

Annex F Fergus County

F.1 Mitigation Planning and County Planning Team

This County Annex builds on previous versions of the Fergus County Hazard Mitigation Plan completed in 2014. As part of the regional planning process, the County established a County Planning Team (CPT) to develop the mitigation plan and identify potential mitigation projects. The following incorporated communities participated in the DMA planning process with the County:

- City of Lewistown
- Town of Denton
- Town of Grass Range
- Town of Moore
- Town of Winifred

More details on the planning process followed and how the counties, municipalities and stakeholders participated can be referenced in Chapter 3 of the base plan. A full list of local government departments and stakeholders that participated can be found in Appendix A.

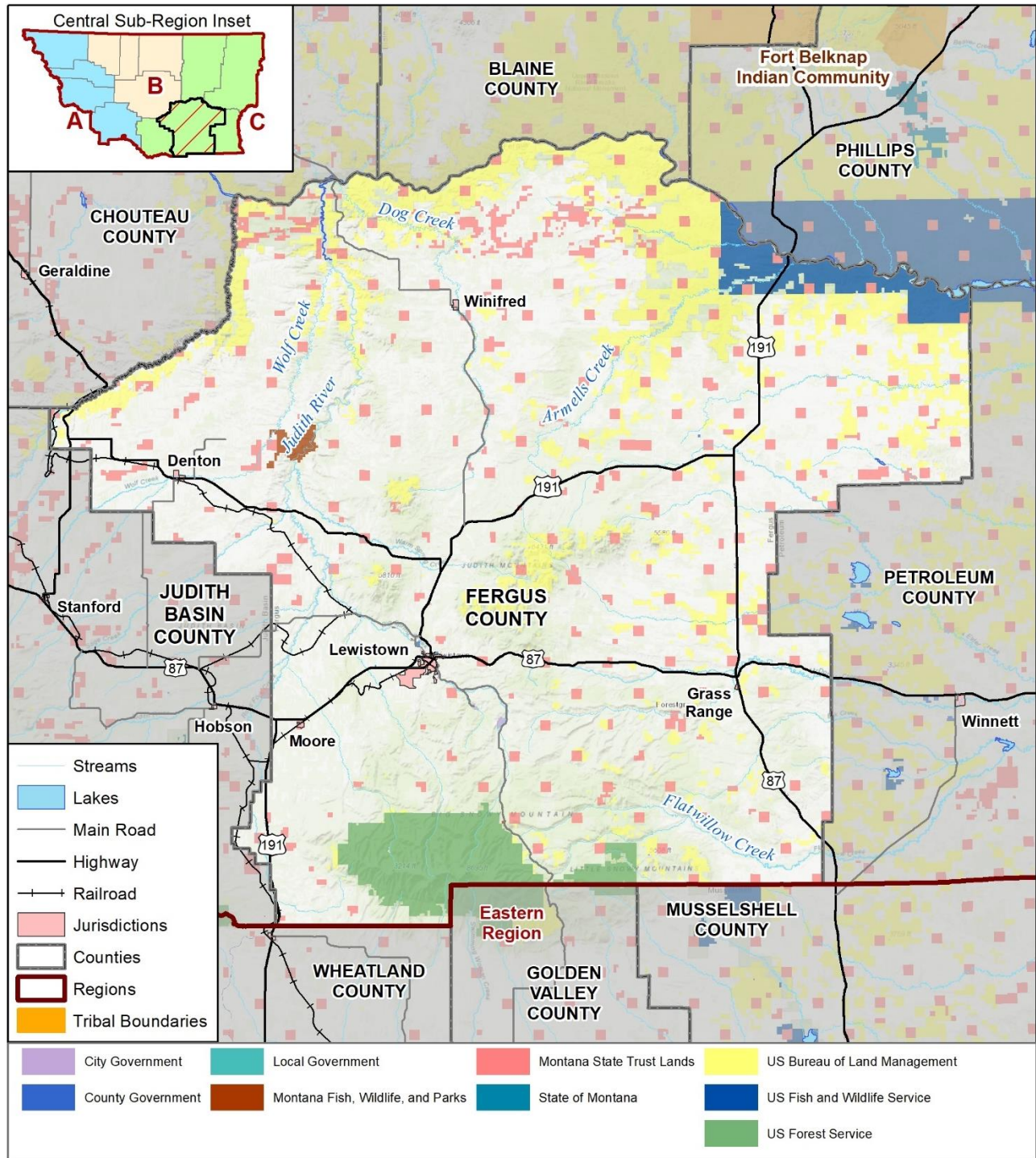
F.2 Community Profile

F.2.1 Geography and Climate

Fergus County is in the center of the State of Montana. It has an area of about 7,300 square feet. Figure F-1 displays a map of the County. The Missouri River forms the northern boundary of Fergus County, and the Musselshell River forms the eastern boundary and Arrow Creek forms part of the northwestern boundary. Fergus County forms a part of the Great Plains Province, which is included the eastern two-thirds of Montana. The lowest altitude is at the mouth of the Musselshell River, about 2,300 feet, and the highest, on the summit of the Snowy Mountains, over 8,600 feet. Outside the mountains the usual surface of the county is composed of extensive benches, slightly sloping for miles from the mountains towards the main drainage lines. Eastern and Northern Fergus consists of rolling country with broad valleys.

Fergus County is known for a moderate climate, with daily high temperatures between 70 and 85 degrees and low temperatures between 40 and 57 degrees in the summer. August is the hottest month with a daily average temperature of 82 degrees. In the winter, highs range between 20 and 40 and lows are typically between 10 and 25. January is the coldest month with a daily average of 12 degrees. Precipitation averages between 16 inches of rain annually and 62 inches of snowfall a year, but averages vary significantly across the County.

Figure F-1 Fergus County Base Map and Land Stewardship



Map compiled 9/2022;
intended for planning purposes only.
Data Source: Montana State Library

F.2.2 Population Trends

According to the 2020 U.S. Census, Fergus County is the 18th most populous county in Montana with a total population of 11,464. The U.S. Census Bureau reported the County experienced a 3.0% decrease in population since the 2010 census, with the greatest concentration of people residing in the City of Lewistown. Trends show that the population in rural towns is decreasing. Specific demographic variables for the County are provided in Table F-1 below.

Table F-1 Population Trends in Fergus County 1980-2020

Incorporated Community	1980	1990	1980-1990 Change	2000	1990-2000 Change	2010	2000-2010 Change	2020	2010-2020 Change
City of Lewistown	7,104	6,051	-14.8%	5,813	-3.9%	5,954	2.4%	5,967	0.2%
Town of Denton	356	350	-1.7%	301	-14.0%	377	25.2%	239	-36.6%
Town of Grass Range	139	159	-14.4%	149	-6.3%	149	0%	121	-18.8%
Town of Moore	229	211	-7.9%	186	-11.8%	193	3.8%	194	-0.5%
Town of Winifred	155	150	-3.2%	156	4.0%	111	-28.8%	139	25.2%
Fergus County	13,076	12,083	-7.6%	11,336	-6.2%	11,513	1.6%	11,167	-3.0%

Source: US Census 2010-2020, U.S. Decennial Census 1980-2000

F.2.3 Demographics

The 2016-2020 American Community Survey (ACS) reports demographic estimates for Fergus County, summarized in the table below Table F-2.

Table F-2 Demographic Estimates for Fergus County (2016-2020 ACS)

Characteristic	Fergus County	State of Montana
Percentage of persons below 150% poverty estimate	23%	24.1%
Unemployment Rate estimate	3%	4.0%
Percentage of housing cost-burdened occupied housing units with annual income less than \$75,000 (30%+ of income spent on housing costs) estimate	22.1%	21.4%
Percentage of persons with no high school diploma (age 25+) estimate	5.4%	7.5%
Percentage uninsured in the total civilian noninstitutionalized population estimate	10.8%	9.6%
Percentage of persons aged 65 and older estimate	23.7%	22.1%

Characteristic	Fergus County	State of Montana
Percentage of persons aged 17 and younger estimate	21%	21.3%
Percentage of civilian noninstitutionalized population with a disability estimate	14.3%	15.6%
Percentage of single-parent households with children under 18 estimate	5.3%	3.9%
Percentage of persons (age 5+) who speak English "less than well" estimate	0.0%	0.3%
Minority (other than white non-Hispanic) estimate	6.5%	14.6%
Percentage of housing in structures with 10 or more units estimate	2.3%	3.3%
Percentage of mobile homes estimate	11.3%	13.1%
Percentage of occupied housing units with more people than rooms estimate	0.7%	2.1%
Percentage of households with no vehicle available estimate	8.9%	4.9%
Percentage of persons in group quarters estimate	3.4%	2.8%
Percentage Female estimate	48.8%	49.7%
Median Age estimate	45.0	40.1
Median Gross Rent estimate	\$757	\$836
Median House Value estimate	\$150,200	\$244,900
Percent Unoccupied Housing Units estimate	13.1%	15.3%

Source: ACS 2016-2020

F.2.4 Social Vulnerability

Social vulnerability is broadly defined as the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Social vulnerability considers the social, economic, demographic, and housing characteristics of a community that influence its ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards. Additional details on social vulnerability and the NRI can be found in Section 4.1.1.5 of the Base Plan.

The NRI ranked the social vulnerability in Fergus County as "Relatively Moderate", with a score of 43.1. This is higher than 48% of counties within Montana. Refer to HIRA for more information on social vulnerability. Demographic factors that can influence the social vulnerability rating are displayed in Table 3. The ACS reports that a significant portion of the population in Fergus County (around a quarter) is below the 150% poverty level. Additionally, 22.1% of the population in Fergus County experiences the housing cost-burden, which is in line with the State of Montana average. Nearly a quarter of the population is aged 17 and younger, indicating that many individuals are still dependent on a caretaker, and 5.3% of families are single-parent households with children under 18, which is nearly 2% higher than the Montana average. Finally, 2.3% of houses are structures with 10 or more units, which is 1% lower than the State of Montana average.

