.

DATE	LOCATION	TIME
MONDAY 20th September	Parshall City Hall	5:30 pm
TUESDAY 21st September	Stanley City Hall	7:00 pm
THURSDAY 23rd September	New Town City Hall	7:00 pm

ADDITIONAL OUTREACH

In addition to the public meetings and related advertising, community outreach included visibility on the Mountrail County website and periodic email blasts to stakeholders, interested parties, and regional agencies addressing: project initiation, invitations to take the community survey, invitations to review survey results, invitation to participate in upcoming meetings and notice of the availability of the draft plan.

October 2022

MOUNTRAIL MULTI-HAZARD MITIGATION PLAN UPDATE - OUTREACH LIST

LAST	FIRST	Organization/Title	LAST	FIRST	Organization/Title
Andreas	Levi	Sr Safety Specialist, EOG Resources	Marquart	Pete	Aux Sable
Bachmeier	Bob	Pipeline Regulatory Coord.	McDonnell	Robert	Targa Badlands
Baker	Jesse	New Town Fire Department	McGinnity	Daniel	Chief, Emergency Med Services, Tioga
Barstad	Jason	Stanley Fire Department	McGinnity	Jim	Rural Fire Chief, City of Tioga
Beach	Tina	CHS, Public Awareness Specialist	Meckle	Kathryne	Palermo City Auditor
Bibb	Amanda	New Town Ambulance Squad Leader	Mickelsen	Ryan	Tioga Ambulance
Blahut	Rich	Berthold Fire Department	Musick	Ken	SOUTHWESTERN DISTRICT HEALTH
Brewer	Michael	Targa Resources	Nash	Thomas	City Of New Town and MHA
Brierly	Rich	Whiting Oil & Gas Corp	Olson	Wayne	Mountrail County Commissioner
Bristol	Corey	Mountrail County Sheriff	Onstott	Rodney	Minot AFB-Emergency Management
Brown	Tim	Safety Director, Missouri Basin Well Service Inc	Osadchuck	Anya	HESS
Btarvestad	Emily	Kenmare Ambulance	Pappa	Stephanie	Mountrail County Auditor
Cascaden	Taylor	Parshall Fire	Pederson	Randall	Administrator, Tioga Medical Center
Christianson-Btarvestad	Emily	Kenmare Ambulance	Reese	Terry	City of Plaza Mayor
Clark	Dan	UMDHU	Rensch	Ken	Stanley Ambulance
Clark	Daphne	UPPER MISSOURI DISTRICT HEALTH	Rice	Jason	Mountrail County Commissioner
Clemensen	Jamie	Parshall Fire & Ambulance	Ruland	Trudy	Mountrail County Commissioner
Clemensen	Kurt	Parshall Fire Protection District	Salinas	Abby	TIOGA CITY AUDITOR
eGroot	John	New Town Fire Department	Schooling	Amanda	ER Response Coord, Enbridge Pipeline (ND) LLC
Diffely	Chad	Plaza Fire Dept.	Seibel	Wyatt M	Ross City Mayor
Douts	Mark	Chief, Powers Lake Volunteer Rural Fire Protection District	Shannon	Swain	WHITE EARTH CITY AUDITOR
Duerre	Mitch	Kenmare Fire Department	Sitting Bear	Emily	MHA Emergency Operations Center

Enget	Kari	Squad Leader, Powers Lake Ambulance	Skarsgard	Aaron	Stanley Fire Department
Fawcett	Bill	Marathon Petroleum Co	Snow	Darren	Tesoro Logistics GP, LLC
Fegley	Clayton	Berthold Ambulance	Stots	Rob	Ex Dir Red Cross - Minot
Fevold	Bryan	Lawson Oil	Sveen	Allyn	Stanley City Auditor
Fladland	Becky	UMDHU - Stanley	Swain	Shannon	Auditor, City of White Earth
Fleeman	Ryan	HES Professional Marathon Oil	Terry	Mason	New Town Ambulance Squad
Fox	Pat	Targa Badlands	Uran	Daniel	New Town Mayor and Mountrail County Commissioner
Germundson	Nathan	President, Tioga City Commission	Walter	Ira	Aux Sable
Halonon	Jackie	Chief of Police	Wanner	Joe	SWDHU
Halvorson	Kris	Chief of Police, City of Stanley	Wanner	Amber	UMHDU
Hanson	Allan	DES Regional Coordinator	Watkins	Devann	CHS, Public Awareness Specialist
Hollekim	Joan	Mountrail County Commissioner	Weber	Kristine	Trinity Health Emergency Preparedness Coord.
Hysjulian	Chad	Stanley Fire Department	Weisenberger	Gary	Stanley City Mayor
Ivorson	Kevin	ND Commerce	Welker	Lynn	Lawson Oil
Johnson	Chad	Three Affiliated Tribes	Whitman	Cliff	MHA Homeland Security
Keen	Jason	Donnybrook Fire Department	Wold	Farron	Plaza Ambulance
Lyson	Daryl	City of New Town	Wossner	Kelly	Parshall City Auditor
Marek	Gordon	MBI	Wright	Robert	Targa Badlands
Marmon	Duane	Mountrail County Chief Deputy	Yellowbird	Pemina	Plaza City Auditor
			Zaun	Eileen	Auditor, City of New Town

Additions to the Mailing List from Survey Responses	Jackie McCracken	Jim Aho	Karen Colbenson
	Keith Rice	Mary Rice	Deana Hansler

Additions to the Mailing List for the September Meetings	Gary Petersen	Cornerstone Bank
	Jerome Pilch	Cornerstone Bank
	Jeff Reiter	Cornerstone Bank

APPENDIX 2
Developing
the Mitigation
Strategies

Developing the Mitigation Strategies

OVERVIEW

The process of developing the draft mitigation strategies included several stages and adjustments. The process began at the project kick-off and continued through completion of the draft.

DOCUMENT AND RESOURCE REVIEW

This task involved a review of the existing Hazard Plan, the North Dakota Enhanced Mitigation Plan, interviews with community leaders, a review of the recently adopted Mountrail County Comprehensive Plan, many other documents and resource material. A list of these materials is presented at the end of this Appendix.

2015 MITIGATION STRATEGIES – PROGRESS

An important element of the draft development was an assessment of the progress made by the county and the cities regarding the strategies adopted in 2015. Chapter 8 details the progress made since the 2015 Hazard Plan was adopted with a focus on installation of new warning sirens. See Table 8.1-2 and Figure 8.1-1 through Figure 8.1-8. That progress is enhanced by the county's commitment to operate all warning sirens within the county through the county's 911 operation. Other mitigation strategies have been carried forward, some with adjustments to reflect current conditions.

Table A2-1 2015 MITIGATION STRATEGIES – COUNTYWIDE AND CITIES	
GOAL 1	
Goal 1: Protect Public health and safety before, during, and after hazard events.	
Strategy	1.1
Strategy description	Purchase and install additional warning sirens
Hazard(s) addressed	Communicable disease; drought; extreme cold; extreme wind event; severe summer storm; severe winter storm; wildland fire; hazardous materials incident; flooding
New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$10,000+
Priority	Moderate
Strategy	1.2
Strategy description	Purchase and install emergency power generators at community facilities, to protect the public during hazard events
Hazard(s) addressed	Communicable disease; drought; extreme cold; extreme wind event; severe summer storm; severe winter storm; wildland fire; hazardous materials incident; flooding

New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$20,000+
Priority	High

GOAL 2	
Goal 2: Ensure post-disaster operability of critical assets and infrastructure.	
Strategy	2.1
Strategy description	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-disaster
Hazard(s) addressed	Communicable disease; drought; extreme cold; extreme wind event; severe summer storm; severe winter storm; wildland fire; hazardous materials incident; flooding
New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$20,000+
Priority	High
GOAL 3	
Goal 3: Increase public awareness of hazards and support for mitigation activities.	
Strategy	3.1
Strategy description	Develop and implement public education and hazard awareness program.
Hazard(s) addressed	Communicable disease; drought; extreme cold; extreme wind event; severe summer storm; severe winter storm; wildland fire; hazardous materials incident; flooding
New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$500
Priority	Moderate

GOAL 4	
Goal 4: Provide long-term mitigation solutions to hazard-prone areas through both structural and non-structural means.	
Strategy	4.1
Strategy description	Construct, purchase, or retrofit safe room(s)
Hazard(s) addressed	Extreme wind event; severe summer storm; severe winter storm
New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$20,000+
Priority	Moderate
GOAL 4	
Strategy	4.2
Strategy description:	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms.
Hazard(s) addressed	Communicable disease; drought; extreme cold; extreme wind event; severe summer storm; severe winter storm; wildland fire; hazardous materials incident; flooding
New strategy or carryover	New in 2015 update
Development protected	All – new and existing
Responsible department(s)	City, County; Mountrail County Emergency Management
Financial resources	General funds; NDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$10,000+
Priority	Moderate
GOAL 4	
Strategy	4.3
Strategy description	Institute weed control measures, including mowing, around towns.
Hazard(s) addressed	Communicable disease; wildland fire
New strategy or carryover	Carryover in 2015
Development protected	All – new and existing
Responsible department(s)	County; Mountrail County Emergency Management
Financial resources	General funds; NDDES funds; FEMA funds (HMGP and HMA)
Estimated cost	\$15,000+
Priority	Low

**Table A2-2
2015 MITIGATION STRATEGIES – ASSESSMENT**

Strategy		Application	Assessment
1.1	Purchase and install additional warning sirens.	County + all cities	<p>A total of 13 new warning sirens have been installed with at least one in each city. Stanley (3), New Town (1), Plaza (1), Parshall (1), Ross (1), Palermo (1) and White Earth (1) and a new siren was installed at the Van Hook, Parshall Bay and White Earth Bay recreational areas.</p> <p>All sirens are controlled through the county courthouse. Sirens are tested regularly.</p>
1.2	Purchase and install emergency power generators at community facilities, to protect the public during hazard events.	County + all cities	Strategy updated to address a need for an inventory
2.1	Purchase and install emergency power generators at critical facilities and infrastructure, to ensure operability of the asset post-	County + all cities	Combine with Strategy 1.2
2.2	Harden and/or protect critical facilities and infrastructure, to ensure operability of the asset post-disaster, including bridges and culverts.	County + all cities	Strategy is incorporated into standard operations
3.1	Develop and implement public education and hazard awareness program	County + all cities	On-going effort. Strategy modified to include more media.
4.1	Construct, purchase, or retrofit safe room(s)	County + all cities	On-going discussion. Strategy updated
4.2	Collect, track, organize, and store data regarding community-specific attributes, vulnerabilities, and mitigation needs for use in planning mechanisms	County + all cities	On-going. Strategy continues
4.3	Institute weed control measures, including mowing, around towns.	County + White Earth	The Mountrail County Ag Agency's function has been expanded to include Weed Control

COMMUNITY SURVEY

The community survey sought to gather information of the concerns and priorities of county residents. The questions asked about the reader's experience with hazards and asked if they had done anything to be better prepared in the event of a hazard event. The bulk of the survey focused on a list of potential hazards that are more likely to impact Mountrail County and ask whether the reader for their opinion. Survey results were compiled and recorded by jurisdiction. These scores were incorporated into the probability analysis in the CPRI Risk Analysis. (Chapter 6)

DEVELOPING THE MITIGATION STRATEGIES

The mitigation strategies included in this Hazard Plan were developed in several stages.

Initial List of Mitigation Strategies

The initial list (an early version of Table A2-3) was a starting point for further analysis and conversation. There were a lot of potential projects. Rather than a few on the planning team making the cuts, feedback was requested from county and city leaders. Reviewers are asked which strategies they support, and if other strategies are needed.

In the early versions, the mitigation strategies were grouped according to the hazard addressed. This exercise revealed that the draft included many draft strategies for some hazards and few or no responses to some of the county's more serious threats.

Once the countywide and city risk scores were complete (Section 6 of the Hazard Plan text, Table 6.2-2 , Table A2-3 was adjusted to include that information, the total scores, were calculated and the resulting priority rankings color-coded. The typical red, yellow, green scheme was used. Because so many of the score fell into the mid-range, that group was further divided into yellow for the more positive mitigation strategies and orange for the mitigation strategies that scored less well.

Table A2-3 MITIGATION STRATEGIES - EARLY DRAFT + PRIORITIES				
#	TYPE	STRATEGY DESCRIPTION	PRIORITY RANKING	
NATURAL HAZARDS				
Severe Winter Storm (Severe Snow, Severe Ice Storm)				
N1	LP	Conduct an annual review of snow plowing priorities which include consideration of local vulnerable population.	Highest	
Severe Summer Storm (Severe Hailstorm, Severe Windstorm/Tornado, Extreme Heat)				
N2	EA	Develop/collect educational materials on tornados that are ready for publication as needed. Make available to the cities.	Highest	
N3	SI	Construct tornado safe rooms near vulnerable populated structures, including at _____ .	Mid-Level	
Drought				
N4	EA	Develop/collect educational materials on water conservation measures that are ready for publication when needed. Make available to the cities.	Mid-Level	
N5	LP	Develop a Drought Management Plan	Mid-Level	
N6	EA	Increase awareness of drought tolerant practices and soil conservation methods in farming and ranching, and municipalities	Highest	
Wildland Fire				
N7	EA	Develop/collect educational materials on wildfire that are ready for publication as needed. Make available to the cities.	Mid-Level	
N8	EA	Coordinate with landowners to identify water sources for fire suppression	Mid-Level	
N9	LP	Regularly inspect fire hydrants	Mid-Level	
N10	EA	Participate in FireWise education program for homeowners and implement best practices during wildfire season	Mid-Level	
N11	EA	Participate in NFIP workshop	Mid-Level	
N12	LP	Support the recruitment and training of volunteers to address wildland and structural fires.	Mid-Level	
N13	EA	Implement North Dakota's Forest Service Program "Respect the Flame."	Lower	
N14	EA	Conduct Wildland Fire suppression training for rural fire departments.	Mid-Level	
N15	LP	In wildland-urban interface areas, consider providing a vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	Mid-Level	

N16	EA	Public information: Clear areas next to houses and keep grass short and green to prevent loss of human life and protect property.	Mid-Level	
N17	LP	Create Community Wildfire Protection Plan (CWPP).	Lower	
Flood				
N18	EA	Participate in NFIP workshop	Lower	
N19	LP	Acquire and remove repetitive loss properties from the floodplain	Mid-Level	
N20	LP	Develop a list of roadway improvements for roads that flood regularly. Improvements may include road elevation, culverts added or improved or other activities.	Lower	
N21	SI	Improve _____ road to mitigate the impact of flooding	Lower	
N22	EA	Educate local officials and residents on flood hazards.	Lower	
N23	LP	Recruit jurisdictions to participate in the National Flood Insurance Program.	Lower	
N24	LP	Evaluate overland flooding and encourage new development to locate in low-risk areas	Lower	
N25	LP	Establish permanent maintenance system for storm water systems/drainage ditches to reduce or eliminate occurrences of overland flooding.	Lower	
N26	LP	Encourage jurisdictional participation in the National Flood Insurance Program	Lower	
N27	LP	Identify retrofit and/or upgrade bridges, culverts, stormwater pipes, railroads, and roads grades to withstand natural hazards and prevent blockage to maintain access for emergency services.	Mid-Level	
N28	LP	Identify roadways that flood regularly and would benefit by culverts.	Lower	
Landslide				
N29	LP	Evaluate proposed and on-going development activities within identified landslide areas that are located close to critical facilities to ensure that there is no negative impact on the facilities.	Lowest	
N30	LP	Update local ordinances to incorporate review of landslide areas identified on the N.D. Geological Survey 1:24,000 Landslide Area Map Series.	Lowest	
N31	LP	Develop overlay maps to be incorporated into any development or zoning approvals.	Lowest	
N32	LP	Identify landslide areas along public roadways,	Lowest	
TECHNOLOGICAL OR HUMAN-CAUSED HAZARDS				
Hazardous Material Releases (All types)				
T1	LP	Require hazardous materials facilities to provide status reports to the fire department	Highest	
T2	LP	Map Tier II reporting facilities.	Highest	

T3	LP	Conduct a countywide Hazardous Materials Awareness Campaign	Highest	
T4	EA	Hazardous Materials training for responders to protect citizen and first responder lives.	Highest	
T5	LP	Revise local zoning regulations to prohibit all habitable structures within 2,500' of any military facility (military evacuation zone). Provide in the regulations that existing habitable structures become nonconforming uses.	Lower	
T6	LP	Establish a procedure to require Immediate notice is sent to Minot Air Force Base if proposal is within 2 miles of military facilities.	Lower	
T7	EA	Provide property owners with information about the potential for military easements and issues associated with living and working near military facilities.	Lowest	
T8	LP	Revise local zoning regulations to add setbacks of appropriate distances for new housing from oil and gas development	Highest	
Public Health Incident				
99	LP	Develop insect control system during periods of standing water	Highest	
T10	EA	Increase awareness of methods for prevention of infectious disease.	Highest	
T11	EA	Develop influenza vaccination outreach program for school-aged children.	Highest	
T12	LP	Support documentation of "lessons learned during the COVID-19 Pandemic	Mid-Level	
Major Transportation Incident				
T13	LP	Conduct a traffic control tabletop exercise involving Mountrail County and the cities to address issues and prepare for major traffic incidents.	Highest	
T14	SI	Install railroad crossing arms on _____.	Lower	
Severe Structural Fire				
T15	LP	Revise local regulations to require applicants for new developments to provide a fire suppression plan and proof of the plan's acceptance by the appropriate fire protection agency.	Mid-Level	
Utility Interruptions				
T17	SI	Coordinate with utility providers to bury or reduce pole spans between electric transmission lines.	Lower	
T18	EA	Promote ND One Call (811), through permit information, regular property owner notifications, and other possible means.	Lower	
Shortage Of Critical Materials				
T19	EA	Make public aware of risk of shortage or outage of critical materials or infrastructure and encourage citizens to be proactive and self-sufficient.	Lower	

FOCUS OF THE DRAFT MITIGATION STRATEGIES

These draft mitigation strategies are characterized in the next two figures. As shown in Figure A2-1, the focus of 51% of the draft mitigation strategies address natural hazards and the balance address technological and human-caused hazards. Figure A2-3 shows that the largest number of the draft mitigation strategies propose Local Plans and Regulations, followed by Education and Awareness Programs (35%) and Structure and Infrastructure Projects (11%), It is hoped that additional infrastructure/ construction projects will be identified during this review.

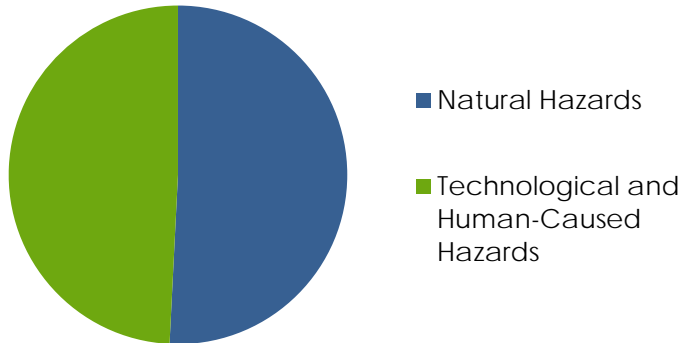


Figure A2-1 Hazards Addressed in the draft Mitigation Strategies

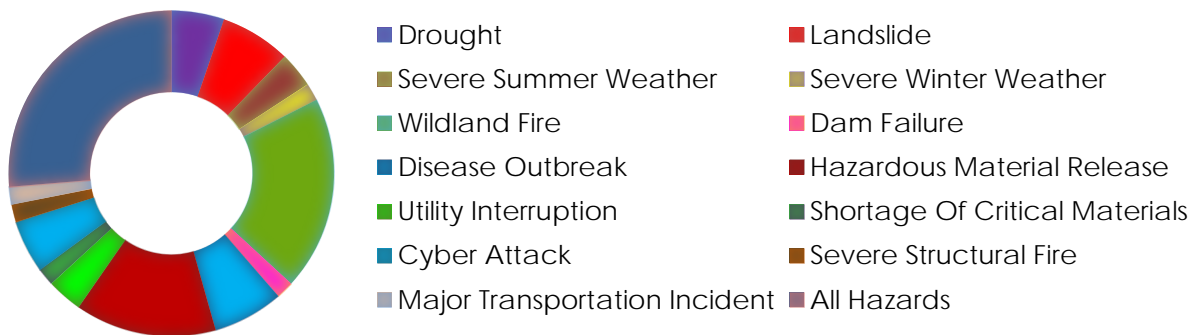


Figure A2-2 Details of the Hazards Addressed in the draft Mitigation Strategies

ORGANIZING THE DRAFT MITIGATION STRATEGIES

Mitigation strategies are categorized in Table A2-3 according to type of action proposed:

- Local Plans and Regulations (LP)
- Structure and Infrastructure (SI)
- Education and Awareness (EA)

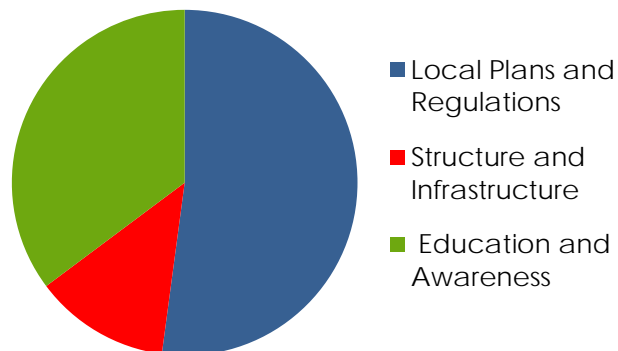


Figure A2-3 Type of Mitigation Strategies

BENEFIT-COST ANALYSIS BASED ON FEMA’S STAPLEE METHOD

Each of the mitigation strategies is unique. Some have a broad application, low cost, and a short timeline. Another has very local benefit, like a replacing a road culvert, but is more costly. Table A2-7 was developed to compare these different strategies to each other. The criteria are based on FEMA’s STAPLEE Method to assess and select from the range of mitigation options to find those that merit greatest consideration. Similar ranking was used in the county’s 2015 Hazard Plan.

Table A2-4 COST INPUT TO TABLE A2-6	
Staff Time + Resources	Assumed to be in-house staff time reflecting occasional meetings and/or phone calls
Low	Represents projects estimated to cost less than \$5,000
Moderate	Represents projects, generally expected to be studies, estimated to cost between \$5,000 and \$50,000
High	Represents projects estimated to cost over \$50,000. Construction costs could range up to \$100,000 and more.

Project costs are identified in terms of staff time, low, moderate, or high cost. The amount of staff time required may vary widely, but for budgeting purposes, expenses for mitigation strategies labeled “staff time and resources” is assumed to be limited.

Costs, a factor in prioritizing projects, are based on a generalized benefit-cost analysis that factors in potential cost and project benefit. It is important to note that many project costs are eligible for grant or other outside funding. Detailed benefit-cost analysis is required before committing to a project.

Table A2-5 BENEFIT INPUT TO TABLE A2-6		
TOPIC	CRITERIA	SCORING
Importance	How important is the proposed project to the community?	Beneficial to entire county = 4 Beneficial to a large part of the county = 3 Beneficial to more than one city = 2 Beneficial to one city = 1
Infrastructure	Does the proposed strategy benefit a critical facility or critical infrastructure	Yes=1 No=0
Effectiveness	How effective is the proposed project in avoiding or reducing future losses?	Extremely effective = 2 Effective = 1 Not effective = 0
Timeline	How long will it take to complete the project?	Less than two years = 2 Less than 4 year = 1 More than four years = 0

Expertise	Does the entity have the capability (staff, expertise, time, funding) to implement the proposed project?	Project can be done in- house without consultants = 2 Consultants must be hired =1
Support (Pending local input)	Is there a local champion?	Yes = 2 No = -1 Unknown = 0
Legal	Are the laws, ordinances, and resolutions in place to implement the proposed project?	Yes = 2 No but amendments are possible = 1 No and amendments are not likely = 0
Cost	What is the approximate cost of the project? (See Table A2-4)	Staff Time + Resources = 3 Low = 3 Moderate = 2 High = 1

The hazard ranking score was included in the spreadsheet to reflect the level of threat of each hazard. That step reflected the reality that a great and otherwise highly scored mitigation strategy could be less valuable to the community that a mitigation strategy addressing a critical local problem.

Table A2-6 presents priority ranking information based on FEMA’s STAPLEE Method for use by the county and the cities. Risk scores were rounded to fit in the table.

Table A2-6 MITIGATION STRATEGIES – COUNTYWIDE CALCULATIONS															
#	TYPE	MITIGATION STRATEGIES	RISK SCORE	MITIGATION STRATEGY RANKING CRITERIA								STRATEGY SCORE	TOTAL SCORE	PRIORITY RANKING	
		STRATEGY DESCRIPTION		IMPORTANCE	INFRASTRUCTURE	EFFECTIVENESS	TIMELINE	EXPERTISE	SUPPORT	LEGAL	COST				
NATURAL HAZARDS															
Severe Winter Storm															
N1	LP	Conduct an annual review of snow plowing priorities which include consideration of local vulnerable population.	3.10	4	0	2	2	1	0	2	3	1.8	4.9	Highest	
Severe Summer Storm															
N2	EA	Develop/collect educational materials on tornados that are ready for publication as needed. Make available to the cities.	2.69	4	0	2	2	1	0	2	2	1.6	4.3	Highest	
N3	SI	Construct tornado safe rooms near vulnerable populated structures, including at (location).	2.69	2	0	2	1	-1	0	2	1	0.9	3.6	Mid-Level	
Drought															
N4	EA	Develop/collect educational materials on water conservation measures that are ready for publication when needed. Make available to the cities.	2.55	4	0	1	2	-1	0	2	2	1.3	3.8	Mid-Level	
N5	LP	Develop a Drought Management Plan	2.55	4	0	2	2	-1	0	2	2	1.4	3.9	Mid-Level	
N6	EA	Increase awareness of drought tolerant practices and soil conservation methods in farming and ranching, and municipalities	2.55	4	0	2	2	1	0	2	2	1.6	4.2	Highest	
Wildland/Rural Fire															
N7	EA	Develop/collect educational materials on wildfire that are ready for publication as needed. Make available to the cities.	2.12	4	0	2	2	1	0	2	2	1.6	3.7	Mid-Level	

Table A2-6 MITIGATION STRATEGIES – COUNTYWIDE CALCULATIONS															
N8	EA	Coordinate with landowners to identify water sources for fire suppression	2.12	4	0	1	2	1	0	2	3	1.6	3.7	Mid-Level	
N9	LP	Regularly inspect fire hydrants	2.12	3	1	2	1	1	0	2	2	1.5	3.6	Mid-Level	
N10	EA	Participate in FireWise education program for homeowners and implement best practices during wildfire season	2.12	4	0	1	2	1	0	2	2	1.5	3.6	Mid-Level	
N11	EA	Participate in NFIP workshop	2.12	4	0	1	2	1	0	2	2	1.5	3.6	Mid-Level	
N12	LP	Support the recruitment and training of volunteers to address wildland and structural fires.	2.12	4	1	2	2	1	0	2	2	1.8	3.9	Mid-Level	
N13	EA	Implement North Dakota’s Forest Service Program “Respect the Flame.”	2.12	3	0	1	2	1	0	2	2	1.4	3.5	Lower	
N14	EA	Conduct Wildland Fire suppression training for rural fire departments.	2.12	4	0	2	2	1	0	2	2	1.6	3.7	Mid-Level	
N15	LP	In wildland-urban interface areas, consider providing a vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes.	2.12	3	0	1	2	1	0	2	3	1.5	3.6	Mid-Level	
N16	EA	Public information: Clear areas next to houses and keep grass short and green to prevent loss of human life and protect property.	2.12	4	0	2	1	1	0	2	2	1.5	3.6	Mid-Level	
N17	LP	Create Community Wildfire Protection Plan (CWPP).	2.12	4	0	1	2	-1	0	2	2	1.3	3.4	Lower	
Flood															
N18	EA	Participate in NFIP workshop	2.01	3	0	1	2	1	0	2	3	1.5	3.5	Lower	
N19	LP	Acquire and remove repetitive loss properties from the floodplain	2.01	2	0	2	0	-1	0	2	1	0.8	2.8	Mid-Level	
N20	LP	Develop a list of roadway improvements for roads that flood regularly. Improvements may include road elevation, culverts added or improved or other activities.	2.01	3	0	2	2	1	0	2	2	1.5	3.5	Lower	
N21	SI	Improve _____ road to mitigate the impact of flooding	2.01	3	0	2	1	-1	0	2	1	1.0	3.0	Lower	

Table A2-6 MITIGATION STRATEGIES – COUNTYWIDE CALCULATIONS															
N22	EA	Educate local officials and residents on flood hazards.	2.01	3	0	2	2	1	0	2	2	1.5	3.5	Lower	
N23	LP	Recruit jurisdictions to participate in the National Flood Insurance Program.	2.01	3	0	1	2	1	0	2	2	1.4	3.4	Lower	
N24	LP	Evaluate overland flooding and encourage new development to locate in low-risk areas	2.01	3	1	1	1	-1	0	2	2	1.1	3.1	Lower	
N25	LP	Establish permanent maintenance system for storm water systems/drainage ditches to reduce or eliminate occurrences of overland flooding.	2.01	3	1	1	1	-1	0	2	1	1.0	3.0	Lower	
N26	LP	Encourage jurisdictional participation in the National Flood Insurance Program	2.01	3	0	1	2	1	0	2	3	1.5	3.5	Lower	
N27	LP	Identify retrofit and/or upgrade bridges, culverts, stormwater pipes, railroads, and roads grades to withstand natural hazards and prevent blockage to maintain access for emergency services.	2.01	3	1	1	2	-1	0	2	2	1.3	3.3	Mid-Level	
N28	LP	Identify roadways that flood regularly and would benefit by culverts.	2.01	3	1	2	2	1	0	2	2	1.6	3.6	Lower	
		Landslide													
N29	LP	Evaluate proposed and on-going development activities within identified landslide areas that are located close to critical facilities to ensure that there is no negative impact on the facilities.	1.14	2	0	1	2	1	0	2	2	1.3	2.4	Lowest	
N30	LP	Update local ordinances to incorporate review of landslide areas identified on the N.D. Geological Survey 1:24,000 Landslide Area Map Series.	1.14	2	0	2	2	1	0	2	2	1.4	2.5	Lowest	
N31	LP	Develop overlay maps to be incorporated into any development or zoning approvals.	1.14	2	0	2	2	1	0	2	2	1.4	2.5	Lowest	
N32	LP	Identify landslide areas along public roadways,	1.14	2	0	1	2	1	0	2	2	1.3	2.4	Lowest	