The CPT noted vulnerability concerns in jurisdictions across the County, including low-income rural residents who live in the floodplain, lack of childcare for those residents with children/dependents, and public notification systems that can reach all populations.

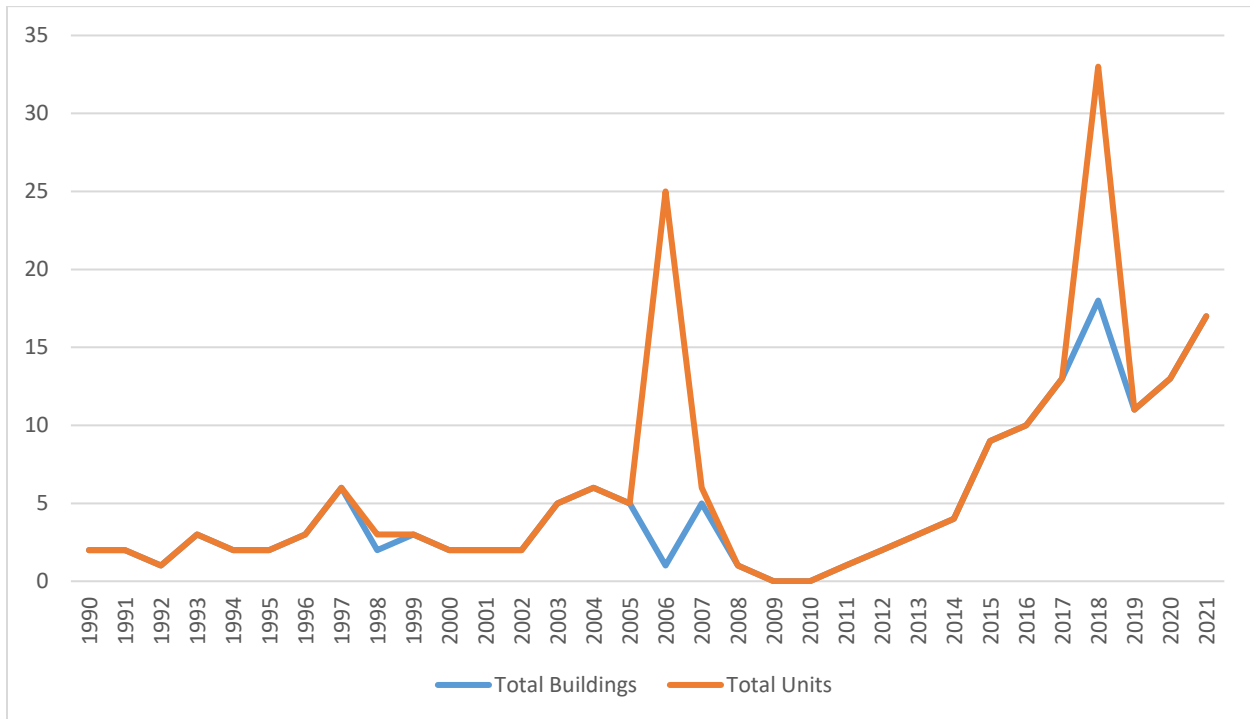
F.2.5 Development Trends

Much of the population growth in Fergus County is occurring in more developed areas, specifically in the City of Lewistown. Over half of the total land in the county is used for agriculture. Mixed use zoning areas surround rivers and rural towns in the county. Almost all industrial, and suburban residential areas are being developed in areas surrounding the more developed areas within Fergus County. In the towns in Fergus County, the primary land use is zoned for single family residential. It is anticipated that growth will continue in the City of Lewistown, but rural town growth will remain limited. The Fergus County Planning Board worked in collaboration with the four incorporated jurisdictions to formulate the Fergus County Growth Policy Update 2022. Specific growth trends by jurisdictions are listed below:

- **City of Lewistown:** Impacts from land use in Lewistown will greatly affect communities within proximity such as Moore, however communities such as Denton, Winifred, and Grass Range may not experience the same outcomes because of the distance. With most of the property in town being improved property with existing residential, there is not a lot of vacant land to promote residential, commercial or industrial growth. The CPT noted that trends in building and construction are progressing upward, and that floodplain permits are granted on a case-by-case basis. Developments are strongly advised against in Special Flood Hazard Areas (SFHA).
- **Town of Denton:** The Growth Policy Plan notes that there is a small amount of available land to build new housing. Due to most land being agricultural land that is unavailable for development. The CPT noted they have limited funding, resources, and staff. They have a basic land use permit and no additional jurisdictional specific codes. Fire prevention is one of their main focuses and community priorities.
- **Town of Grass Range:** The Grass Range CPT notes that there haven't been any development trends in the past five years, aside from the Fire District putting up a new truck bay.
- **Town of Moore:** Impacts from land use in Lewistown will greatly affect Moore. From answers in Moore's planning guide, they note that there has been a small growth in residential areas but no major growth in any other others such as commercial or agriculture.
- **Town of Winifred:** Fergus County's Growth Policy Plan noted that similar to the Town of Denton and Moore, Winifred will see effects from the development being done in Lewistown.

The U.S. Census Bureau Building Permit Survey provides information and local statistics on new privately-owned residential construction. Figure F-2 below displays the new privately owned housing unit authorizations by year in Fergus County. This data indicates that there was a significant increase in unit authorizations in 2014 and a trend of increasing authorizations since 2020. An increase in the number of housing unit authorizations in the county could indicate an increase in the total number of buildings exposed to hazard events. However, it is unknown how this development will impact vulnerability to specific hazards, such as wildfire and flooding.

Figure F-2 New Privately Owned Housing Unit Authorizations



Source: US Census Bureau, https://www.census.gov/construction/bps/data_visualizations/index.html

F.2.6 Economy

Table F-3 below provides a brief overview of economic characters in Fergus County. The following information is provided by the U.S. Census Bureau American Community Survey (ACS) 5-year estimates from 2016-2020.

Table F-3 Fergus County Economic Profile

Economic Characteristics	Fergus County
Families Below Poverty Level	9.5%
Individuals Below Poverty Level	16.9%
Median Home Value	\$138,700
Median Household Income	\$47,618
Per Capita Income	\$11,167
Population > 16 Years Old in Labor Force	60.1%
Population Employed	60.1%

Source: U.S. Census Bureau ACS 5-year estimates, 2021

Table F-4 below shows the breakdown of employment in Fergus County by the industry sector. According to the ACS, the leading employment sectors in the County are “Educational services, and health care and social assistance,” which composes nearly a quarter of the total employment in the County with 1,263

people. This is followed by “Agriculture, forestry, fishing and hunting, and mining” with 845 people. A close third is the “Retail Trade” Industry with 837 of the population in Fergus County employed.

Table F-4 Fergus County Occupation by Industry Profile

Industry	Population Employed	Percent of Labor Force
Agriculture, forestry, fishing and hunting, and mining	845	15.8%
Construction	367	6.9%
Manufacturing	264	4.9%
Wholesale trade	91	1.7%
Retail trade	837	15.7%
Transportation and warehousing, and utilities	348	6.5%
Information	48	0.9%
Finance and insurance, and real estate and rental and leasing	158	3.0%
Professional, scientific, and management, and administrative and waste management services	246	4.6%
Educational services, and health care and social assistance	1,263	23.6%
Arts, entertainment, and recreation, and accommodation and food services	457	8.6%
Other services, except public administration	284	5.3%
Public administration	135	2.5%

Source: U.S. Census Bureau ACS 5-year estimates, 2016-2020

F.3 Hazard Identification and Risk Assessment

F.3.1 Identified Hazards

The CPT reviewed significant hazards for inclusion in the hazard mitigation plan. Several changes were made from the 2014 Fergus County Hazard Mitigation Plan to be consistent with the 2023 Montana Central Region Hazard Mitigation Plan. In this plan update, Communicable Disease, Cyber-Attack, Human Conflict, Transportation Accidents and Volcanic Ash were added.

Table F-5 provides a summary of the overall hazard significance for the hazards evaluated in this plan, showing variability by jurisdiction. More details on hazards can be found in Chapter 4 of the base plan.

Table F-5 Fergus County Overall Hazard Significance by Hazard and Jurisdiction*

Hazard	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Communicable Disease	Medium	Medium	Medium	Medium	Medium	Medium
Cyber-Attack	Medium	Medium	Low	Low	Low	Low
Dam Failure	Medium	Medium	Medium	Medium	Medium	Medium
Drought	High	Medium	High	High	High	Medium
Earthquake	Low	Medium	Low	Low	Low	Low

Hazard	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Flooding	High	High	High	High	High	Medium
Hazardous Materials Incident	Low	Low	Low	Low	Low	Low
Landslide	Medium	High	Medium	Medium	High	Medium
Severe Summer Weather	High	High	Medium	Medium	High	Medium
Severe Winter Weather	High	High	High	High	High	High
Human Conflict	Low	Low	Low	Low	Low	Low
Tornadoes & Windstorms	High	High	Medium	Medium	High	Medium
Transportation Accidents	Low	Medium	Low	Low	Low	Low
Volcanic Ash	Low	Low	Low	Low	Low	Low
Wildfire	Medium	Medium	Medium	Medium	Medium	Medium

*Significance based on a combination of Geographic Extent, Potential Magnitude/Severity and Probability as defined below.