TECHNOLOGICAL/HUMAN-CAUSED HAZARDS															
Hazardous Material Releases (All types)															
T1	LP	Require hazardous materials facilities to provide status reports to the fire department	2.79	4	0	1	1	1	0	2	2	1.4	4.2	Highest	
T2	LP	Map Tier II reporting facilities.	2.79	4	0	1	2	1	0	2	2	1.5	4.3	Highest	
T3	LP	Conduct a countywide Hazardous Materials Awareness Campaign	2.79	4	0	1	2	-1	0	2	2	1.3	4.0	Highest	
T4	EA	Hazardous Materials training for responders to protect citizen and first responder lives.	2.79	4	0	2	2	-1	0	2	2	1.4	4.2	Highest	
T5	LP	Revise local zoning regulations to prohibit all habitable structures within 2,500' of any military facility (military evacuation zone). Provide in the regulations that existing habitable structures become nonconforming uses.	1.76	4	1	2	2	-1	0	2	2	1.5	3.3	Lower	
T6	LP	Establish a procedure to require Immediate notice is sent to Minot AFB for any proposal is within 2 miles of military facilities.	1.76	3	1	2	2	1	0	2	2	1.6	3.4	Lower	
T7	EA	Provide property owners with information about military easements and issues associated with living and working near military facilities.	1.76	2	1	1	2	-1	0	2	2	1.1	2.9	Lowest	
T8	LP	Revise local zoning regulations to add setbacks of appropriate distances for new housing from oil and gas development	3.04	2	1	2	2	1	0	2	2	1.5	4.5	Highest	
Public Health Incident															
99	LP	Develop insect control system for standing water	2.70	4	0	1	1	1	0	2	1	1.3	4.0	Highest	
T10	EA	Increase awareness of methods for prevention of infectious disease.	2.70	4	0	1	2	1	0	2	2	1.5	4.2	Highest	
T11	EA	Develop influenza vaccination outreach program for school-aged children.	2.70	4	0	1	2	1	0	2	2	1.5	4.2	Highest	
T12	LP	Support documentation of "lessons learned during the COVID-19 Pandemic	2.70	4	0	1	1	-1	0	2	2	1.1	3.8	Mid-Level	
Major Transportation Incident															
T13	LP	Conduct a traffic control tabletop exercise involving Mountrail County and the cities to address issues and prepare for major traffic incidents.	2.36	4	1	1	2	1	0	2	2	1.6	4.0	Highest	

T14	SI	Install railroad crossing arms at (location)	2.36	2	0	1	1	-1	0	2	1	0.8	3.1	Lower	
Severe Structural Fire															
T15	LP	Revise local regulations to require applicants for new developments to provide a fire suppression plan and proof of the plan's acceptance by the appropriate fire protection agency.	2.26	4	0	1	1	1	0	2	2	1.4	3.6	Mid-Level	
White Earth Dam Failure															
T16	LP	Assure continued monitoring and maintenance of the White Earth and Stanley Dam.	1.97	2	1	2	2	-1	0	2	3	1.4	3.3	Lower	
Utility Interruption															
T17	SI	Coordinate with utility providers to bury or reduce pole spans between electric transmission lines.	1.97	4	1	2	1	-1	0	2	3	1.5	3.5	Lower	
T18	EA	Promote ND One Call (811), through permit information, regular property owner notifications, and other possible means.	1.97	4	1	2	2	-1	0	2	2	1.5	3.5	Lower	
Shortage Of Critical Materials															
T19	EA	Make public aware of risk of shortage or outage of critical materials or infrastructure and encourage citizens to be proactive and self-sufficient.	1.93	4	0	1	2	1	0	2	2	1.5	3.4	Lower	
Cyber Attack															
T20	EA	Develop/collect educational materials on cyber-security that are ready for publication as needed. Make available to the cities.	1.79	4	1	2	2	-1	0	2	2	1.5	3.3	Lower	
T21	EA	Conduct cybersecurity workshop(s) either alone or with other entities.	1.79	4	1	1	2	-1	0	2	2	1.4	3.2	Lower	
T22	EA	Conduct continuous preventative education to increase awareness of cyberattack threats.	1.79	4	1	2	2	-1	0	2	2	1.5	3.3	Lower	
T23	LP	Develop a list of critical facilities that need generators or need generators replaced.	2.00	4	1	2	2	1	0	2	2	1.8	3.8	Lower	
T24	SI	Install a new or replaced generator at _(location)_	2.00	2	0	2	1	-1	0	2	1	0.9	2.9	Lowest	
T25	LP	Develop a list of locations that would benefit from an emergency warning siren.	2.00	4	0	2	1	1	0	2	2	1.5	3.5	Mid-Level	
T26	SI	Install a new or replaced emergency warning siren at _____	2.00	3	0	2	2	-1	0	2	1	1.1	3.1	Lower	

T27	SI	Improve inter-department radio communication equipment	2.00	3	0	2	1	1	0	2	1	1.3	3.3	Lower	
T28	LP	Distribute weather radios to homeowners	2.00	3	0	1	2	1	0	2	1	1.3	3.3	Lower	
T29	EA	Conduct education and outreach to improve household disaster preparedness through use of websites, social media, local media outlets, utility inserts, mailings, etc. Develop new websites and media outlets where necessary	2.00	4	0	2	2	1	0	2	2	1.6	3.6	Mid-Level	
T30	EA	Support weather spotting training	2.00	4	0	1	1	1	0	2	3	1.5	3.5	Mid-Level	
T31	LP	Mutual aid, organization of agencies, on scene commanders, and exercises through training and mutual aid agreements to protect human life.	2.00	4	0	2	2	1	0	2	2	1.6	3.6	Highest	
T32	LP	Expand administrative and technical capabilities.	2.00	4	0	2	1	1	0	2	1	1.4	3.4	Lower	
T33	SI	Upgrade existing or purchase new equipment and infrastructure for emergency services as needed	2.00	3	1	1	1	-1	0	2	1	1.0	3.0	Lower	
T34	EA	Educate residents on the importance of shelter-in-place, stocking of food, water, and medical supplies, fuel for heating, backup power etc.	2.00	4	0	2	2	-1	0	2	2	1.4	3.4	Lower	
T35	LP	Assure that Mountrail County has an adopted FEMA-Approved Mitigation Plan.	2.00	4	0	2	2	1	0	2	3	1.8	3.8	Mid-Level	
T36	LP	Continuous assessment of vulnerabilities to the county and incorporated jurisdiction, and update of hazards and impacts, monitoring of mitigation project implementation and progress.	2.00	4	0	1	1	1	0	2	2	1.4	3.4	Lower	
T37	LP	Update post-disaster debris management plan.	2.00	4	0	1	1	-1	0	2	2	1.1	3.1	Lower	
T38	SI	Construct new storm shelters/community safe rooms or retrofit existing structures to reduce the risk to vulnerable populations.	2.00	2	1	1	1	-1	0	2	1	0.9	2.9	Lowest	

LP Local Plans and Regulations
 SI Structure and Infrastructure
 EA Education and Awareness

RISK LEVEL

Highest		Lower	
Mid-Level		Lowest	

DRAFT MITIGATION STRATEGIES REVIEWED IN SEPTEMBER 2021

Draft mitigation strategies below were developed after a review of Table A2-6 and conversations with community leaders. The highest-ranking strategies were carried forward and the tables were reorganized according to the type of mitigation strategy. This information was also reviewed for relevance of each draft mitigation strategy to each of the cities and adjustments completed and additional draft strategies added.

Table A2-7 is a copy of the material sent to county and city leaders seeking input on draft mitigation strategies. Material sent to the cities was similar, adjusted for the individual city. The request for community leaders to review Table A2-7 mentioned the three public meetings scheduled for the week of September 20th and asked for input on which mitigation activities the county or city would be willing to undertake in the next five years to lessen the impact of natural and human-caused hazard events.

Table A2-7 POTENTIAL MITIGATION STRATEGIES		
PUBLIC EDUCATIONAL PROGRAMS		
1	Develop/collect educational materials on hazard awareness and preparedness. Both natural and technology/human-caused hazards would be addressed ¹ . This material would be provided to the cities and local media for publication.	Multiple Hazards
2	Conduct a National Flood Insurance Program (NFIP) workshop	Flood
3	Encourage homeowners' use of weather radios	All Weather Hazards
LOCAL GOVERNMENT EDUCATIONAL PROGRAMS		
4	Develop/collect educational materials regarding public shelter facilities including building requirements (storm shelters and evacuation shelters), their staffing and materials needed during a hazard event	
TRAINING		
5	Encourage Sky Warn weather spotting training (in-person and/or on-line).	Severe Summer + Winter Storms
6	Continue supporting hazardous materials training for responders.	HazMat Incidents
7	Conduct wildland Fire suppression training for rural fire departments.	Wildland Fire
8	Continue to support the recruitment and training of volunteers to address wildland and structural fire protection and ambulance services	Multiple Hazards
LOCAL PROGRAMS AND PLANS LOCAL PROGRAMS AND PLANS		
9	Assure that Mountrail County has an adopted FEMA-Approved Mitigation Plan.	Multiple Hazards

¹ Topics could include potential education topics include: severe winter and summer storms weather tips, water conservation, drought tolerant practices, sheltering in place, flooding and flood hazards, tornado preparation, safe generator use, hazardous materials, wildland fire protection, shelter locations (evacuation and storm shelters) and protocols, water sources for fire suppression, prevention of infectious disease, influenza and other vaccination outreach programs, risk of shortage or outage of critical materials or infrastructure, cyber security, ND One Call (811), dam failure and other topics.

Table A2-7 POTENTIAL MITIGATION STRATEGIES		
10	Continue to collect, track, organize, and store data regarding local hazard experience, vulnerabilities, and mitigation needs for use in the next Hazard Plan update.	Multiple Hazards
11	Develop a list of critical facilities that need new or replacement emergency power generators.	Multiple Hazards
12	Purchase/apply for funding and install emergency power generators at critical facilities, as needed, to ensure operability of the asset post-hazard event.	Multiple Hazards
13	Develop a list of locations that would benefit from a new or replacement emergency warning siren.	Multiple Hazards
14	Purchase/apply for funding and install emergency warning siren	Multiple Hazards
15	Identify existing buildings with potential for retrofit use as tornado shelters. or as shelters for evacuation, warming stations after power loss.	Multiple Hazards
16	With a focus on campgrounds with no existing shelter facilities, evaluate the need and location for new shelters	Multiple Hazards
17	Apply for funding and develop/retrofit buildings for use as tornado shelters. or as shelters for evacuation, warming stations after power loss.	Multiple Hazards
18	Conduct an annual review of snow plowing priorities which include consideration of the local vulnerable population.	Severe Winter Storm
19	Coordinate with NDDDES in drought management activities	Drought
20	Continue to regularly inspect fire hydrants	Structural + Wildland Fire
21	Work with Rural Water to establish hydrants in areas distant from existing hydrants	Structural + Wildland Fire
22	In wildland-urban interface areas, consider seeking funding and providing a vegetation management services to elderly or disabled residents who need help to remove flammable materials near their homes	Structural + Wildland Fire
23	Revise local regulations to require applicants for new developments to provide a fire suppression plan and proof of the plan's acceptance by the appropriate fire protection agency.	Severe Structural Fire
24	Coordinate with rural landowners to identify and gain access to water sources for fire suppression	Wildland Fire
25	Evaluate overland flooding and encourage new development to locate in low-risk areas	Flood
26	Identify repetitively flooded roadways that would benefit from road elevation, culverts added/cleared out/enlarges and seek funding for that work.	Flood
27	Establish permanent maintenance system for storm water systems/drainage ditches to reduce or eliminate occurrences of overland flooding.	Flood
28	Update local ordinances to incorporate review of landslide areas identified on the N.D. Geological Survey 1:24,000 Landslide Area Map Series.	Landslide
29	Consider adding landslide or falling rock warning signs along public roadways, where appropriate.	Landslide

30	Continue to develop truck routes with the intent of moving transportation of hazardous materials off urban roadways.	HazMat – In Transit
31	Map Tier II reporting facilities.	HazMat – Fixed Sites
32	Revise local zoning regulations to add setbacks of appropriate distances for new housing from oil and gas development.	HazMat – Fixed Sites
33	Revise local zoning regulations to prohibit all habitable structures within 2,500' of identified military facilities (military evacuation zone). Provide that existing habitable structures become nonconforming uses.	HazMat – Minot AFB Facilities
34	Establish a procedure to require Immediate notice sent to Minot Air Force Base for proposed zoning changes or building permits is within two miles of the military facilities.	HazMat – Minot AFB Facilities
35	Provide property owners with information about the potential for military easements and issues associated with living and working near military facilities.	HazMat – Minot AFB Facilities
36	Cooperate with public health to continue insect control system during periods of standing water.	Public Health Incident
37	Support documentation of "lessons learned" during the COVID-19 Pandemic.	Public Health Incident
38	Identify locations that would benefit from new railroad crossing arms.	Major Transportation Incident
39	Review Dam Emergency Action Plans annually and updated	Dam Failure
40	Coordinate with utility providers to bury or reduce pole spans on electric transmission lines.	Utility Interruptions
41	Continue to ensure that inter-department radio communication equipment meets local needs.	Multiple Hazards
42	Participate in the North Dakota SRN 2020 program.	Multiple Hazards
43	Continue to support mutual aid agreements and on-scene incident command	Multiple Hazards
44	Continue to support upgrading existing or purchase new equipment and infrastructure for emergency services.	Multiple Hazards

Adjustments to Table A2-7

Reviews of Table A2-7 have been compiled and described in Table A2-8. Many of the strategies reflect what the county and cities are already doing. Some entries have been adjusted, others added and some deleted. It is recognized that there are a lot of strategies. Many involve important protocols or activities already adopted by the county and/or cities and few involve significant expenditures

Table A2-8 ADJUSTMENTS TO THE DRAFT MITIGATION STRATEGIES – GENERAL			
#	ADJUSTMENT	#	ADJUSTMENT
1	The list of topics is seen as illustrative. Local media may be the best way to share the information with the public.	23	Delete – not feasible
2	Delete – little application	24	No change
3	Expand text to encourage use of FEMA weather notice application.	25	Delete – not necessary
4	No change	26	Delete – not necessary
5	No change	27	Delete – not necessary
6	No change	28	Delete – not necessary
7	Combine with 22	29	Delete – not necessary
8	No change but city focus	30	No change
9	No change	31	No change
10	No change	32	Delete – not feasible
11	No change	33	No change
12	No change	34	No change
13	Delete - completed	35	Delete – not necessary
14	Delete - completed	36	Delete – not necessary
15	No change	37	No change
16	No change	38	No change
17	No change	39	No change but applies to White Earth
18	Continue to conduct...	40	No change
19	No change	41	No change
20	No change but city focus	42	No change
21	No change	43	Update mutual aid agreements annually and continue to support on-scene incident command
22	No change but city focus	44	No change

Final Draft Mitigation Strategies

Mountrail County had great success in addressing the most important mitigation strategy set forth in the 2015 Plan, the installation of warning sirens. Community input on the draft Hazard Plan and the draft mitigation strategies made the position of Mountrail County and its cities clear. Mountrail County has experienced many of the disasters presented in this plan, but the county and its residents are prepared to respond.

Following the September public meetings, an additional strategy was proposed to address the speed of railroads passing through the developed areas of cities that have higher-speed railroad activity, especially when at-grade crossings are involved.

Multiple versions of the mitigation strategies have been developed based on Table A2-7. Strategies have been numbered to facilitate discussion. The same numbers are used for each of the strategies, whether used in the county or city tables. For the county and each of the cities. Some of the proposed strategies apply more to the county, some more to the cities, or certain cities, and some apply to all locations.

The mitigation strategies that apply to unincorporated Mountrail County are located in Chapter 8, Table 8.3-1. Mitigation strategies for the cities are included in Annex A thru Annex G. These are adjusted to reflect each individual city.

REVIEWED DOCUMENTS

In preparing this Hazard Plan, hundreds of documents were reviewed. Some are cited within this Hazard Plan and others were used as resource material. The list below represents much of that material. Document review started even before project kick-off and continued through completion of the draft document. Reports and studies can be grouped into a few categories:

- Local and state adopted plans, regulations, and studies
- Data, including historical records on a wide variety of subjects including weather events, land use, water use, automobile and railroad accidents, socio-economic data, available funding, etc.
- FEMA guidance and reports
- Mapping including FEMA flood maps, land use, groundcover, roadway, geological surveys
- Academic studies
- Newspaper and online reports, generally reflecting incidents in Mountrail County.

The list below is grouped according to document source. Chapters 4 and 5 of the Hazard Plan text incorporate more of the reviewed material than any other part of this Hazard Plan.

MOUNTRAIL COUNTY

- 2015 Mountrail County Multi-Hazard Mitigation Plan
- Mountrail County Comprehensive Plan 2030
- Mountrail County Zoning Ordinance
- Mountrail County mapping
- Parshall Flood Study, (Preliminary Engineering Report, East Branch of the Shell Creek Flood Control through Parshall
- Evacuation Map for PMF Dam Failure – Houston Engineering (White Earth Dam

STATE OF NORTH DAKOTA AGENCIES

- North Dakota Executive Orders
 - August 9, 2021 - Burgum Declares Statewide Severe Summer Storm Disaster
 - April 30, 2021 - Burgum Rescinds COVID-19 Emergency
 - April 8, 2021 - Burgum Declares Statewide Drought Disaster
 - April 1, 2021 - Burgum Declares Statewide Wildfire Emergency
 - February 22, 2021 - Burgum Terminates Several Executive Orders Related to COVID-19 Pandemic
 - August 31, 2020 - Burgum Activates State Emergency Operations Plan for March 13, 2020 - Burgum Declares State of Emergency in Response to Public Health Crisis of COVID-19
 - October 21, 2019 - Burgum Declares Statewide Flood Emergency
 - October 11, 2019 - Burgum Activates State Emergency Operations Plan for Severe Snowstorm
 - March 27, 2019 - Burgum Declares Statewide Flood Emergency

- March 26, 2019 - Burgum Declares Winter Storm Emergency
 - June 26, 2017 - Burgum Proclaims Statewide Fire and Drought Emergency
 - June 22, 2017 - Burgum Declares Drought Emergency
 - April 13, 2015 - Dalrymple Extends the Statewide Burn Ban
 - April 1, 2015 - Dalrymple Declares a Fire Emergency Exists
-
- 2019 North Dakota Draft Enhanced Multi-Hazard Mitigation Plan
 - DWR brochure North Dakota fracking and water use fracking_water_use_brochure.pdf (nd.gov)
 - Earthquake Hazards and Probabilities in North Dakota
 - North Dakota Department of Environment Quality, Compliance Alert, L. David Glatt, Director 10/5/2020
 - North Dakota Geological Survey mapping (Scale 1:24,000)
 - SWC Flood maps
 - North Dakota Rail Study
 - State Water Commission Report March 2021
 - Climatic and Hydrologic Aspects of the 1988-1992 Drought and the Effect on People and Resources of North Dakota, North Dakota State Water Commission, 1994.
 - North Dakota Department of Emergency Services, Hazardous Chemicals Preparedness and Response Program
 - <https://ndram.dwr.nd.gov>
 - Land Use Land Cover www.nd.gov/gis/apps/HubExplorerV2/
 - N.D. Geological Survey maps,
 - Game and fish reservoir maps stanlyreservoir2003.pdf (nd.gov)
 - North Dakota Department of Environmental Quality – air quality mapping
 - Swc.org newsletters and plan
 - Inundation of the Williston ND Area Williston Herald newspaper 3-part series
 - North Dakota Department of Agriculture North Dakota Department of Agriculture
 - www.stanleyhealth.org/reopening-of-services-at-the-mountrail-county-medical-center/
 - North Dakota Influenza Season Final Reports
 - <https://www.dmr.nd.gov/ndgs/ndnotes/Earthquakes/>
 - North Dakota Water Commission Biennial Reports
 - Department of Water Resources (nd.gov) newsletters and mapping

OTHER NORTH DAKOTA DOCUMENTS

- Multi-Hazard Mitigation Plans for McKenzie, McLean, Ward, and Williams Counties and for the Fort Berthold Reservation
- www.stanleyhealth.org/reopening-of-services-at-the-mountrail-county-medical-center/
- Unstable Ground in Western North Dakota by Donald E. Trimble, USGS 1979
- Western Water Study: North Dakota | Western Energy Alliance
- Energy–Water | Research & Expertise | EERC | University of North Dakota (undeerc.org)
- Land Use Land Cover Map 2017 N Hub Explorer

FEDERAL AGENCIES

- US Census 2010 and 2020
- USDA Wildfire Risk to Communities wildfirerisk.org
- USDA 2019 Crop Disaster Loss Designations
- DOT Crossing Inventory Data <https://safetydata.fra.dot.gov/officeofsafety>

- FEMA [fema.gov/emergency-managers/risk-management/safe-rooms](https://www.fema.gov/emergency-managers/risk-management/safe-rooms)
- FEMA Emergency Action Planning (FEMA National Dam Safety Program)
- FEMA www.fema.gov/cis/ND.pdf
- FEMA - Best Available Refuge Assessment
- FEMA – Presidential Disaster Declarations 2015-2021
- FEMA Flood Insurance Rate Map – White Earth and Parshall ND
- FEMA Flood Risk Assessment Map - Mountrail County
- FEMA - Hazard Mitigation For Natural Disasters, A Starter Guide for Water and Wastewater Utilities
- Federal Motor Carrier Safety Administration
- National Climatic Data Center
- NOAA’s National Center for Environmental Information
- NOAA Climate Prediction Center
- USACE National Directory of Dams <https://nid.sec.usace.army.mil>

OTHER RESOURCES

- Mountrail County Conditions | [Drought.gov](https://drought.gov)
- Fracking vs Faucets: Balancing Energy Needs and Water Sustainability at Urban Frontiers, Fry, Ponette-González, Thompson and La Point, *Environ. Sci. Technol.*, July 2, 2012
- COVID-19 Positive Cases - New York Times graphic
- September 2018 National Performance of Dams Program (NPDP-01 V1) from Stanford University
- Fire Loss in the United States During 2019, September 2020. Ahrens and Evarts. National Fire Protection Association.
- National Drought Mitigation Center’ <https://drought.unl.edu>
- Forum News Service August 2, 2016
- State of Montana Multi-Hazard Mitigation Plan Update (2018)
- silvis.forest.wisc.edu
- NFPA Standard on Mass Evacuation, Sheltering, and Re-entry Programs, 2017
- www.weatherbase.com/weather/weather.php
- www.interactivehailmaps.com
- www.wunderground.com
- www.govtech.com
- www.ncdc.noaa.gov/stormeventsdriest
- www.nps.gov/subjects/nationalregister
- www.kcet.org//earth-focus/north-dakota-the-oil-spill-state
- <https://damsafety.org/dam-owners>
- www.avenzamaps.com/maps/1213672/stanley-reservoir-mountrail-county

APPENDIX 3
Community
Survey



Community Survey

COMMUNITY SURVEY RESULTS

Survey results provided an overview of community concerns, a better understanding of how much experience the community has with hazards and what they are doing to prepare their homes and their families for a future hazard event.

Responses to the question "Have you ever been impacted by any of the natural or other disasters listed above?," the results were evenly split. Half of those responding had never experienced a hazard event. Most of the responses indicating that they had experienced hazards noted experience with severe snowstorms. One noted that in 2018 he "could barely get out of my house due to snow". Others mentioned experience with

- drought
- wildfire – "losing a home to wildfire"
- Ice storm
- severe windstorm
- hailstorm including hail on crops
- severe snowstorm
- blizzards including experience that "closed down Stanley for at least 2-3 days"
- oil fire
- disease outbreak (H1N1, Swine Flu and COVID-19)

Survey results were also used as an important element in prioritizing mitigation strategies. Draft mitigation strategies were scored and contributed to calculating the "probability" element of the risk analysis. Table 3.5-1 in the Hazard Plan (copied below) presented this information. Because both paper and electronic versions were , the paper responses were scored the same as the electronic versions and manually entered into the calculations.

Table A3-1 COMMUNITY SURVEY RESULTS					
HAZARDS		Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
NATURAL HAZARDS	DROUGHT	21%	61%	18%	0%
	FLOOD	0%	29%	41%	29%
	LANDSLIDE	0%	3%	9%	88%
	SEVERE WINDSTORM/ TORNADO	44%	29%	9%	18%
	EARTHQUAKE	15%	3%	18%	64%
	SEVERE HAILSTORM	44%	32%	6%	18%
	EXTREME HEAT	38%	38%	12%	12%
	SEVERE SNOWSTORM	65%	26%	6%	3%
	SEVERE ICE STORM	60%	33%	3%	3%
	WILDLAND/RURAL FIRE	17%	40%	27%	17%
OTHER HAZARDS	FORT PECK DAM FAILURE	6%	6%	41%	47%
	WHITE EARTH DAM FAILURE	6%	12%	39%	42%
	PUBLIC HEALTH INCIDENT	35%	32%	24%	9%
	OIL SPILL	35%	53%	3%	9%
	SALTWATER SPILL	35%	50%	3%	12%
	HAZ MAT RELEASE In Transit	29%	47%	12%	12%
	HAZ MAT RELEASE Minot AFB Missile Launch Facilities	6%	24%	44%	26%
	HAZ MAT RELEASE Fixed Site	0%	52%	39%	9%
	CRITICAL MATERIALS SHORTAGE	15%	47%	29%	9%
	ACTIVE ATTACKER	0%	41%	38%	21%
	CYBER ATTACK	12%	47%	26%	15%
	URBAN STRUCTURAL FIRE	12%	47%	32%	9%
MAJOR TRANSPORTATION INCIDENT	29%	31%	26%	14%	

COMMUNITY SURVEY QUESTIONS

The Community Survey was released in both paper and electronic versions. Paper copies were distributed at community meetings and the Survey Monkey version was accessed through the Mountrail County website as shown above, through a link provided at meetings in the PowerPoint presentation and through a link attached to emails to community members.



Mountrail County ND Multi-Jurisdictional Hazard Mitigation Plan COMMUNITY SURVEY

Mountrail County ND, in partnership with New Town, Palermo, Parshall, Plaza, Ross, Stanley, and White Earth, is updating the Mountrail County Hazard Mitigation Plan. Your responses here help identify activities to reduce the risk of injury and property damage in the future.

Thank you for your time. Completing the survey should take about five minutes.

1. Please indicate where you live.

- City of New Town
- City of Palermo
- City of Parshall
- City of Plaza
- City of Ross
- City of Stanley
- City of White Earth
- Fort Berthold Reservation
- In Mountrail County but outside the Cities and the Reservation
- Outside Mountrail County

In the next two questions we ask your opinion about hazards that could impact us in the future. The planning team has statistics on the past impact of these hazards, but predictions involve more than just that. Your opinion is very important and will be included in the planning team's calculations.

2. In your opinion, how likely is it that these hazard events will impact the part of the county where you live in the next five years?

Very Likely = Greater than 90% annual probability

Somewhat Likely = Between 50% and 90% annual probability

Somewhat Unlikely = Between 1% and 49.9% annual probability

Very Unlikely = Less than 1% annual probability

	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
DROUGHT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FLOODING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LANDSLIDE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE WINDSTORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EARTHQUAKE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE HAIL STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EXTREME HEAT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE SNOW STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE ICE STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLAND FIRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORT PECK DAM FAILURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WHITE EARTH DAM FAILURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DISEASE OUTBREAK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OIL SPILL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SALTWATER SPILL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - In Transit (Truck or Rail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - Missile Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - Other Fixed Site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SHORTAGE OR CRITICAL MATERIALS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ACTIVE SHOOTER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYBER ATTACK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE STRUCTURAL FIRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STRUCTURAL COLLAPSE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MAJOR TRAFFIC INCIDENT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. In your opinion, if any of these hazard events happen, how much impact would they have on the people and businesses in the part of the county where you live?

Minor = Very few injuries, minor property damage and minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited = Minor injuries only but more than 10% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than a day.

Critical = Multiple deaths/injuries possible and more than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than a week.

Catastrophic = High number of deaths/injuries possible and more than 60% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

	Minor	Limited	Critical	Catastrophic
DROUGHT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FLOODING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LANDSLIDE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EARTHQUAKE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE WINDSTORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE HAIL STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EXTREME HEAT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE SNOW STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE ICE STORM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLAND FIRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORT PECK DAM FAILURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WHITE EARTH DAM FAILURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DISEASE OUTBREAK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OIL SPILL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SALTWATER SPILL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - In Transit (Truck or Rail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - Missile Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HAZARDOUS MATERIAL RELEASE - In Transit (Truck or Rail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - Missile Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HAZARDOUS MATERIAL RELEASE - Other Fixed Site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SHORTAGE OR CRITICAL MATERIALS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ACTIVE SHOOTER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYBER ATTACK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEVERE STRUCTURAL FIRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STRUCTURAL COLLAPSE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MAJOR TRAFFIC INCIDENT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Have you ever been impacted by any of the natural or other disasters listed above?

- Yes
 No

If "Yes", please describe your experience.

5. Data is available on large-scale hazard events.

Are there any small-scale issues, such as flooding/ponding on a certain roadway during rain or any other dangerous conditions, which the planning team should consider?

- I am not aware of any local hazards
 I am aware of local hazards

If you are aware of such hazards, please provide as much detail as possible, including location and type of hazard.

6. What actions have you taken to reduce risk to your house / apartment / property for potential disasters? (Please check all that apply)

- Purchase homeowners/renters insurance policy
- Purchase flood insurance
- Floodproofing (elevating furnace, water heaters, air conditioning units, electric panels)
- Install retrofits such as high impact windows, doors or siding to withstand high winds or hail
- Remove dead and dying trees or vegetation
- Fire extinguishers and check them according to manufacture's directions
- Smoke alarms and check them annually
- Alternative power supply (generator)
- None
- Other (please specify)

7. What is the best way for you to receive information about how to make your home and neighborhood more resistant to hazards?

- Newspaper
- Television
- Radio
- Other (please specify)
- Facebook
- Public workshops/meetings

8. To receive survey results or project updates, please provide your contact information below.

Name	<input type="text"/>
Organization (if applicable)	<input type="text"/>
ZIP Code	<input type="text"/>
Email Address	<input type="text"/>

THANK YOU!