<p>Geographic Extent</p> <p><u>Negligible</u>: Less than 10 percent of planning area or isolated single-point occurrences</p> <p><u>Limited</u>: 10 to 25 percent of the planning area or limited single-point occurrences</p> <p><u>Significant</u>: 25 to 75 percent of planning area or frequent single-point occurrences</p> <p><u>Extensive</u>: 75 to 100 percent of planning area or consistent single-point occurrences</p> <p>Potential Magnitude/Severity</p> <p><u>Negligible</u>: Less than 10 percent of property is severely damaged, facilities and services are unavailable for less than 24 hours, injuries and illnesses are treatable with first aid or within the response capability of the jurisdiction.</p> <p><u>Limited</u>: 10 to 25 percent of property is severely damaged, facilities and services are unavailable between 1 and 7 days, injuries and illnesses require sophisticated medical support that does not strain the response capability of the jurisdiction, or results in very few permanent disabilities.</p> <p><u>Critical</u>: 25 to 50 percent of property is severely damaged, facilities and services are unavailable or severely hindered for 1 to 2 weeks, injuries and illnesses overwhelm medical support for a brief period of time or result in many permanent disabilities and a few deaths. overwhelmed for an extended period of time or many deaths occur.</p> <p><u>Catastrophic</u>: More than 50 percent of property is severely damaged, facilities and services are unavailable or hindered for more than 2 weeks, the medical response system is overwhelmed for an extended period of time, or many deaths occur.</p>	<p>Probability of Future Occurrences</p> <p><u>Unlikely</u>: Less than 1 percent probability of occurrence in the next year or has a recurrence interval of greater than every 100 years.</p> <p><u>Occasional</u>: Between a 1 and 10 percent probability of occurrence in the next year or has a recurrence interval of 11 to 100 years.</p> <p><u>Likely</u>: Between 10 and 90 percent probability of occurrence in the next year, or has a recurrence interval of 1 to 10 years</p> <p><u>Highly Likely</u>: Between 90 and 100 percent probability of occurrence in the next year or has a recurrence interval of less than 1 year.</p> <p>Overall Significance</p> <p><u>Low</u>: Two or more of the criteria fall in the lower classifications or the event has a minimal impact on the planning area. This rating is also sometimes used for hazards with a minimal or unknown record of occurrences/impacts or for hazards with minimal mitigation potential.</p> <p><u>Medium</u>: The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is also sometimes utilized for hazards with a high impact rating but an extremely low occurrence rating.</p> <p><u>High</u>: The criteria consistently fall along the high ranges of the classification and the event exerts significant and frequent impacts on the planning area. This rating is also sometimes utilized for hazards with a high psychological impact or for hazards that the jurisdiction identifies as particularly relevant.</p>
--	---

F.3.2 Building Inventory and Assets

People, property, critical facilities/infrastructure, and other important assets in Fergus County are exposed to the hazards identified in this plan. Table F-6 summarizes the property inventory for the County and each participating jurisdiction, based on improvement value (i.e., structures) and includes the building count and value grouped by parcel type and jurisdiction. This is an assessment of the overall property exposed within the County and by jurisdiction.

Assets inventoried to determine vulnerability include people, structures, critical facilities, and natural, historic, or cultural resources. For the regional planning process, locally available GIS databases were utilized. Parcel and assessor data was obtained through Montana's MSDI Cadastral website. This Statewide database provided the basis for building exposure and property types. The focus of the analysis was on "improved" or developed parcels. These parcels were identified based on an improvement value greater than zero. Property Types were used to identify occupancy types as shown in the following table, which includes summations of total improved value for the various property types.

Table F-6 Fergus County Building Inventory and Value by Jurisdiction

Jurisdiction	Improved Parcels	Improved Value	Content Value	Total Value
Denton	194	\$11,056,009	\$5,832,115	\$16,888,124
Grass Range	90	\$3,344,299	\$1,792,170	\$5,136,469
Lewistown	2,641	\$361,086,377	\$188,962,431	\$550,048,808
Moore	119	\$10,601,019	\$5,681,695	\$16,282,714
Winifred	112	\$13,282,850	\$8,560,810	\$21,843,660
Fergus County	3,203	\$508,621,976	\$370,354,398	\$878,976,374
Total	6,359	\$907,992,530	\$581,183,618	\$1,489,176,148

Source: MSDI Cadastral database, <https://msl.mt.gov/geoinfo/msdi/cadastral/>

Total building exposure with contents within Fergus County based on an analysis of improved parcels is nearly \$1.5 billion, with over \$907 million in improved value properties and \$581 million of contents. Of the nearly \$1.5 billion of total building exposure in Fergus County, the City of Lewistown accounts for \$550 million of this total number. Residential properties represent the greatest portion of structures in the County, accounting for over \$653 million of the nearly \$907 million improved property value. This is shown in Table F-7 below.

Table F-7 Fergus County Total Exposure by Jurisdiction and Property Type

Jurisdiction	Property Type	Improved Parcels	Improved Value	Content Value	Total Value
Denton	Agricultural	1	\$1,930	\$1,930	\$3,860
	Exempt	8	\$511,110	\$511,110	\$1,022,220
	Residential	179	\$10,447,789	\$5,223,895	\$15,671,684
	Vacant	6	\$95,180	\$95,180	\$190,360
	Total	194	\$11,056,009	\$5,832,115	\$16,888,124
Grass Range	Exempt	5	\$235,930	\$235,930	\$471,860
	Residential	84	\$3,104,259	\$1,552,130	\$4,656,389
	Vacant	1	\$4,110	\$4,110	\$8,220
	Total	90	\$3,344,299	\$1,792,170	\$5,136,469
	Commercial	1	\$656,540	\$656,540	\$1,313,080

Jurisdiction	Property Type	Improved Parcels	Improved Value	Content Value	Total Value
Lewistown	Exempt	46	\$16,058,555	\$16,058,555	\$32,117,110
	Residential	2,593	\$344,247,892	\$172,123,946	\$516,371,838
	Vacant	1	\$123,390	\$123,390	\$246,780
	Total	2,641	\$361,086,377	\$188,962,431	\$550,048,808
Moore	Exempt	7	\$490,010	\$490,010	\$980,020
	Industrial	1	\$136,180	\$204,270	\$340,450
	Residential	111	\$9,974,829	\$4,987,415	\$14,962,244
	Total	119	\$10,601,019	\$5,681,695	\$16,282,714
Winifred	Agricultural	2	\$230,100	\$230,100	\$460,200
	Commercial	1	\$13,950	\$13,950	\$27,900
	Exempt	11	\$3,234,720	\$3,234,720	\$6,469,440
	Industrial	1	\$180,000	\$270,000	\$450,000
	Residential	97	\$9,624,080	\$4,812,040	\$14,436,120
	Total	112	\$13,282,850	\$8,560,810	\$21,843,660
Fergus County	Agricultural	1,440	\$224,900,620	\$224,900,620	\$449,801,240
	Commercial	3	\$1,512,170	\$1,512,170	\$3,024,340
	Exempt	30	\$4,076,080	\$4,076,080	\$8,152,160
	Mining	14	\$771,920	\$771,920	\$1,543,840
	Residential	1,693	\$276,535,156	\$138,267,578	\$414,802,734
	Vacant	23	\$826,030	\$826,030	\$1,652,060
	Total	3,203	\$508,621,976	\$370,354,398	\$878,976,374
	Grand Total	6,359	\$907,992,530	\$581,183,618	\$1,489,176,148

Source: MSDI Cadastral database, <https://msl.mt.gov/geoinfo/msdi/cadastral/>

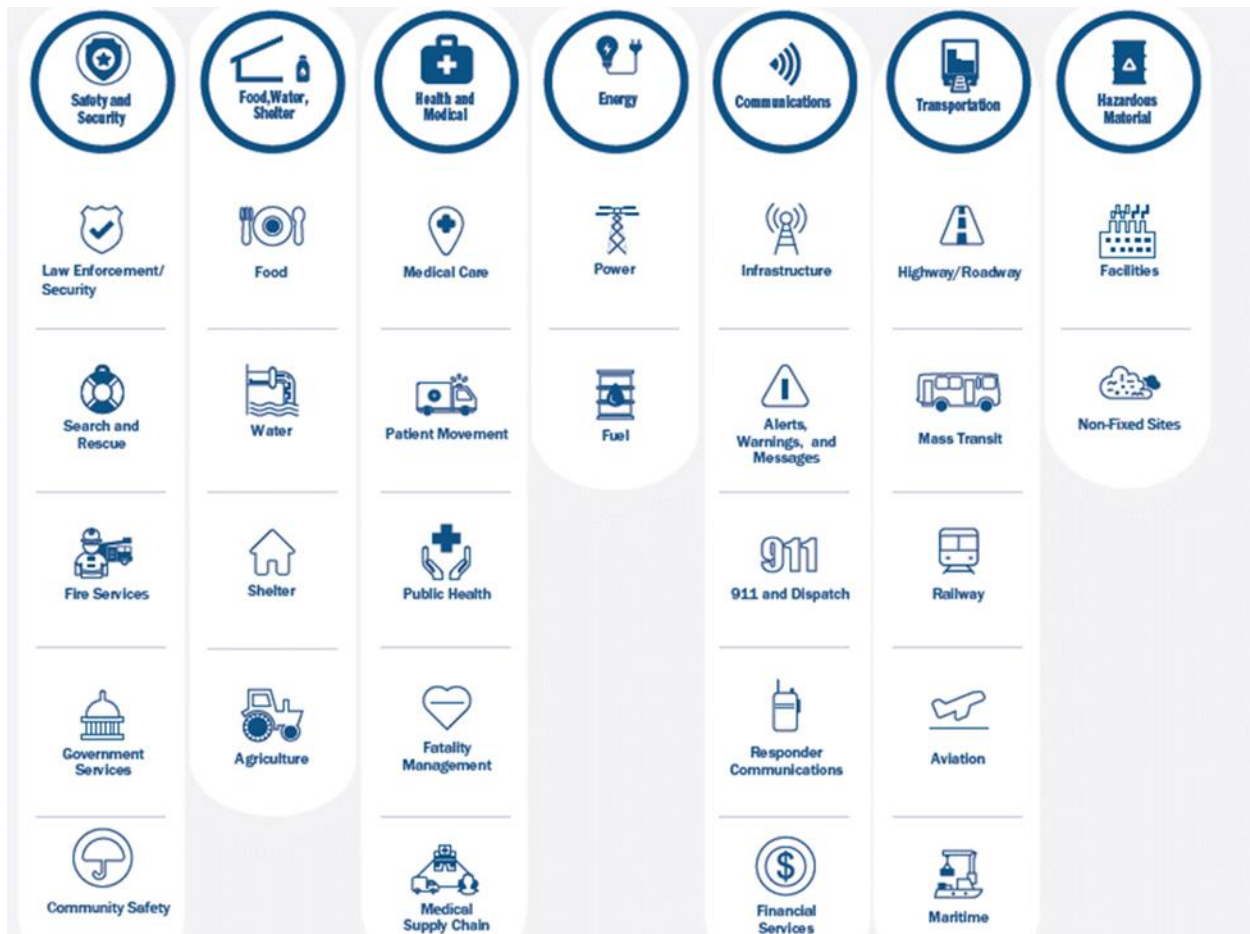
Critical Facilities, Infrastructure, and Other Important Community Assets

A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. Much of this data is based on GIS databases associated with the 2022 Homeland Infrastructure Foundation-Level Data (HIFLD). Other critical facility databases were also used, such as the National Bridge Inventory (NBI), with supplementation from the HMPC. Where applicable, this information was used in an overlay analysis for hazards such as dam failure, flood, and wildfire.

FEMA organizes critical facilities into seven lifeline categories as shown in Figure F-3. These lifeline categories standardize the classification of critical facilities and infrastructure that provide indispensable service, operation, or function to a community. A lifeline is defined as providing indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security. These categorizations are particularly useful as they:

- Enable effort consolidations between government and other organizations (e.g., infrastructure owners and operators).
- Enable integration of preparedness efforts among plans; easier identification of unmet critical facility needs.
- Refine sources and products to enhance awareness, capability gaps, and progress towards stabilization.
- Enhance communication amongst critical entities, while enabling complex interdependencies between government assets.
- Highlight lifeline related priority areas regarding general operations as well as response efforts.

Figure F-3 FEMA Lifeline Categories



Source: FEMA

Table F-8 below summarizes the number of critical facilities by jurisdiction. Figure F-4 through Figure F-9 display the location of critical facilities by FEMA Lifeline in Fergus County, the City of Lewistown, and the Towns of Denton, Grass Range, Moore, and Winifred.

Table F-8 Fergus County Critical Facilities by Jurisdiction

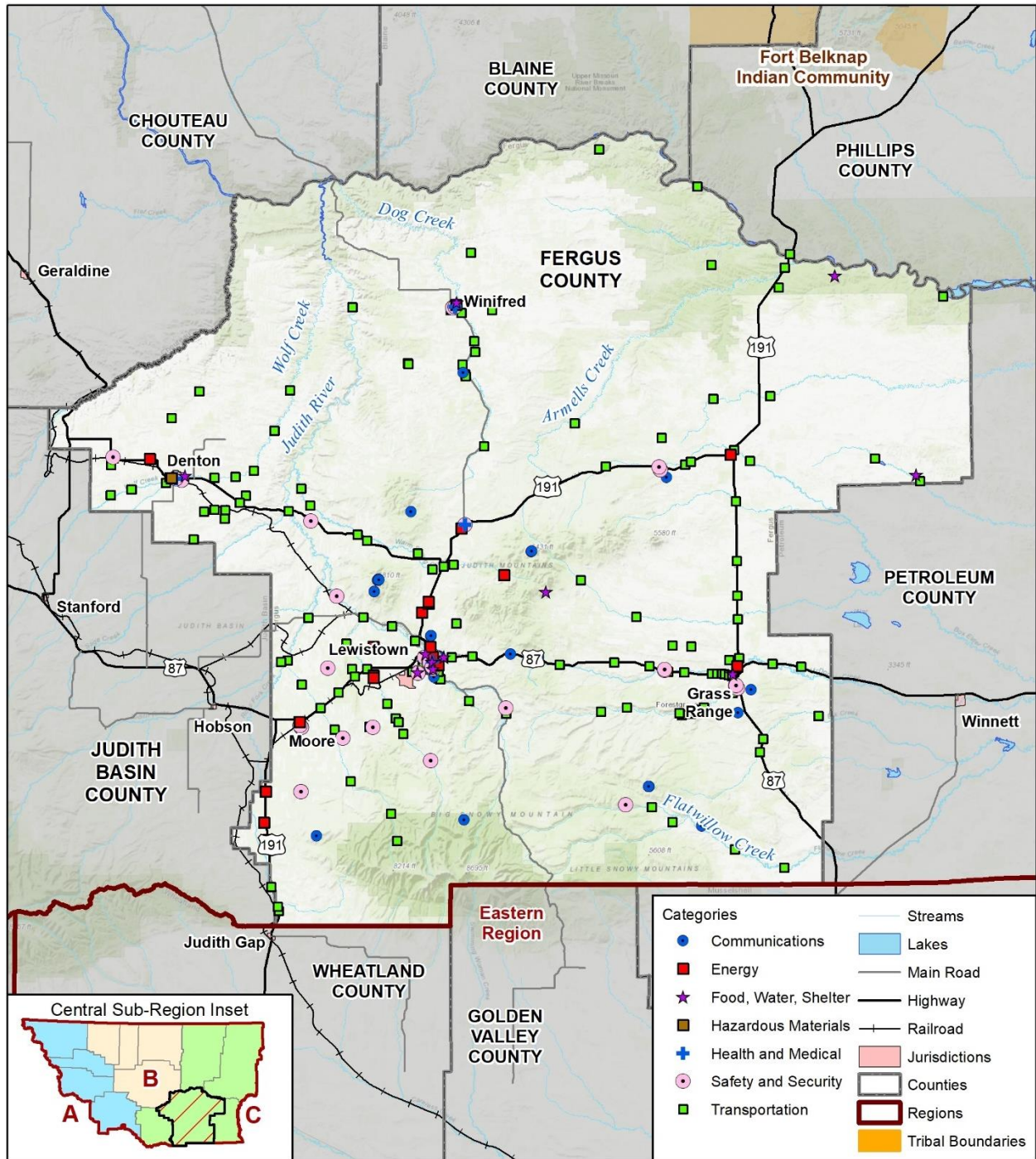
Jurisdiction	Communications	Energy	Food, Water, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Total
Denton	-	-	-	-	1	5	2	8
Grass Range	-	-	-	-	-	5	-	5
Lewistown	9	1	3	-	1	17	13	44
Moore	-	-	-	-	-	4	-	4

Jurisdiction	Communications	Energy	Food, Water, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Total
Winifred	-	1	1	-	1	4	-	7
Fergus County	35	25	8	1	1	19	141	230
Total	44	27	12	1	4	54	156	298

Source: HIFLD 2022, MT DES, National Bridge Inventory

DRAFT

Figure F-4 Fergus County Critical Facilities



Map compiled 9/2022;
intended for planning purposes only.
Data Source: Montana State Library,
Montana DES, NIB, HIFLD