APPENDIX 4
North Dakota
Reportable
Infectious
Conditions

NORTH
Dakota
Be Legendary.™

Health

Mandatory Reportable Infectious Conditions
If highlighted red, report immediately: 800-472-2180 or 701-328-2378
Report all other conditions within one business day

<p>Acute Flaccid Myelitis</p> <p>Anaplasmosis</p> <p>Anthrax ♦</p> <p>Arboviral infection (other)</p> <p>Babesiosis</p> <p>Botulism ♦</p> <p>Brucellosis ♦</p> <p>Campylobacteriosis</p> <p>Candida auris ♦</p> <p>Carbapenem-resistant organisms</p> <ul style="list-style-type: none"> • <i>Enterobacteriaceae</i> ♦ • <i>Pseudomonas aeruginosa</i> ♦ <p>Chickenpox (varicella) ♦</p> <p>Chikungunya virus disease</p> <p>Chlamydial infection</p> <p>Cholera ♦</p> <p>Cluster of severe or unexplained illnesses and deaths</p> <p>Coccidioidomycosis</p> <p>Creutzfeldt-Jakob disease</p> <p>Cryptosporidiosis</p> <p>Cyclosporiasis</p> <p>Dengue</p> <p>Diphtheria ♦</p> <p>Eastern equine encephalitis ♦</p> <p>E. coli (Shiga toxin-producing) ♦</p> <p>Ehrlichiosis</p> <p>Foodborne/waterborne outbreaks</p> <p>Giardiasis</p> <p>Glanders ♦</p> <p>Gonorrhea</p> <p>Haemophilus influenzae (invasive) ♦</p> <p>Hantavirus ♦</p> <p>Hemolytic uremic syndrome</p> <p>Hepatitis A ♦</p> <p>Hepatitis B</p>	<p>Hepatitis C*</p> <p>Hepatitis D</p> <p>Hepatitis E</p> <p>HIV/AIDS infection**</p> <p>Influenza</p> <ul style="list-style-type: none"> • Pediatric deaths • Seasonal • Suspect novel, PCR influenza A unsubtypeable ♦ <p>Jamestown Canyon virus disease</p> <p>Laboratory incidents with possible release of category A agents or novel influenza virus ♦</p> <p>La Crosse encephalitis</p> <p>Legionellosis</p> <p>Leptospirosis</p> <p>Listeriosis ♦</p> <p>Lyme disease</p> <p>Malaria ♦</p> <p>Measles (rubeola) ♦</p> <p>Melioidosis ♦</p> <p>Meningococcal disease (invasive) ♦</p> <p>Mumps ♦</p> <p>Nipah virus infections ♦</p> <p>Nosocomial outbreaks</p> <p>Novel severe acute respiratory illness ♦</p> <p>Pertussis</p> <p>Plague ♦</p> <p>Poliomyelitis ♦</p> <p>Powassan virus disease</p> <p>Pregnancy in person infected with:</p> <ul style="list-style-type: none"> • Hepatitis B • HIV <p>Q fever ♦</p>	<p>Rabies</p> <ul style="list-style-type: none"> • Animal • Human ♦ <p>Rocky Mountain spotted fever</p> <p>Rubella ♦</p> <p>Salmonellosis ♦</p> <p>Scabies outbreaks in institutions</p> <p>Shigellosis ♦</p> <p>Smallpox ♦</p> <p><i>Staphylococcus aureus</i></p> <ul style="list-style-type: none"> • Vancomycin-resistant and intermediate resistant (VRSA and VISA) – any site ♦ <p>Staphylococcus enterotoxin B intoxication ♦</p> <p>St. Louis encephalitis</p> <p>Streptococcus pneumoniae infection (invasive) ♦</p> <p>Syphilis</p> <p>Tetanus</p> <p>Tickborne disease (other)</p> <p>Trichinosis</p> <p>Tuberculosis***</p> <ul style="list-style-type: none"> • Disease ♦ • Infection <p>Tularemia ♦</p> <p>Typhoid fever ♦</p> <p>Unexplained or emerging critical illness/death</p> <p>Vibriosis ♦</p> <p>Viral hemorrhagic fevers ♦</p> <p>Weapons of Mass Destruction suspected event ♦</p> <p>Western equine encephalitis</p> <p>West Nile virus</p> <p>Yellow fever ♦</p> <p>Zika virus</p>
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♦ Send isolate or sample to North Dakota Department of Health Division of Microbiology.

♦ This is a Select Agent when confirmed. Notify the Division of Microbiology at 701-328-6272. Report any possible lab exposures.

*Hepatitis C: All positive/reactive test results, hepatitis C genotypes, all hepatitis C nucleic acid test results (including nondetectable)

**HIV/AIDS: Any positive/reactive test results, gene sequencing and drug resistance patterns, all HIV nucleic acid test results (including nondetectable), all CD4 test results

***TB: All positive PPD & IGRA results. All results for AFB Smears, cultures and rapid methodologies performed when *M. tuberculosis* complex is suspected.

How to Report: • Secure website: www.ndhealth.gov/disease/reportcard/ • Telephone: 701-328-2378 or 800-472-2180 • Secure Fax: 701-328-0355 • Electronic laboratory reporting: www.ndhealth.gov/disease/ELR/

North Dakota Administrative Code 33-06-01, North Dakota Century Code 23-07-01 Updated 10/2019



Other Mandatory Reportable Conditions

If highlighted red, report immediately: 701-328-2372

Report all other conditions within seven days

- Autism*
- Cancer+
- Cluster of severe or unexplained illnesses or deaths
- Critical congenital heart disease (CCHD)
- Fetal alcohol syndrome (FAS)
- Lead level results (all)
- Neonatal abstinence syndrome (NAS)
- Overdoses
- Suicide and suicide attempts
- Tumors of the central nervous system+
- Violent deaths^
- Visible congenital deformity

^ Homicides, legal intervention, unintentional fire-arm related injury death, deaths of unknown intent and terrorism.

How to Report:

- + Submit report to the North Dakota Cancer Registry. Call 800-280-5512 for assistance.
- * Autism report form: www.nd.gov/eforms/Doc/sfn60804.pdf
- Telephone: 701-328-2372
- Secure Fax: 701-328-2785
- Secure website: www.ndhealth.gov/disease/reportcard/
- Electronic reporting may be available. Email dohstateepi@nd.gov for more information.

North Dakota Administrative Code 33-06-01, North Dakota Century Code 23-07-01
North Dakota Century Code 23-01-41 (Autism)
North Dakota Century Code 23-41-04 and 23-41-05 (Visible congenital deformity)

Updated 10/2019

APPENDIX 5
Facilities with
Increased
Vulnerability to
Tornadoes

Facilities with Increased Vulnerability to Tornadoes

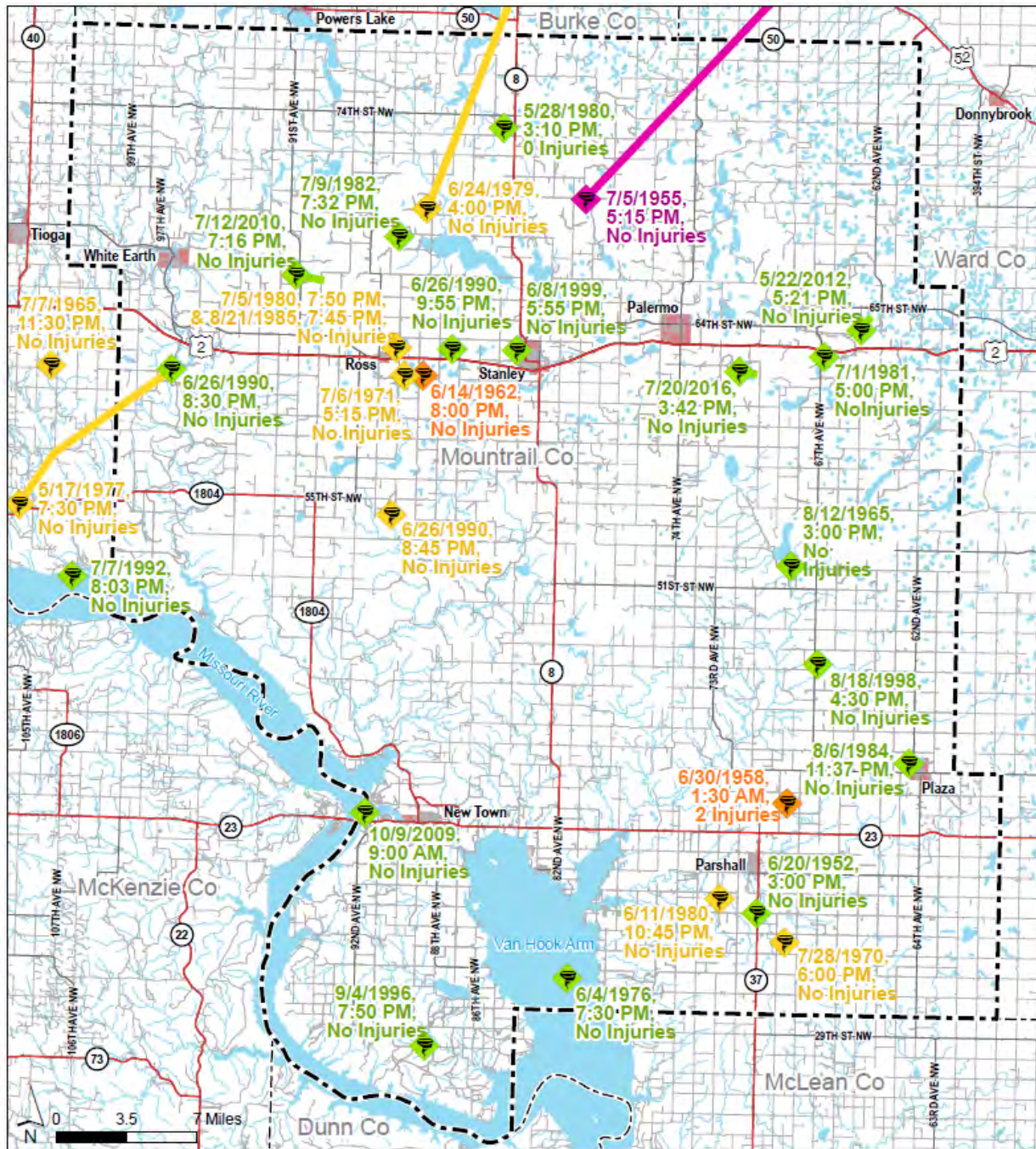
Mountrail County ND has experienced tornadoes in the past and has approximately 28 facilities licensed by the State of North Dakota as a mobile Home Park, RV-Trailer Park, or a campground. In the event of a tornado event, the FEMA recommendations on “How to stay safe during a tornado are similar for mobile homes, RVs, and campgrounds”:

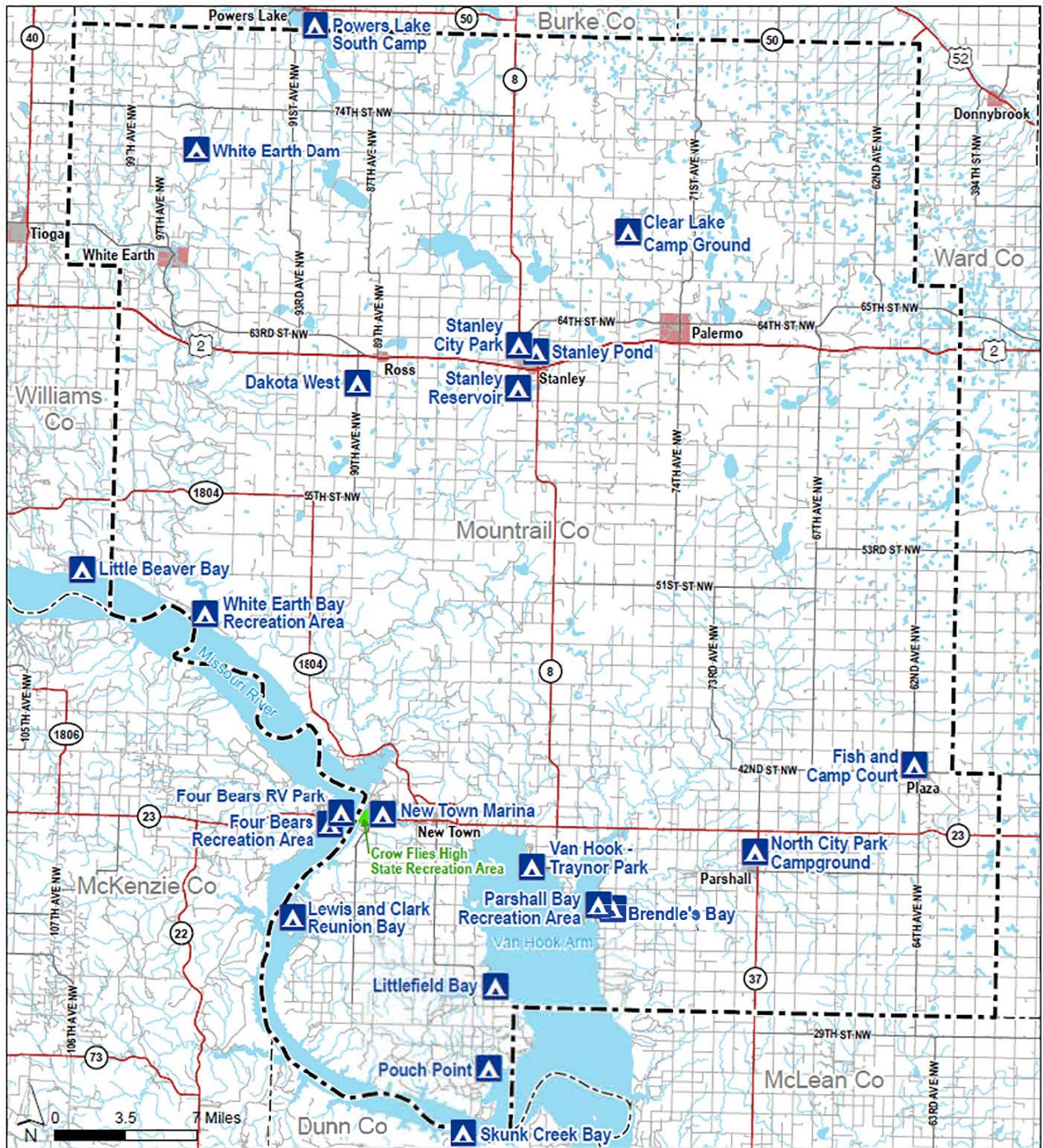
- Go to the basement or an inside room without windows on the lowest floor (bathroom, closet, center hallway).
- Avoid windows.
- For added protection get under something sturdy (a heavy table or workbench). Cover your body with a blanket, sleeping bag or mattress.
- Do not stay in a mobile home.
- Leave cars. They will go airborne.
- If caught in the open, hit the dirt! Find a ditch or culvert and protect your head and torso.

Overall, the county is vulnerable to many aspects of severe summer storms, including tornadoes. Of concern is the lack of preparation and community education. Many residents of Mountrail County and its cities live in manufactured housing with no shelter facility.

depicts the location of the many campgrounds within the county. These campgrounds are very popular, especially during the summer months. Very few have any shelter facilities or are within the range of a siren. With few exceptions, educational materials or signage is not available to notify campground visitors of what to do in a tornado event.

RECORDED TORNADO EVENTS





- Campgrounds
- State Recreation Area
- Mountrail County Boundary
- Other County Boundary
- Open Water
- Cities






Campgrounds





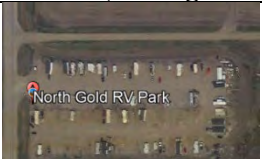


Mountrail County, North Dakota





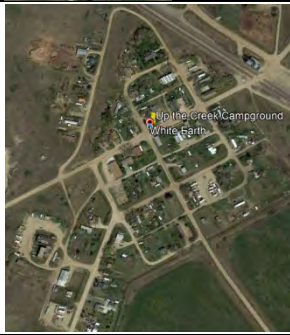
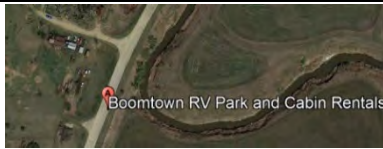

MOBILE HOME PARKS, RV PARKS, AND CAMPGROUNDS - LOCATIONS

Many of these facilities include a mix of uses. Two of these facilities are listed as publicly-owned, Detailed information is not readily available for most of these facilities. The state records indicate ownership and usually contact information. Information regarding whether the uses are mobile home parks, RV parks or campgrounds is available for some and not for others. For a few facilities, the address is likely to be mailing addresses, not the address of the facility.