0 10 20 Miles



Figure F-5 City of Lewistown Critical Facilities

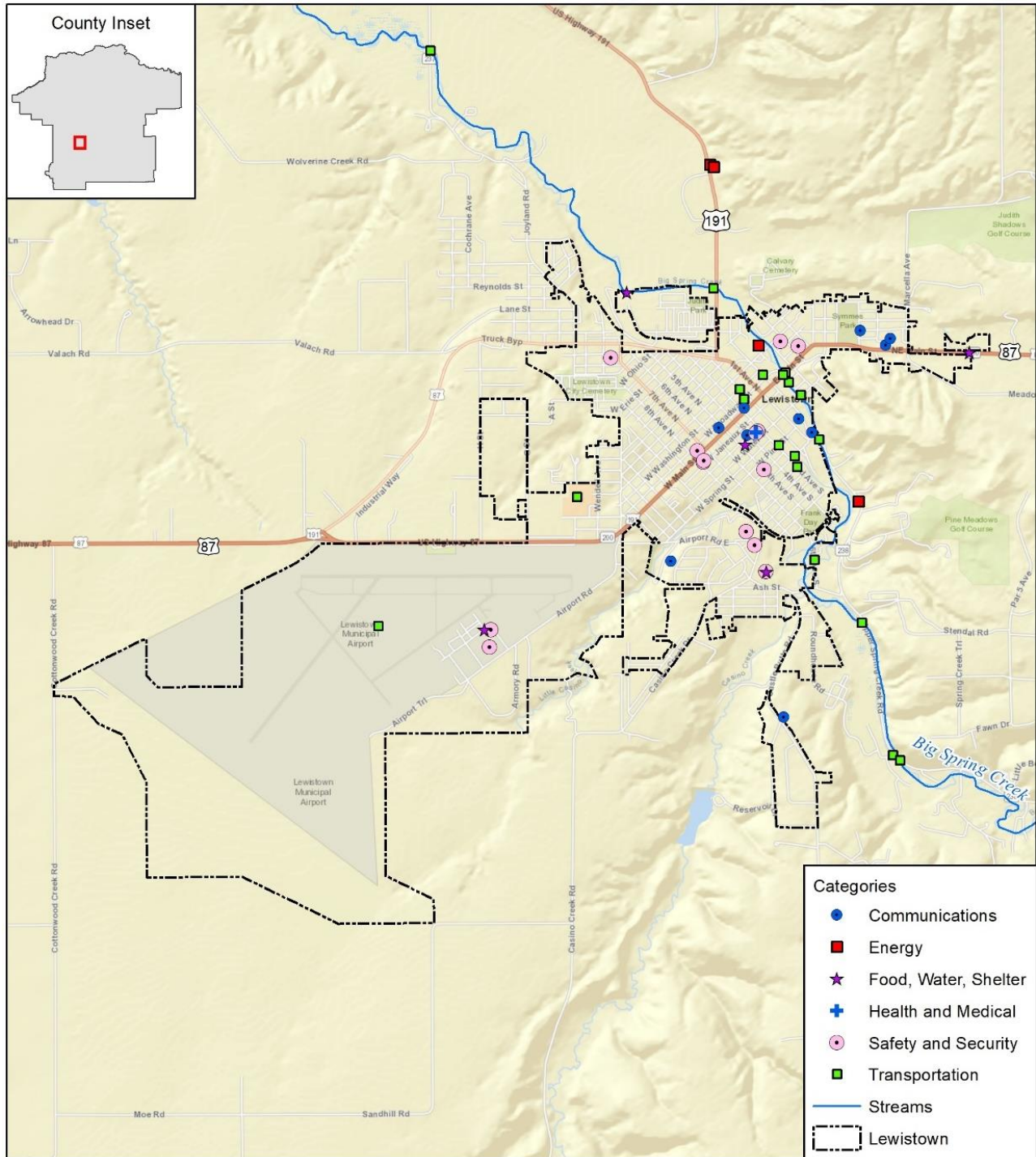
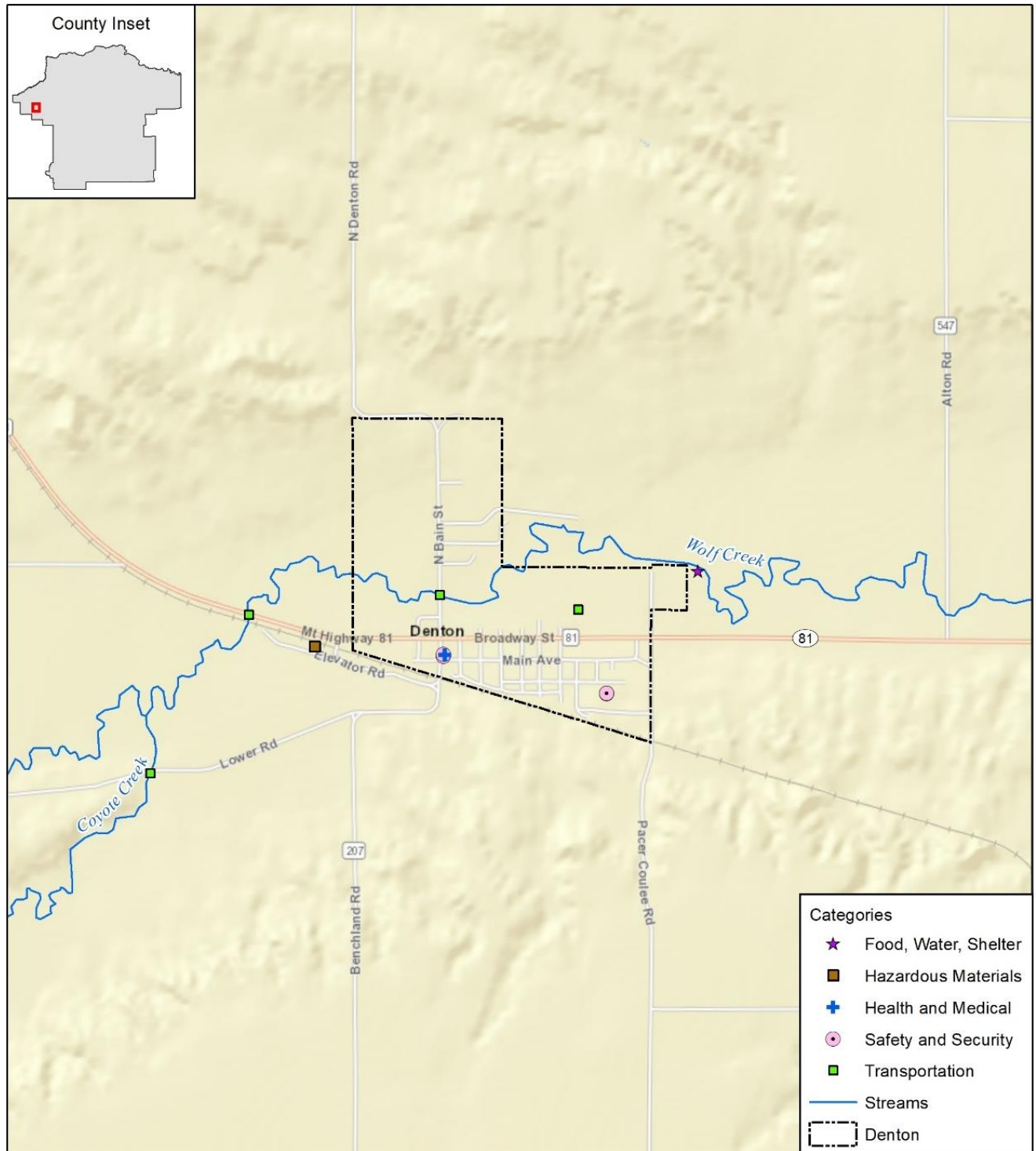


Figure F-6 Town of Denton Critical Facilities

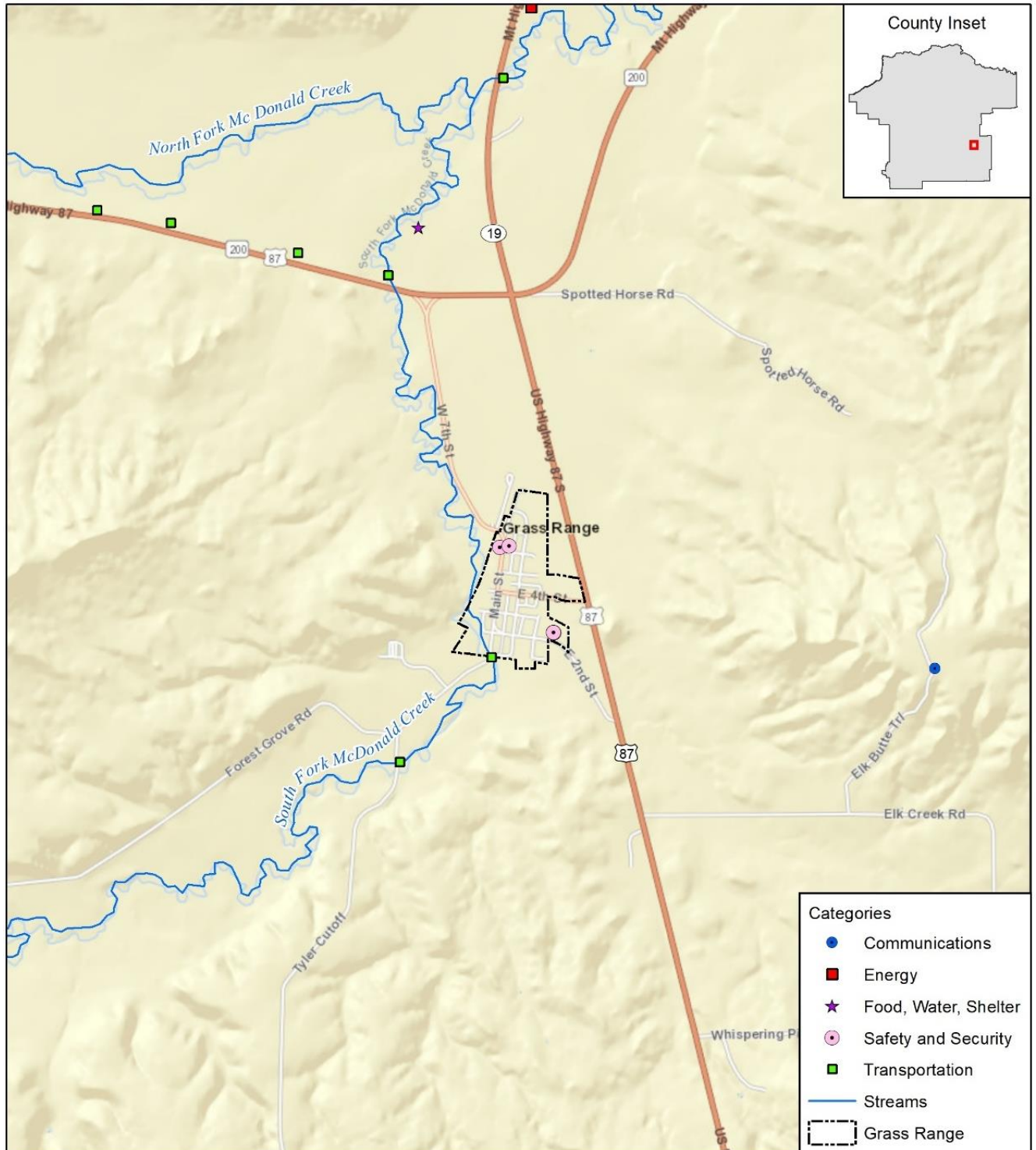


Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
Montana DES, NIB, HIFLD

0 0.5 1 Miles

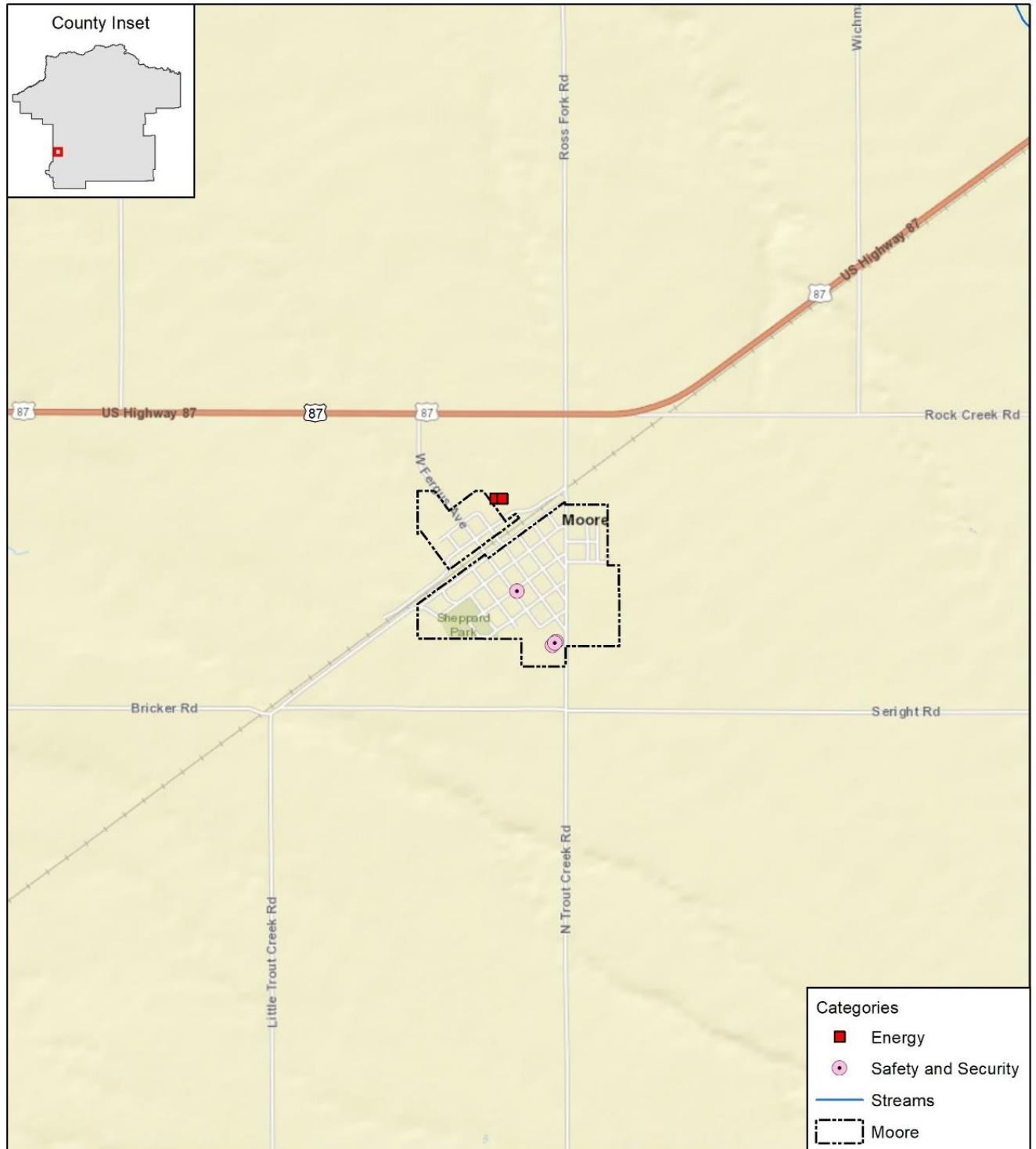


Figure F-7 Town of Grass Range Critical Facilities



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
Montana DES, NIB, HIFLD

Figure F-8 Town of Moore Critical Facilities

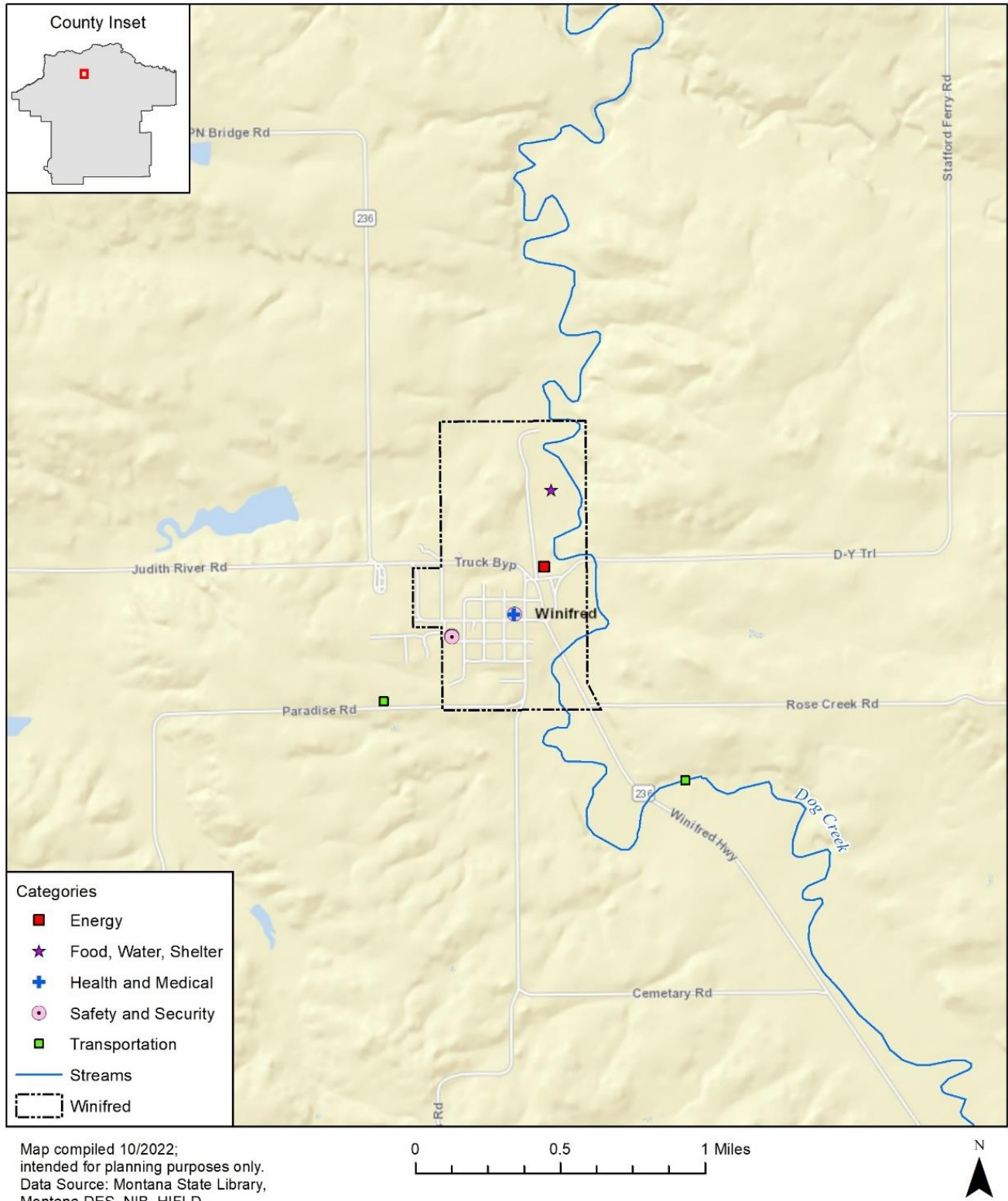


Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
Montana DES, NIB, HIFLD

0 0.5 1 Miles



Figure F-9 Town of Winifred Critical Facilities



Natural, Historic, and Cultural Assets

Assessing the vulnerability of Fergus County to hazards also involves inventorying the natural, historical, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant more protection due to their unique and irreplaceable nature and contribution to the overall economy.
- If these resources are impacted by a hazard, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, such as wetlands and riparian habitat, which help absorb and attenuate floodwaters.

Historic and Cultural Assets

By definition, a historic property not only includes buildings or other types of structures, such as bridges and dams, roads, byways, historic landscapes, and many other features. The National Register of Historic Places, managed by the National Park Service and U.S. Department of Interior, is the nation's official list of cultural resources worthy of preservation. Table F-9 below lists the properties that are identified as having cultural and historic significance in Fergus County as recorded by the National Register of Historic Places.

Table F-9 Historic Properties and Districts on National Registers

Property Name	City/Town	Location	Date Listed
Naylor Brothers Ranch Historic District	Buffalo	503 E. Dry Creek Rd.	12/30/08
Nelson, Gus, Homestead	Cow Island Vicinity	Missouri River, River Mi #129.4-131.1 W side of river	3/21/11
Sample's Crossing Bridge	Danvers	3 mi. N of Danvers across the Judith River	
St. Wenceslaus Catholic Church	Danvers	7724 Danvers Rd.	5/19/14
Hagadone, Frank, Homestead	Fergus County	Missouri River, Mile No. 97	1/29/09
Lewistown Satellite Airfield Historic District (Boundary Increase IV)	Grass Range	Fox Ln. off MT 19	5/1/18
N-Bar Ranch	Grass Range	15 mi. SW of Grass Range	7/9/91
Judith Landing Historic District (Boundary Increase)	Judith	Address Restricted	4/11/14
Rocky Point	Landusky	30 mi. S of Landusky in Charles M. Russell National Wildlife	5/21/75
Lewistown Satellite Airfield Historic District (Boundary Increase II)	Lewistown	MT 87	1/17/07
Robinson, Fred, Bridge	Lewistown	Mi. 88, US 191	3/26/12
Anderson House	Lewistown	1015 W. Watson	1/27/93
Ayers House	Lewistown	316 Eighth Ave. S	1/10/86
Bright House	Lewistown	707 W. Boulevard	1/27/93
Bright--Thompson--Lewis House	Lewistown	702 W. Boulevard	1/27/93
Clark-Cardwell House	Lewistown	523 W. Watson	1/10/86
Culver Studio	Lewistown	212 5th Ave.	8/11/80
Draft Horse Barn, Fergus County Fairgrounds	Lewistown	1000 US 191	12/14/17
Fergus County High School	Lewistown	412 6th Ave., S.	6/27/85