Available information is provided below includes additional information from project websites and travel guides.

ND License ID and Type	Street Address	Aerial Photo	Additional
CITY OF NEW TOWN Campgrounds are within Siren Sound Plan (See Figure 8.1-1 and Figure 8.1-7)			
LB Mobile Home Park 3506 - Mobile Home Park	4248 83 AVENUE NW NEW TOWN		
New Town Marina Club Mobile Park /and New Town Marina Club Trailer Park 5763 - Mobile Home Park 5764 - Trailer Park/ Campground	9080 39th ST NW NEW TOWN		
Van Hook/Traynor Park 1361 - Trailer Park/ Campground	8235 37 STREET NW NEW TOWN (Located outside of the city limits)		
CITY OF PALERMO Campgrounds are within Siren Sound Plan (See Figure 8.1-2)			
Fox RV Park LLC 3445 - Trailer Park/ Campground	340 BROADWAY PALERMO		
LD MHP. LLP 5453 - Mobile Home Park 5454 - Trailer Park/ Campground	157 INDIANA STREET PALERMO		

CITY OF PARSHALL Campgrounds are within a Siren Sound Plan (See Figure 8.1-8 and Figure 8.8-8)				
Brendles Bay Inc 2601 - Trailer Park/ Campground 2602 - Trailer Park/ Campground	7951 35 STREET NW PARSHALL			46 RV sites with water, sewer + electric 13 sites with electric
Parshall Bay Campground Parshall Bay RV Park 7016 - Trailer Park/ Campground 4512 - Trailer Park/ Campground	3820 72 AVENUE NW PARSHALL			100 sites, tents, 40 ft max RV length
Rock Ridge Estates at Parshall 7250 - Mobile Home Park	7250 38 Street NW PARSHALL			
CITY OF PLAZA Campgrounds are within a Siren Sound Plan (See Figure 8.1-4)				
Edwards Trailer Court 5620 - Mobile Home Park	100 7 AVENUE PLAZA			
CITY OF ROSS Campgrounds are within a Siren Sound Plan (See Figure 8.1-5)				
North Gold RV Park 3983 - Trailer Park/ Campground	6224 89 AVENUE NW ROSS			
Dakota West RV Park	113 3 rd St E ROSS			21 RV sites, 6 full hookups, 2 drive-thru
CITY OF STANLEY Campgrounds are within Siren Sound Plan (See Figure 8.1-6)				
High View RV Park 4184 - Trailer Park/ Campground	8004 HIGHWAY 2 STANLEY	Location not found		
Juma's RV Park East 3354 - Trailer Park/ Campground 5336 - Trailer Park/ Campground	6120 HIGHWAY 8 STANLEY			
K and C Roadside RV Park 5236 - Trailer Park/ Campground	214 12 Avenue SW STANLEY	Location not found		
Skaar Trailer Court 2092 - Mobile Home Park	BOX 372 STANLEY	Location not found		

<p>West Side Park 5574 - Mobile Home Park</p>	<p>525 4 ST SE STANLEY</p>		
<p>Stanley Public Campground 1991 - Trailer Park/ Campground</p>	<p>102 N Main Street BOX 901 STANLEY</p>		<p>10 sites, RVs only; no tents</p>
<p>Stonehouse RV Park 6027 - Mobile Home Park 7456 - Trailer Park/ Campground</p>	<p>4 5 AVENUE SW STANLEY</p>		
<p>Trailsmen Mobile Home Park 6028 - Mobile Home Park</p>	<p>5 Avenue South STANLEY</p>		
<p>CITY OF WHITE EARTH Campgrounds are a within Siren Sound Plan (See Figure 8.1-6)</p>			
<p>ST&S Trailer Court 4609 - Trailer Park/ Campground</p>	<p>314 MCTAVISH AVENUE WHITE EARTH</p>		
<p>Up the Creek Campground 4625 - Trailer Park/ Campground</p>	<p>#53 WHITE EARTH ROAD WHITE EARTH</p>		
<p>White Earth Bay LLC 4712 - Trailer Park/ Campground</p>	<p>35 C STREET WHITE EARTH</p>		
<p style="text-align: center;">OTHER MAPPED CAMPGROUNDS</p>			
<p>Deep Water Creek</p>	<p>72nd Ave NW</p>		<p>30 sites (April – Sept). Tents</p>
<p>Clear Lake Campground, Pouch Point and Recreation Area. Stanley Pond and the White Earth Bay Recreation Area</p>	<p>Mapped but Details unknown</p>		

Clear Lake Campground, Pouch Point and Recreation Area. Stanley Pond and the White Earth Bay Recreation Area	Mapped but Details unknown	
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MOBILE HOME PARKS, RV PARKS, AND CAMPGROUNDS - POPULATION

This vulnerable population is likely to exceed 2,000 persons at the peak of the summer vacation period. This information will be more readily available once more the 2020 census details on mobile homes is released. The 201 data from the US Census ACS estimates indicates a total of 272 mobile homes in rural Mountrail County and 2 1 in the cities (Other Mobile Homes) included in the table below.

LICENSED MOBILE HOME OR RV PARK AND OTHERS ¹ PLUS CAMPGROUNDS					
Name	License Type	Street Address	City	Lots	Residents ¹
Fladeland Mobile Home Park	Mobile Home Park	8105 43 Street NW	New Town	10	362
Other Mobile Homes ²	n/a	Multiple		116	
Fox RV Park LLC	RV Park/ Campground	340 Broadway	Palermo	7	14
LD MHP, LLC	Mobile Home Park	157 Indiana Street		14	75
Other Mobile Homes	n/a	Multiple		12	
Brendles Bay Inc	Mobile Home Park	7951 35 Street NW	Parshall	1606	unknown
Rock Ridge Estates at Parshall	Mobile Home Park	7250 38 Street NW		84	unknown
Other Mobile Homes	n/a	Multiple		18	52
Edwards Trailer Court	RV Park/ Campground	100 7th Avenue	Plaza	18	36
Other Mobile Homes	n/a	Multiple	Ross	8	23
Clear Water Lake	RV Park/ Campground	Clearlake NW Rd	Stanley	14	84
Upland RV Park	RV Park/ Campground	8004 Highway 2		18	
J & C Campground	RV Park/ Campground	214 12th SW Ave		10	
Skaar Trailer Court	Mobile Home Park	209 3rd SE Ave		4	212
Trailsmen Mobile Home Court	Mobile Home Park	5 Avenue South		26	
Other Mobile Homes	n/a	Multiple		44	
Other Mobile Homes	n/a	Multiple	White Earth	4	11
Other Mobile Homes	n/a	Multiple	Rural Mountrail	272	781
				Total	1,650+

Sources: ND Department of Health (Licensed MH Parks, RV Parks and Campgrounds; US Census 2019 ACS

¹ Very preliminary estimates of this group of vulnerable people

² Mobile Homes on Lots (US Census 201 ACS)

³ Mobile Homes on Lots (US Census 2019 ACS)

APPENDIX 6
Monitoring
Forms

MONITORING FORMS

Mitigation Action Progress Report Form

Progress Report Period	From Date:	To Date:
Project Title		
Champion		
Contact Name		
Contact Phone/Email		
Project Status	<input type="checkbox"/> Project Completed <input type="checkbox"/> Project Cancelled <input type="checkbox"/> Project on Schedule <input type="checkbox"/> Anticipated Completion Date _____ <input type="checkbox"/> Project Delayed Explain _____	
1. What was accomplished for this project during this reporting period? _____ _____		
2. What obstacles, problems, or delays did the project encounter? _____ _____		
3. If completed, is the project still relevant? Should the project be changed or revised? _____ _____		
4. Other comments _____ _____		

Summary of Project Progress for this Report Period

Plan Section	Consideration	Explanation
Planning Process	Should new jurisdictions and/or districts be invited to participate in future plan updates?	
	Have any internal or external agencies been invaluable to the mitigation strategy?	
	Can any procedures (e.g., meeting announcements, plan updates) be done differently or more efficiently?	
	Has the Planning Team undertaken any public outreach activities?	
	How can public participation be improved?	
	Have there been any changes in public support and/or decision-maker priorities related to hazard mitigation?	
Capacity Assessment	Have jurisdictions adopted new policies, plans, regulations, or reports that could be incorporated into this plan?	
	Are there different or additional administrative, human, technical, and financial resources available for mitigation planning?	
	Are there different or new education and outreach programs and resources available for mitigation activities?	
	Has NFIP participation changed in the participating jurisdictions?	
Risk Assessment	Has a natural and/or technical or human-caused disaster occurred?	
	Should the list of hazards addressed in the plan be modified?	
	Are there new data sources and/or additional maps and studies available? If so, what are they and what have they revealed? Should the information be incorporated into future plan updates?	
	Do any new critical facilities or infrastructure need to be added to the asset lists?	
	Have any changes in development trends occurred that could create additional risks?	
	Are there repetitive losses and/or severe repetitive losses to document?	

Plan Update Evaluation Worksheet

Plan Section	Consideration	Explanation
Mitigation Strategy	Is the mitigation strategy being implemented as anticipated? Were the cost and timeline estimates accurate?	
	Should new mitigation actions be added to the Action Plan? Should existing mitigation actions be revised or eliminated from the plan?	
	Are there new obstacles that were not anticipated in the plan that will need to be considered in the next plan update?	
	Are there new funding sources to consider?	
	Have elements of the plan been incorporated into other planning mechanisms?	
Plan Maintenance Procedures	Was the plan monitored and evaluated as anticipated?	
	What are needed improvements to the procedures?	

APPENDIX 7
Final
Approvals

September 30, 2022

Trudy Rudland, Chair
Mountrail County Commission
101 North Main Street
PO Box 309
Stanley, ND 58784

Dear Chair Rudland:

Congratulations on your communities' successful efforts to increase resilience to emergencies and disasters through Mountrail County's recent comprehensive mitigation planning initiative, led by Emergency Manager Warren Bogert.

The N.D. Department of Emergency Services (NDDes) is currently a participant in the federal Program Administration by States (PAS) Pilot Program, which delegates the authority to approve local Multi-Hazard Mitigation Plans (MHMPs) to our office. Per our operational agreement for the PAS Program, we have determined the Mountrail County Multi-Hazard Mitigation Plan meets federal requirements under the Disaster Mitigation Act of 2000 as contained in 44 CFR 201.6.

The plan is approved for the time period of September 28, 2022, through September 27, 2027, for Mountrail County; and the Cities of New Town, Palermo, Parshall, Plaza, Ross, Stanley, and White Earth. For your records, we are providing you with the enclosed letter from FEMA supporting our approval of your MHMP and indicating your jurisdictions' eligibility to apply for funding under FEMA's Hazard Mitigation Assistance (HMA) grant programs. We have also included a sample news release regarding your county's achievement for your use.

Now that your MHMP has been completed and approved, please submit any eligible costs, in-kind documentation (if applicable), and proof of payments to Hazard Mitigation Specialist Carl Meyer for reimbursement. Carl will review the documentation and, if eligible, reimburse all costs as outlined in the approved scope of work and budget of the project. Carl's contact information is 701-328-8108, carlmeyer@nd.gov.

Once all eligible costs have been reimbursed, the project will be ready for closeout at the State and Federal levels. NDDes will forward a closeout letter template with examples for your use, which will include the final project costs. The county will simply need to copy this template onto its letterhead, sign the document, and resubmit the completed letter back to NDDes. If a final 404 quarterly report form has never been submitted, NDDes will request that as well showing the project is 100% completed with the final approval date including day, month and year. NDDes will submit all closeout paperwork to FEMA once it has been compiled.

During the next five years, we encourage the Mountrail County Planning Team to ensure the MHMP becomes a living document. We recommend the Planning Team begin that effort by periodically



Doug
Burgum
GOVERNOR

Major General
Alan S. Dohrmann
DIRECTOR - DEPARTMENT
OF EMERGENCY SERVICES

Darin
Hanson
DIRECTOR - DIVISION
OF HOMELAND SECURITY

Daniel
Donlin
DIRECTOR - DIVISION
OF STATE RADIO

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Dakota | Emergency Services
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updating content and by pursuing mitigation projects, as outlined in the plan. Our planners provided comments and recommended revisions in the enclosed Plan Review Tool, which will help guide update efforts in the future.

We hope Mountrail County considers pursuing grants currently available through the HMA. Please contact Todd Joersz, State Hazard Mitigation Officer, at 701-328-8261, tjoersz@nd.gov, for additional information.

NDDDES staff can also assist your Planning Team move forward with plan implementation. Questions about mitigation planning can be directed to Kathleen Donahue, Planning Section Deputy Chief, at 701-328-8113, kdonahue@nd.gov, and Hope Brighton, Mitigation Planner, at 701-328-8185, hopebrighton@nd.gov.

Thanks for all your hard work to keep our state safer.

Sincerely,



Justin Messner
Disaster Recovery Chief
N.D. Division of Homeland Security

Enclosures: September 28, 2022 FEMA Compliance Letter
Mountrail County Plan Review Tool
Sample News Release

cc: Warren Bogert, Mountrail County Emergency Manager



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Ensuring a safe and secure homeland for all North Dakotans

U.S. Department of Homeland Security
Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267



FEMA

R8-MT

September 28, 2022

Mr. Justin Messner
Disaster Recovery Chief
North Dakota Department of Emergency Services
Fraire Barracks Lane, Building 35
P.O. Box 5511
Bismarck, North Dakota 58502-5511

Dear Mr. Messner:

We are pleased to inform you that effective September 28, 2022, the Mountrail County, ND Multi-Hazard Mitigation Plan is in compliance with the Federal hazard mitigation planning requirements resulting from the Disaster Mitigation Act of 2000 as contained in 44 CFR 201.6.

As outlined in the FEMA-State Agreement for FEMA-DR-4323-ND, your office has been delegated the authority to review and approve local mitigation plans under the Program Administration by States Program. Our Agency was recently notified that your office completed its review of the Mountrail County, ND Multi-Hazard Mitigation Plan and determined it meets the requirements of 44 CFR 201.6.

The plan approval extends to the following participating jurisdictions that have adopted the plan: Mountrail County County and the Cities of New Town, Palermo, Parshall, Plaza, Ross, Stanley, and White Earth. The approved jurisdictions are eligible for FEMA Hazard Mitigation Assistance grant programs. All requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular programs under which the application is submitted.

This plan is approved through September 27, 2027. A local jurisdiction must revise its plan to reflect changes in development, progress in local mitigation efforts, changes in priorities, and resubmit for approval within five years to continue to be eligible for mitigation project grant funding.