Property Name	City/Town	Location	Date Listed
Fergus County Improvement Corporation Dormitory	Lewistown	216 7th St., S.	2/1/80
First Presbyterian Church	Lewistown	215 Fifth Ave. S	1/10/86
Gamble--Robinson Company Warehouse	Lewistown	302 E. Main St.	4/17/17
Hogeland, Abraham and Mary Walton, House	Lewistown	620 W. Montana St.	5/24/07
House at 301 Eighth Avenue, South	Lewistown	301 Eighth Ave. S	1/10/86
House at 324 W. Corcoran	Lewistown	324 W. Corcoran	1/27/93
House at 618 West Janeaux	Lewistown	618 W. Janeaux	1/10/86
House at 805 W. Watson	Lewistown	805 W. Watson	1/27/93
House at 809 W. Watson	Lewistown	809 W. Watson	1/27/93
House at 813 W. Watson	Lewistown	813 W. Watson	1/27/93
Huntoon Residence	Lewistown	722 W. Water	6/27/85
Judith Place Historic District	Lewistown	Roughly bounded by Main St., the alley between Hawthorne and Ridgelawn Sts., Washington St., and Oullette St.	5/4/88
Lewistown Carnegie Library	Lewistown	701 W. Main St.	8/11/80
Lewistown Central Business Historic District	Lewistown	Roughly bounded by Washington St., 1st Ave., Janeaux St., and 8th Ave.	6/27/85
Lewistown Courthouse Historic District	Lewistown	Roughly bounded by Washington St., 6th Ave., Main and Broadway Sts.	6/27/85
Lewistown Mercantile Company	Lewistown	220 E. Main	2/3/86
Lewistown Satellite Airfield Historic District	Lewistown	US 87	3/8/00
Lewistown Satellite Airfield Historic District (Boundary Increase)	Lewistown	MT 87	9/17/04
Lewistown Silk Stocking District	Lewistown	Roughly bounded by 2nd Ave., Boulevard and Washington Sts. and 3rd Ave.	6/27/85
Masonic Temple	Lewistown	322 W. Broadway St.	7/3/79
Mill House	Lewistown	MT 466 4.5 mi. SE of Lewistown, along Spring Cr.	1/27/93
Reed and Bowles Trading Post	Lewistown	Joyland Rd	8/5/10
Reed's Fort Post Office	Lewistown	.1 mi SW from the junction of Brassey and 6th Ave on Casino Creek Dr	8/10/10
Schroeder Hospital	Lewistown	502 Fifth Ave. S.	1/27/93
St. James Episcopal Church and Parish House	Lewistown	502 W. Montana St.	11/16/78
St. Joseph's Hospital	Lewistown	U.S. 87	9/13/78
St. Leo's Catholic Church	Lewistown	124 W. Broadway	5/6/82
US Post Office and Federal Building--Lewistown	Lewistown	204 Third Ave. N	3/14/86
Judith River Bridge	Moore	6 mi. NNW of Moore and 3 mi. SW of Ross Fork across the Judith River	

Source: National Register of Historic Places, <https://irma.nps.gov/DataStore/Reference/Profile/2210280>

Natural Resources

Natural resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands preserves sensitive habitats as well as attenuates and stores floodwaters.

Wetlands are a valuable natural resource for communities, due to their benefits to water quality, wildlife protection, recreation, and education, and play an important role in hazard mitigation. Fergus County encompasses one lake, Bear Creek Reservoir. There are also several reservoirs in Fergus County. The Missouri River is the most significant river that runs on the northern border of Fergus County.

Endangered Species

A table of endangered and threatened species in the State of Montana, as identified by the U.S. Fish and Wildlife Service, Montana Ecological Services Field Office, can be found in the Assets Summary Section in Chapter 4 of the base plan.

F.4 Vulnerability to Specific Hazards

This section details vulnerability to specific hazards, where quantifiable, only where it differs from that of the Region as a whole. The results of detailed GIS analyses used to estimate potential for future losses are presented here, in addition to maps of hazard areas and details by jurisdiction and building type. For a discussion of the methodology used to develop the loss estimates, refer to Chapter 4 of the base plan. In many cases Chapter 4 contains information that differentiates the risk by county thus the information is not duplicated here. For most of the weather-related hazards the risk does not vary significantly enough from the rest of the Region and thus the reader should refer to Chapter 4. Only unique issues or vulnerabilities are discussed, where applicable.

- Communicable Disease
- Cyber-Attack
- Dam Failure
- Drought
- Earthquake
- Flooding
- Hazardous Materials Incident
- Landslide
- Severe Summer Weather
- Severe Winter Weather
- Human Conflict
- Tornadoes & Windstorms
- Transportation Accidents
- Volcanic Ash
- Wildfire
- Communicable Disease

All populations are vulnerable to communicable disease. Elder populations, young children, and individuals with pre-existing medical conditions are more likely to face long lasting impacts from communicable disease. While areas of high population density, such as the City of Lewistown, are likely to experience a greater number of cases due to a larger population, these larger cities also have greater access to medical resources. Communicable disease is ranked as medium for all counties in the Central Region and there were no noted differences in ranking of communicable disease by jurisdiction in Fergus County.

Refer to Chapter 4 for a discussion of the communicable disease risk relative to Fergus County and the Central Region.

F.4.1 Cyber-Attack

All servers, networks, and users are vulnerable to cyber-attacks in Central Montana. Fergus County is ranked as medium, along with most other counties in the Region. There have been no recorded cyber-attack events occurring in the county or its jurisdictions, however, minor cyber-attacks such as phishing emails often go unreported. While all networks and servers are equally vulnerable to cyber, the City of Lewistown has a

greater population and therefore more people exposed to a cyber-attack event, so is rated as medium while the rest of the jurisdictions in the county as rated as low.

Refer to Chapter 4 for a discussion of the cyber-attack risk relative to Fergus County and the Central Region.

F.4.2 Dam Failure

Dam failure in Fergus County is ranked as medium. There are four high hazard dams and seven significant hazard dams located in Fergus County. Table F-10 below identifies the dams and the nearest downstream cities which could potentially be impacted in a dam failure or incident. Refer to Chapter 4 for a discussion of the dam failure risk relative to Fergus County and the Central Region.

Table F-10 Dams in Fergus County

Hazard Class	Dam Name	Owner	River	Nearest Downstream City	Distance to Nearest Downstream City (Miles)	Emergency Action Plans (EAP)
High	East Fork Dam	City Of Lewistown	East Fork Big Spring Creek	Lewistown	11	Yes
High	Big Casino Creek Dam	City Of Lewistown	Big Casino Creek	Lewistown	2	Yes
High	Hanson Creek Dam	City Of Lewistown	Hanson Creek	Lewistown	8	Yes
High	Pike Creek Dam	City Of Lewistown	Pike Creek	Lewistown	4	Yes
Significant	Fish (Fergus)	Ayers Ranch Colony	North Fork McDonald Creek	Winnett	34	N/A
Significant	Carter Pond, Lower (Fergus)	Clark E Carter	Tr-Burnett Creek	Lewistown	8	N/A
Significant	Red	Ayers Ranch Colony	North Fork McDonald Creek	Winnett	34	N/A
Significant	Winifred, North	Ed And Connie Heggem	Tr-Dog Creek	Winifred	1	N/A
Significant	Carter Pond, Upper (Fergus)	Clark E Carter	Tr-Burnett Creek	Lewistown	9	N/A
Significant	Elderly Dam	Glen H. & Bette A. Rindal	Brush Creek	Roy	4	N/A
Significant	Arther Dengel #1	Russell Degner	Tr-Fords Creek	Mosby	67	N/A

Source: National Inventory of Dams (NID)

Additionally, there is one high hazard dam outside Fergus County – Hobson Dam in Judith Basin County – whose mapped inundation area extends into the unincorporated areas of Fergus County. The inundation area of this dam is included in the following analysis. There are no federally owned dams within Fergus County.

With four high and seven significant hazard dams in the planning area, dam failure flooding could result in significant property losses and loss to human life. With the concentration of high hazard dams being in

proximity to Lewistown, dam failure here could cause severe inundation to the surrounding communities. Figure F-10 displays the location of dams in Fergus County. **Error! Reference source not found.** summarizes the estimated number of improved parcels, building values, and people within inundation zones (limited to high hazard dams that are not federally owned) in Fergus County by property type. Fergus County has the third highest total property value located within the inundation zone in the Central Region, and 82% of this total exposure is in the City of Lewistown. Residential property types represent the greatest total number of improved parcels and most property value, with approximately \$187 million in total property value at risk. Table F-12 summarizes the critical facilities located in Fergus County which are at risk to dam inundation. The Transportation Lifeline has the greatest number of exposed facilities, the majority of which are likely bridges.