Sincerely,

NICOLE M
AIMONE

Digitally signed by
NICOLE M AIMONE
Date: 2022.09.28
10:56:55 -06'00'

Nicole M. Aimone
Acting Mitigation Division Director

Enclosure

cc: Kathleen Donahue, Planning Section Deputy Chief, North Dakota Department of Emergency Services

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA’s evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan’s strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: Mountrail County, ND	Title of Plan: Mountrail County ND Multi-Hazard Mitigation Plan	Date of Plan: October 7, 2021 Revised April 22, 2022
Local Point of Contact: Warren Bogert Jr.	Address: 101 Main Street N PO Box 309 Stanley ND 58784-0309	
Title: Disaster Emergency Coordinator	Copy to: Carron Day, Community Planner carronday@gmail.com carron.day@stantec.com	
Agency: Mountrail County Division of Emergency Services	E-Mail: wbogert@co.mountrail.nd.us	
Phone Number: 701-628-2975		

State Reviewer: Kathleen Donahue, NDES Hope Brighton, NDES	Title: Deputy Planning Chief Mitigation Planner	Date: 11/16/2021, 2/22/2022 2/11/2022
Hilary Kendro, Atkins	Senior Hazard Mitigation Planner	11/4/2021

FEMA Reviewer: N/A	Title:	Date:
Date Received in FEMA Region VIII		
Plan Not Approved		
Plan Approvable Pending Adoption	May 9, 2022	
Plan Approved	September 28, 2022	

Mountrail County Plan Update | 2022

SECTION 1: MULTI-JURISDICTION SUMMARY SHEET

#	Jurisdiction Name	Jurisdiction Type	Jurisdiction Contact	Email	Requirements Met (Y/N)				
					A. Planning Process	B. HIRA	C. Mitigation Strategy	D. Update Rqmts.	E. Adoption Resolution
1	Mountrail County	County	Warren Bogert Jr. Disaster Emergency Coordinator	wbogert@co.mountrail.nd.us	Y	Y	Y	Y	Y
2	City of New Town	Municipality	Eileen Zaun, New Town Auditor	ntauditor@restel.net	Y	Y	Y	Y	Y
3	City of Palermo	Municipality	Kathyn Meckle Palermo Auditor	cityofpalermo@midstatetel.com	Y	Y	Y	Y	Y
4	City of Parshall	Municipality	Kelly Woessener Parshall Auditor	cityauditor@restel.com	Y	Y	Y	Y	Y
5	City of Plaza	Municipality	Terry Reese, Plaza Mayor	treese@restel.net	Y	Y	Y	Y	Y
6	City of Ross	Municipality	Diane Siebel Ross Auditor	cityofross@gmail.com	Y	Y	Y	Y	Y
7	City of Stanley	Municipality	Allyn Sveen, Stanley Auditor	allyn@stanleynd.us	Y	Y	Y	Y	Y
8	City of White Earth	Municipality	Shannon Swain, White Earth Auditor	whiteearthcity@restel.com	Y	Y	Y	Y	Y

**SECTION 2:
REGULATION CHECKLIST**

1. REGULATION CHECKLIST		Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or		
ELEMENT A. PLANNING PROCESS				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Appendix 1 documents the process. Pages 3-5 and 8-10 identify who was involved. Appendix 2 describes the process of developing the mitigation strategies		Y	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Appendix 1 Page 1 identifies emergency managers who were consulted, page 2 lists other consultations and page 9 identifies the full email outreach list		Y	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Appendix 1 Pages 2-8 describes community outreach		Y	
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Appendix 2, page 22-24 lists the information and how it was used in developing the plan		Y	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii)) Mitigation Strategy # 16 is designed to keep residents in Mountrail County and its cities interested in hazard mitigation. If they follow the available outreach materials they will also be exposed to upcoming opportunities to participate.	Chapter 9, Section 9.2 addresses LEPC annual monitoring. These meetings are advertised to the public and once a year representatives of the cities will report on progress.		Y	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Section 9.2 addresses LEPC annual monitoring.		Y	
Needs Revision				
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT				

1. REGULATION CHECKLIST		Location in Plan (section and/or	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i)) Each hazard includes discussion on the following: Hazard Profile, Past Occurrence, Vulnerability, Extent, Magnitude, Impact, Probability, Changes in Development, Existing Capabilities, Critical, Strategic and Key Facilities, and Key Issues and Related Mitigation Strategies. If the section is a general topic, like severe Summer Weather, some of this discussion may cover the overall topic and others are provided for the sub-hazard (Heavy Snow, Ice Storm, etc.)	See updated Chapter 4 and Chapter 5	Y		
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	See updated Chapter 4 and Chapter 5	Y		
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii)) Vulnerability discussed below.	See updated Chapter 4 and Chapter 5.	Y		
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	There have been no repetitively damaged structures	Y		
ELEMENT B: REQUIRED REVISIONS				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Chapter 7 Pages 128-130	Y		
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii)) The Community Status Book Report indicates that both Parshall and White Earth have participated in the National Flood Program since xxx using maps dated 1986. The current map for the Fort Berthold Reservation, part of which is in Mountrail County, is dated 1988. There is no indication that their many decades of continued compliance will change.	Chapter 3, Pages 40-41	Y		
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i)) All of the goals from the county's 2015 Hazard Plan, are carried into this Hazard Plan,	Chapter 8, Section 8.2	Y		

1. REGULATION CHECKLIST		Location in Plan (section and/or	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii)) Mitigation strategies that are essential in reducing the effects of hazards on buildings and infrastructure included those related to compliance with adopted building codes, the training and coordination of first responders, required setbacks from landslide areas and required setbacks from facilities and areas with high potential for a hazardous materials incidents.	Chapter 8, Section 8.2 Mitigation Strategies #3, #7-#10, #12-#17, #26, #29, #36, #38, #42, #43, #45, #46	Y		
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii)) Mitigation strategies were prioritized through FEMA’s STAPLEE Method to assess and select from the range of mitigation options. Appendix 2 Table A2-7 illustrates this detailed analysis. Cost-benefit is discussed on page 10 of that Appendix. cost-benefit These priorities are included in the Mitigation Strategies tables. Implementation and administration are the responsibility of the position or agency indicated IN Chapter 7, Table 7.1-4.	Appendix 2 Table A2-7 illustrates this detailed analysis. Cost-benefit is discussed on page A2-10. Chapter 7, Table 7.1-4.	Y		
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii)) Mitigation strategies #7, #8, #9, #10 and #12 identify specific zoning and procedural changes needed to address hazards. In addition, Chapter 9, Section 9.4 identifies an annual LEPC meeting to address this integration.	Chapter 9, Section 9.4	Y		
ELEMENT C: REQUIRED REVISIONS				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3)) The extent of development related to the oil and gas industry development has changed significantly since 2015. The risk of hazardous material release/spill incidents has also expanded. As said elsewhere, the county has considerable experience and is well-prepared to respond to those incidents. This Hazard Plan has expanded its focus on that topic. Whereas the 2015 Hazard Plan included about five pages on hazardous material release/spill incidents, this plan includes about over 30 pages.	Chapter 5, Section 5.3	Y		

1. REGULATION CHECKLIST		Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or		
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3)) This Hazard Plan is building on the county’s success in meeting the challenge to install emergency warning sirens. The focus remains in this Hazard Plan continues to be sure that any additional needs for emergency sirens are met. The continuing need for emergency shelters is also identified.	Success with the emergency sirens is presented in Chapter 8 pages 140-142. Mitigation Strategies #20 and #21 address emergency sirens. Mitigation Strategies #22, #23, #24, and #25 address the need for shelters. All are included for the county and all of the cities.		Y	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3)) The local priorities have not changed. The focus of this Hazard Plan is on those hazards having “high” or “moderate” risk.	Chapter 1, Section 1.3 Chapter 6		Y	
<u>ELEMENT D: REQUIRED REVISIONS</u>				
ELEMENT E. PLAN ADOPTION				
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))			N/A	
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))			Y	
<u>ELEMENT E: REQUIRED REVISIONS</u>				
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)				
F1.				
F2.				
<u>ELEMENT F: REQUIRED REVISIONS</u>				

SECTION 3: PLAN ASSESSMENT

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

Strengths

Participants represented such organizations as county Planning and Zoning, Emergency Management, the County Commission, the Sheriff's Office, Geographic Information Systems (GIS) staff and the Auditor; and city officials representing fire department, ambulance services, mayors, auditors, and police. While COVID-19 presented public safety challenges that restricted in-person gatherings, the Planning Team implemented alternate methods through surveys and queries to elicit feedback and insight from partners, regulatory agencies and adjacent jurisdictions. The Planning Team relied upon county and city staff and response agencies to review documents and provide insights.

During the planning process, invitations were posted in high traffic areas such as grocery stores and gas stations and posted on community media sites. To support the planning process, the plan utilized an online community survey. A "Welcome to New Town" electronic sign featured a September 23 meeting at the New Town Civic Center, a great way to attract attention. We share the Planning Team's disappointment that an extensive outreach effort did not generate more public involvement. But those who participated did contribute to the final document and evidently were in support of risk assessment findings and strategies.

Kudos to the Mountrail County Planning Team for ensuring provisions are in place in the mitigation strategies to include the public.

The PowerPoint slides for meetings of the Mountrail County Multi-Hazard Mitigation Plan (MHMP) Planning Team were well done and offered a solid basis for understanding mitigation and for initiating the planning process. Revised content reflected a more robust planning process led by the Mountrail County Emergency Manager.

The Appendix included an extensive listing of documents reviewed including flood studies, zoning ordinances, a county comprehensive plan, state agencies' resources and reports, federal reports, and other county mitigation plans.

Section 9 Plan Maintenance serves as an excellent roadmap for ensuring the plan remains viable and relevant to the communities and Mountrail County. A strong feature of this section is the implementation and integration process that describes how to incorporate the plan into other planning mechanisms. The plan amendment process is another good feature of the plan that formalizes how updates are made, from soliciting input from the Whole Community to how additions are finalized. We strongly encourage the Planning Team to adopt this strategy and follow through with the thoughtful monitoring forms found in Appendix 6.

Opportunities for Improvement

For the next update, expand representation to include historical organizations, community groups, parks and recreation organizations, citizens, and local businesses such as a law firm owner who participated in an evening meeting in Stanley.

It's not clear if the individuals represented in the Mountrail County Multi-Hazard Mitigation Chart – Outreach List, Appendix 1, p. 1, attended the meetings and/or provided data to support plan development. When inviting these participants, be sure to explain the value of the process and how they can contribute to understanding and mitigating hazards. The plan also states emergency managers from adjoining jurisdictions were asked to review portions of the plan. Close the loop by indicating whether they shared insights with the Mountrail County planning group.

The Plan should more fully utilize social media to encourage and solicit public participation. A plan monitoring method for tracking status of mitigation actions would be beneficial and help to document action progression.

Element B: Hazard Identification and Risk Assessment

Strengths

The plan includes one of the best descriptions of mitigation as follows: *The goal of mitigation is to reduce the future impacts of a hazard including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation practices are based on sound risk assessments.* The plan's Hazard Identification and Risk Assessment is moving the needle closer to sound mitigation practices. The plan includes an interesting approach to identifying hazards by comparing risk assessments found in the State of North Dakota Enhanced Mitigation Mission Area Operations Plan, mitigation plans from six adjacent counties and the Mandan, Hidatsa and Arikara (MHA) Nation Mitigation Plan.

Section 4 Natural Hazards features analyses that will help plan users better understand risk. As examples:

- Landslides – Two locations -- One extending about 20 miles downstream from Williston and the other extending about the same distance downstream from the Four Bears Bridge crossing of State Highway 23 near New Town. The east valley wall of the Missouri River, south of the bridge near New Town, is a landslide area about two miles long.
- Severe Summer Weather/Extreme Heat -- Elderly persons are at increased risk of heat-related illness. As discussed previously, recent estimates show approximately 11% of Mountrail County residents are 65 years of age or older. The percentage of the elderly residents varies across the county with Stanley having the highest percentage at almost 16%.
- Severe Winter Weather -- As a result of the state's recent population growth, many newcomers are not accustomed to extreme cold and may not be equipped with the proper cold weather clothing. In addition, due to the lack of available and affordable housing in the area, many of the newcomers are living in recreational vehicles or man camps that may not have adequate heating.
- Dam Failure – Without access to dam inundation maps, it can be difficult to estimate potential impacts on communities. However, the plan makes a strong case for leveraging flood inundation maps to determine potential inundation.

The plan also features a seldom used approach to prioritizing hazards and threats: CPRI value = [(Probability X .45) + (Magnitude X .30) + (Warning Time X .15) + (Duration X .10)]. The Planning Team applied this formula well when analyzing the jurisdictions' most concerning hazards.

The Key Issues and Related Mitigation Strategies sections are strong additions to the plan. They summarize key concerns and then offer potential solutions for the jurisdictions to pursue.

While federal regulations do not address technological hazards and adversarial threats, we believe the analyses of these hazards in the Mountrail County mitigation plan are welcome additions. The public health incidents profile discussed the ongoing COVID-19 pandemic while the hazardous materials profile examined the threat posed by oil development in the region. A map of locations of drilling rigs adds clarity when discussing the risk posed by gas and oil production. The plan also includes information on Minot Air Force Base's three missile alert facilities and 22 active Minuteman III launch facilities located in Mountrail County. The hazardous materials profile also includes information on the increasing number of rail cars carrying crude oil.

While the Planning Team decided against inclusion of space weather due to limited guidance for local jurisdictions, the goal is to address the hazard in the next plan. We were glad to see an additional mitigation action added to address this hazard as follows: *In order to prepare for the next Hazard Plan update, collect articles and news features on solar flares and magnetic storms impacting North Dakota. Include this topic in any community survey related to the next plan update. Participate in educational events hosted by NDDDES on this topic.*

The revised content expanded a strategy for White Earth to consider participating in the National Flood Insurance Program Community Rating System (NFIP CRS). We hope the community does so.

Opportunities for Improvement

For the next update, strengthen the impact analysis and look at each community. The impacts are general and not specific. Think of impacts from the perspective of what the plan user needs to know when developing strategies to mitigate impacts of the hazard. The mitigation actions could be further refined by adding specificity that a solid vulnerability analysis would provide.

Element C: Mitigation Strategy

Strengths

The plan's goals are comprehensive and consistent with the identified hazards.

Kudos to the Mountrail Planning Team for its tradition of identifying and then enacting mitigation strategies. As stated in Appendix 1, p. 2, "The county was very successful in implementing the 2015 Hazard Plan. Continued success is expected." We hope Mountrail County and the cities continue to create a culture of resilience.

A good addition to the plan, Integration Into Existing Planning Mechanism, outlines the process for ensuring integration of the hazard mitigation plan with other planning mechanisms. Doing so not only ensures alignment of plans, but it also keeps resilience at the forefront as a priority. The plan

identifies opportunities for integrating the mitigation plan into existing planning mechanisms and takes it a step further by identifying leads for integration. We hope these leads become advocates for advancing the plan and ensuring integration takes place. The mitigation plan can be an excellent resource for communities when developing/revising plans. Be sure to add the emergency operations plan to this process. The data on risk and vulnerability will lead to actions that can be taken during an event to mitigate impacts.

While the plan identifies only two jurisdictions as participants in NFIP, Parshall and White Earth, it does encourage participation in the program by the other jurisdictions. The plan also identifies a mitigation action that tasks floodplain administrators with encouraging local participation in the NFIP. Revised content included a mitigation action to review the city's adopted floodplain ordinances.

Revisions to the plan included an excellent addition titled "Facilities with Increased Vulnerability to Tornadoes". The content of this section examines previous tornado events and includes the location and aerial maps of recreation areas. The second also addresses whether these sites are in the county siren plan as well as the estimated number of residents at each location. This addition gives an enhanced perspective on hazard vulnerability of these areas and a basis for deciding sheltering requirements.

The plan organizes capacity into various categories such as hazard mitigation efforts; intergovernmental coordination; emergency services; planning services; administrative and fiscal; and education and outreach. The plan uses FEMA STAPLEE method to prioritize mitigation strategies.

Opportunities for Improvement

We recommend for the next plan that City of Parshall representatives consider participating in the NFIP CRS. We also hope the other communities enroll in NFIP. A potential mitigation action that should be incorporated into future updates is "conducting a NFIP workshop." We encourage the Planning Team to pursue this and to invite the North Dakota Department of Water Resources NFIP Coordinator to a meeting to discuss requirements and benefits of the NFIP Program.

The next plan revision would benefit by the identification of sources of funding for each mitigation action. The sources of funding would serve as a starting point for those tasked with figuring out how best to implement the actions.

While it is not required, it would be beneficial to address emergency management capabilities.

For the next update, ensure the questionnaire includes a field for survey participants to list their jurisdictions.

Element D: Plan Review, Evaluation, and Implementation (Plan Updates Only)

Strengths

The Community Profiles contained in Annex A broaden the understanding of geography, population, and hazards. The plan also discusses future development. As an example, the profile for Parshall states on p. 129, "The city's commercial development continues to expand along ND Highway 28.

The city is also experiencing new residential development northwest of previous development areas.”

B. Resources for Implementing Your Approved Plan

STATE OF NORTH DAKOTA

The N.D. Department of Emergency Services (NDES) is developing a Hazard Mitigation Toolbox on its webpage: <https://www.des.nd.gov/recovery-mitigation>. The goal is to provide guidance to emergency managers and their contractors regarding available resources.

Additionally, NDES periodically hosts G318 Mitigation Workshop for Local Governments. Class announcements are listed at: <https://www.des.nd.gov/events>.

FEMA FUNDING SOURCES

COMMUNITY BUILDING GRANTS

Building Blocks for Sustainable Communities: The EPA Office of Sustainable Communities sometimes offers grants to support activities that improve the quality of development and protect human health and the environment. When these grants are offered, they will always be announced on www.grants.gov.

Building Resilient Infrastructure and Communities (BRIC) Program: The BRIC supports states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC replaced the Pre-Disaster Mitigation (PDM) program. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency. BRIC funds are distributed from FEMA to the state. For more information <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>.

Community Development Block Grants (CDBG): The U.S. Department of Commerce administers the Community Development Block Grants (CDBG) program which are intended to provide low and moderate-income households with viable communities, including decent housing, as suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and drainage improvements. In limited instances, and during the times of “urgent need” (e.g. post disaster) as defined by the CDBG National Objectives, CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely

damaged by a hazard event. CDBG funds can be used to match FEMA grants. More Information:

https://www.hud.gov/program_offices/comm_planning/cdbg

General Services Administration, Sale of Federal Surplus Personal Property: This program sells property no longer needed by the federal government. The program provides individuals, businesses, and organizations the opportunity to enter competitive bids for purchase of a wide variety of personal property and equipment. Normally, there are no restrictions on the property purchased. More information: <http://www.gsa.gov/portal/category/21045>

Hazardous Materials Emergency Preparedness Grants: Grant funds are passed through to local emergency management offices and HazMat teams having functional and active LEPC groups. More information: <http://www.phmsa.dot.gov/hazmat/grants>

Hazard Mitigation Grant Program (HMGP): The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing, or elevation to reduce future damage, minor structural improvements, and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan). Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations, authorized tribal nations or organizations, or institutions that perform essential government services. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. For more information <https://www.fema.gov/grants/mitigation/hazard-mitigation>.

NOAA Office of Education Grants: The Office of Education supports formal, informal, and non-formal education projects and programs through competitively awarded grants and cooperative agreements to a variety of educational institutions and organizations in the United States. More information: <http://www.noaa.gov/office-education/grants>

NRCS Environmental Quality Incentives Program (EQIP): The Environmental Quality Incentives Program, administered through the NRCS, is a cost-share program that provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland. Owners of land in agricultural or forest production or persons who are engaged in livestock, agricultural or forest production on eligible land and that have a natural resource concern on that land

may apply to participate in EQIP. Eligible land includes cropland, rangeland, pastureland, non-industrial private forestland and other farm or ranch lands. EQUIP is another funding mechanism for landowner fuel reduction projects. More information: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

Urban and Community Forestry (UCF) Program: A cooperative program of the U.S. Forest Service that focuses on the stewardship of urban natural resources. With 80 percent of the nation's population in urban areas, there are strong environmental, social, and economic cases to be made for the conservation of green spaces to guide growth and revitalize city centers and older suburbs. UCF responds to the needs of urban areas by maintaining, restoring, and improving urban forest ecosystems on more than 70 million acres. Through these efforts the program encourages and promotes the creation of healthier, more livable urban environments across the nation. These grant programs are focused on issues and landscapes of national importance and prioritized through state and regional assessments. Information: <http://www.fs.fed.us/managing-land/urban-forests/ucf>

U.S. Department of Agriculture, Community Facilities Loans and Grants: Provides grants (and loans) to cities, counties, states, and other public entities to improve community facilities for essential services to rural residents. Projects can include fire and rescue services; funds have been provided to purchase fire-fighting equipment for rural areas. No match is required. More information: http://www.usda.gov/wps/portal/usda/usdahome?navid=GRANTS_LOANS

U.S. Department of Homeland Security: Enhances the ability of states, local and tribal jurisdictions, and other regional authorities in the preparation, prevention, and response to terrorist attacks and other disasters, by distributing grant funds. Localities can use grants for planning, equipment, training, and exercise needs. These grants include, but are not limited to areas of Critical Infrastructure Protection Equipment and Training for First Responders, and Homeland Security Grants. More information: <http://www.dhs.gov/>

FIRE RELATED GRANT PROGRAMS:

Community Planning Assistance for Wildfire: Established in 2015 by Headwaters Economics and Wildfire Planning International, Community Planning Assistance for Wildfire (CPAW) works with communities to reduce wildfire risks through improved land use planning. CPAW is a grant-funded program providing communities with professional assistance from foresters, planners, economists, and wildfire risk modelers to integrate wildfire mitigation into the development planning process. All services and recommendations are site-specific and come at no cost to the community. More information: <http://planningforwildfire.org/what-we-do/>

FEMA, Readiness, Response and Recovery Directorate, Fire Management Assistance Grant Program: This program provides grants to states, tribal governments and local governments

for the mitigation, management and control of any fire burning on publicly (non-federal) or privately owned forest or grassland that threatens such destruction as would constitute a major disaster. The grants are made in the form of cost sharing with the federal share being 75 percent of total eligible costs. Grant approvals are made within 1 to 72 hours from time of request. Periodic announcements of grant availability. More information: <https://www.fema.gov/welcome-assistance-firefighters-grant-program>

Secure Rural Schools Program: The Self-Determination Act has recently been reauthorized and now includes specific language regarding the Firewise Communities program. Counties seeking funding under Title III must use the funds to perform work under the Firewise Communities program. Counties applying for Title III funds to implement Firewise activities can assist in all aspects of a community's recognition process, including conducting or assisting with community assessments, helping the community create an action plan, assisting with an annual Firewise Day, assisting with local wildfire mitigation projects, and communicating with the state liaison and the national program to ensure a smooth application process. Counties that previously used Title III funds for other wildfire preparation activities such as the Fire Safe Councils or similar would be able to carry out many of the same activities as they had before. However, with the new language, counties would be required to show that funds used for these activities were carried out under the Firewise Communities program. More information: <https://www.fs.usda.gov/working-with-us/secure-rural-schools>

Fire Management Assistance Program: This program is authorized under Section 420 of the Stafford Act. It allows for the mitigation, management, and control of fires burning on publicly or privately owned forest or grasslands that threaten destruction that would constitute a major disaster. More information: <http://www.fema.gov/fire-management-assistance-grant-program>

Fire Prevention and Safety Grants: The [Fire Prevention and Safety Grants](#) (FP&S) are part of the Assistance to Firefighters Grants, and are administered by the FEMA. FP&S Grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and reduce injury and prevent death. Eligibility includes fire departments, national, regional, state, and local organizations, Native American tribal organizations, and/or community organizations recognized for their experience and expertise in fire prevention and safety programs and activities. Private non-profit and public organizations are also eligible. Interested applicants are advised to check the website at <https://www.fema.gov/grants/preparedness/firefighters/safety-awards>.

Wildland Urban Interface Community and Rural Fire Assistance: The program is designed to implement the National Fire Plan and assist communities at risk from catastrophic wildland fires. The program provides grants, technical assistance, and training for community programs that develop local capability, including: Assessment and planning, mitigation activities, and community and homeowner education and action; hazardous fuels

reduction activities, including the training, monitoring or maintenance associated with such hazardous fuels reduction activities, on federal land, or on adjacent nonfederal land for activities that mitigate the threat of catastrophic fire to communities and natural resources in high risk areas; and, enhancement of knowledge and fire protection capability of rural fire districts through assistance in education and training, protective clothing and equipment purchase, and mitigation methods on a cost share basis. More information at: https://www.fedprogramsearch.com/cfda/national_fire_plan-wildland_urban_interface_community_fire_assistance.htm

U.S. Fish & Wildlife Service, Rural Fire Assistance Grants: Each year, the U.S. Fish & Wildlife Service (FWS) provides Rural Fire Assistance (RFA) grants to neighboring community fire departments to enhance local wildfire protection, purchase equipment, and train volunteer firefighters. Service fire staff also assist directly with community projects. These efforts reduce the risk to human life and better permit FWS firefighters to interact and work with community fire organizations when fighting wildfires. The Department of the Interior (DOI) receives an appropriated budget each year for an RFA grant program. The maximum award per grant is \$20,000. The DOI assistance program targets rural and volunteer fire departments that routinely help fight fire on or near DOI lands. More information: http://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml

Western Wildland Urban Interface Grants: The National Fire Plan (NFP) is a long-term strategy for reducing the effects of catastrophic wildfires throughout the nation. The Division of Forestry's NFP Program is implemented within the Division's Fire and Aviation Program through the existing USDA Forest Service, State & Private Forestry, State Fire Assistance Program.

Congress has provided increased funding assistance to states through the U.S. Forest Service State and Private Forestry programs since 2001. The focus of much of this additional funding was mitigating risk in WUI areas. In the West, the State Fire Assistance funding is available and awarded through a competitive process with emphasis on hazard fuel reduction, information and education, and community and homeowner action. This portion of the National Fire Plan was developed to assist interface communities manage the unique hazards they find around them. Long-term solutions to interface challenges require informing and educating people who live in these areas about what they and their local organizations can do to mitigate these hazards.

The 10-Year Comprehensive Strategy focuses on assisting people and communities in the WUI to moderate the threat of catastrophic fire through the four broad goals of improving prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The Western States Wildland Urban Interface Grant may be used to apply for financial assistance towards hazardous fuels and educational projects within the four goals of: improved prevention, reduction of hazardous fuels, restoration of fire-adapted ecosystems and promotion of community assistance. Information: <https://www.westernforesters.org/wui-grants>

WATER RELATED GRANT FUNDING PROGRAMS:

Flood Mitigation Assistance (FMA) Program: The FMA combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is 75 percent. At least 25 percent of the total eligible costs must be provided by a non-federal source. Of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. FMA funds are distributed from FEMA to the state. For more information: <https://www.fema.gov/grants/mitigation/floods>

Rehabilitation of High Hazard Potential Dam Grant Program: FEMA's Rehabilitation of High Hazard Potential Dams (HHPD) grant program provides technical, planning, design, and construction assistance for eligible rehabilitation activities that reduce dam risk and increase community preparedness. More information: <https://www.fema.gov/emergency-managers/risk-management/dam-safety/grants/resources>

EDUCATIONAL RESOURCES:

Beyond the Basics: Best Practices in Local Mitigation Planning: The product of a 5-year research study where the Coastal Hazards Center and the Center for Sustainable Community Design analyzed local mitigation plans to assess their content and quality. The website features numerous examples and best practices that were drawn from the analyzed plans. Visit: <http://mitigationguide.org/>

EPA, Smart Growth in Small Towns and Rural Communities: EPA has consolidated resources just for small towns and rural communities to help them achieve their goals for growth and development while maintaining their distinctive rural character. To learn more, visit: <https://www.epa.gov/smartgrowth/smart-growth-small-towns-and-rural-communities>

EPA, Hazard Mitigation for Natural Disasters: A Starter Guide for Water and Wastewater Utilities. The EPA released guidance on how to mitigate natural disasters specifically for water and wastewater utilities. For more information, visit: <https://www.epa.gov/waterutilityresponse/hazard-mitigation-natural-disasters>

FEMA, Grant Application Training: Each year, FEMA partners with the State on training courses designed to help communities be more successful in their applications for grants. Contact your State Hazard Mitigation Officer for course offering schedules. Example Courses:

- Unified Hazard Mitigation Grant Assistance Application Development Course
- [Benefit Cost Analysis \(BCA\) Toolkit Course](#)

FEMA, Community Assistance Visit: It may be appropriate to set up a Community Assistance Visit with FEMA to provide technical assistance to communities in the review and/or updating of their floodplain ordinances to meet the new model ordinance. Consider contacting your State NFIP Coordinator for more information. More information at: <https://www.fema.gov/glossary/community-assistance-visit-cav>

FEMA: Building Science: The Building Science branch develops and produces multi-hazard mitigation publications, guidance materials, tools, technical bulletins, and recovery advisories that incorporate the most up-to-date building codes, floodproofing requirements, seismic design standards, and wind design requirements for new construction and the repair of existing buildings. To learn more, visit: <https://www.fema.gov/building-science>

Headwaters Economics: Headwaters Economics is an independent, nonprofit research group that works to improve community development and land management decisions in the West. To learn more, visit: <https://headwaterseconomics.org/>

National Integrated Drought Information System: The National Drought Resilience Partnership may provide some additional resources and ideas to mitigate drought hazards and increase awareness of droughts. Visit: <https://www.drought.gov/drought/what-nidis/national-drought-resilience-partnership>.

STAR Community Rating System: Consider measuring your mitigation success by participating in the STAR Community Rating System. Local leaders can use the STAR Community Rating System to assess how sustainable they are, set goals for moving ahead and measure progress along the way. To get started, go to <http://www.starcommunities.org/get-started>

Consider sending the news release with a picture of the Planning Team or with the Commission Chair congratulating the Planning Team.

County Multi-Hazard Mitigation Plan Receives Approval

Commission Chair _____ announced approval of the ____ County Multi-Hazard Mitigation Plan on _____ by the North Dakota Department of Emergency Services Homeland Security Division. Plan development, led by Emergency Manager _____, required the expertise of a broad-based team of public and private partners.

"The intent of hazard mitigation planning is to keep communities safer by understanding hazards and threats and then identifying action steps to reduce their impacts," said _____. "Plan approval allows our communities to pursue federal mitigation grant dollars."

Include specifics about the plan you would like your community to know.

"Approval recognizes the hard work of the _____ County planning team planning teams whose members contributed their expertise to assess their communities' risk and vulnerability and then to identify viable mitigation projects," said Justin Messner, N.D. Division of Homeland Security Disaster Recovery chief. "We encourage the planning teams to take the next step and apply for grant and other funding opportunities to enact their mitigation strategies."

The State of North Dakota is one of only three states that has an agreement with the Federal Emergency Management Agency (FEMA) to administer both the planning and the program portions of Hazard Mitigation Grant Program.

Through FEMA's Program Administration by States Pilot Project, states like North Dakota can administer Hazard Mitigation Grant Programs by meeting the following criteria: have a current approved mitigation plan, demonstrate a commitment to mitigation and have a successful track record or effective mitigation program management.

Since 1997, a total of \$253 million in local, tribal, state and federal funding has been leveraged for mitigation projects that have reduced the impacts of flooding, severe winter weather, severe summer weather and other hazards and threats in North Dakota.

According to a study by the National Institute for Building Standards, pre-disaster mitigation saves an average of \$6 for every \$1 spent.

MOUNTRAIL COUNTY, NORTH DAKOTA
MULTI-HAZARD MITIGATION PLAN
OCTOBER 2022