Table F-11 Fergus County Parcels at Risk to Dam Inundation by Property Type

Jurisdiction	Property Type	Improved Parcels	Improved Value	Content Value	Total Value	Population
Lewistown	Exempt	18	\$4,470,960	\$4,470,960	\$8,941,920	
	Residential	882	\$107,118,672	\$53,559,336	\$160,678,008	1,879
	Vacant	1	\$123,390	\$123,390	\$246,780	
	Total	901	\$111,713,022	\$58,153,686	\$169,866,708	1,879
Fergus County	Agricultural	22	\$4,556,860	\$4,556,860	\$9,113,720	
	Exempt	2	\$201,600	\$201,600	\$403,200	
	Residential	112	\$18,270,704	\$9,135,352	\$27,406,056	239
	Total	136	\$23,029,164	\$13,893,812	\$36,922,976	239
	Grand Total	1,037	\$134,742,186	\$72,047,498	\$206,789,684	2,117

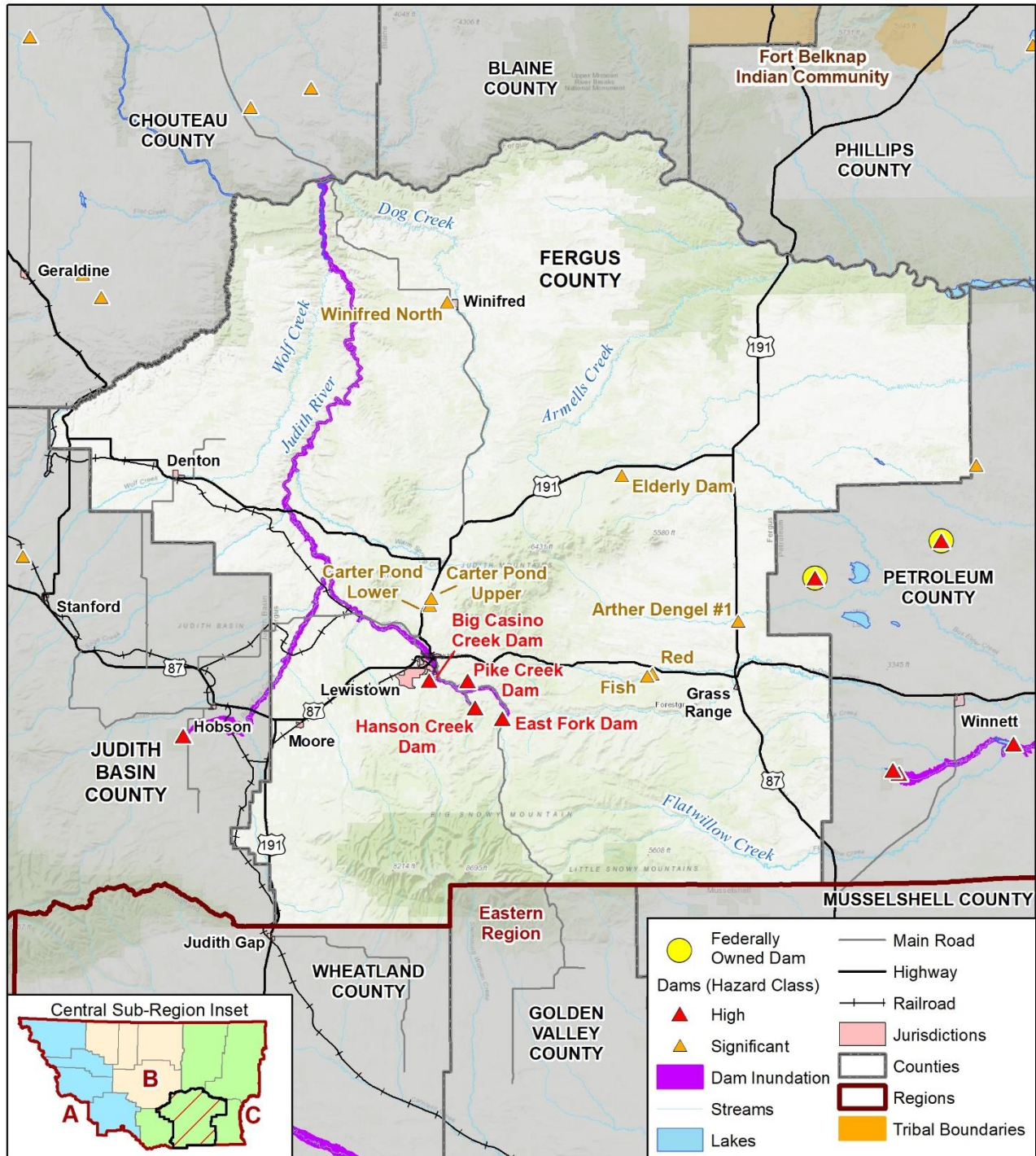
Source: County Assessor data, NID, MT DNRC, WSP GIS Analysis

Table F-12 Fergus County Critical Facilities at Risk to Dam Inundation by FEMA Lifeline

Jurisdiction	Communications	Energy	Food, Water, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Total
Lewistown	4	1	1	-	1	5	11	23
Fergus County	-	-	1	-	-	1	16	18
Total	4	1	2	0	1	6	27	41

Source: Montana DNRC Dam Safety Program, Montana State Library, NID, HIFLD 2022, Montana DES, NBI

Figure F-10 Fergus County Dam Inundation



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
NID, MT DNRC Dam Safety Program

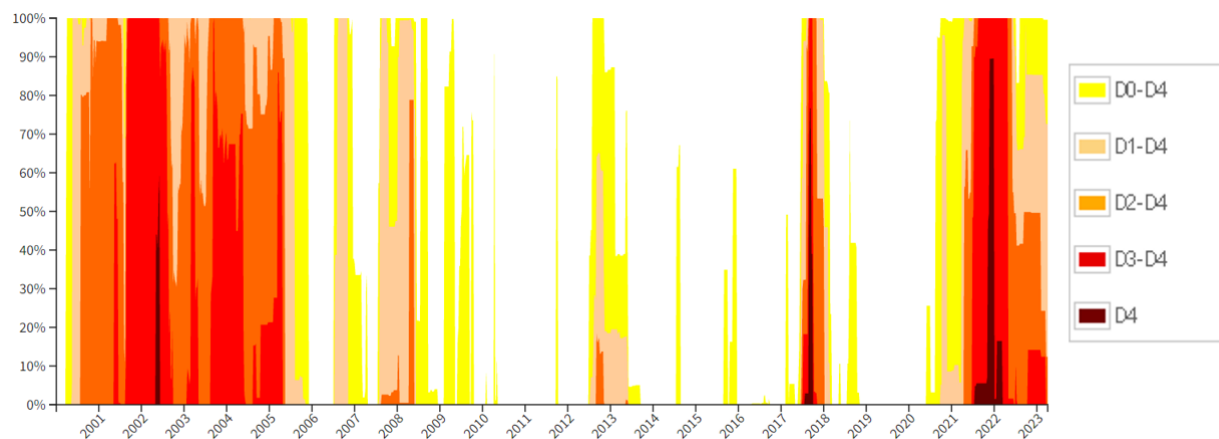
F.4.3 Drought

Drought was rated as a hazard of medium concern in Fergus County. Fergus County has experienced 13 USDA drought declarations from 2012-2021, which is slightly more than the average county in the Central Region. These drought declarations occurred in 2012, 2016, 2017, and 2021. The Drought Impact Reporter (2000-2021) reported that Fergus County has experienced 39 recorded impacts from drought. The HMPC noted that drought conditions pose a threat to agricultural producers in the county, including Snowy Mountain Honey Ranch in Lewistown and Hilltop Angus Ranch in rural Denton. The HMPC also noted that during recent drought conditions, wells have been stressed, fire restrictions have been put in place, trees and crops are showing signs of stress, and agricultural producers are hauling water, buying supplemental feed, and selling cattle early.

The U.S. Drought Monitor (USDM) is a national data set released weekly, showing the severity of drought in locations across the nation. Figure F-11 displays a time series showing the severity of drought in Fergus County between 2000 and 2023 (since the USDM came into being). The figure indicates that the county experienced significant drought (D4) in the years 2002, 2017, and 2021-2022.

Refer to Chapter 4 for a discussion of the drought risk relative to Fergus County and the Central Region.

Figure F-11 USDM Drought Timeseries for Fergus County



Source: USDM; www.drought.gov

F.4.4 Earthquake

There are several known fault systems throughout the State of Montana, mostly concentrated in the Western Region. However, large magnitude earthquakes that occur in the Western Region are likely to have impacts on counties in the Central Region. The potential severity of shaking and impacts to casualties and damage is not uniform across the Central Region and is likely to have a greater impact to counties along the Western portion of the Region. Earthquake hazards in Fergus County are therefore ranked as low overall significance.

According to a Hazus probabilistic loss analysis conducted for a scenario with 2% in 50 years recurrence, Fergus County has the greatest direct economic losses in the Central Region, with an estimated \$3 million in total direct losses. The City of Lewistown is most likely to experience the greatest number of losses due to the concentration of people and infrastructure relative to the rest of the County. Older and historic buildings will be more vulnerable to earthquake shaking.

Refer to Chapter 4 for a discussion of the earthquake risk relative to Fergus County and the Central Region.

F.4.5 Flooding

Table F-13 below summarizes the building counts and improved value of parcels in the County, broken out by jurisdiction, that fall within the 1% chance floodplains. Additionally, the table also summarizes loss estimate values, which are calculated based upon the improved value and estimated contents value and assumes a two-foot deep flood which usually results in 25% of the total value, based on FEMA depth-damage curves. Fergus Unincorporated County has no mapped FEMA floodplains except for around Lewistown. All cities except for Winifred have mapped FEMA Floodplains.

Table F-13 indicates the estimated flood losses in each applicable jurisdiction in Fergus County, Lewistown and the unincorporated areas having the greatest numbers of properties at risk and highest estimated losses. The majority of the properties are residential. There is a total value of \$62 million in improved values and \$23 million in estimated losses to residential properties. This is the largest amount of all property types.

Table F-13 Fergus County Parcels at Risk to 1% Flood Hazard by Jurisdiction

Jurisdiction	Property Type	Improved Parcels	Improved Value	Content Value	Total Value	Estimated Loss	Population
Denton	Agricultural	1	\$1,930	\$1,930	\$3,860	\$965	
	Exempt	2	\$75,810	\$75,810	\$151,620	\$37,905	
	Residential	74	\$4,197,573	\$2,098,787	\$6,296,360	\$1,574,090	158
	Vacant	2	\$30,330	\$30,330	\$60,660	\$15,165	
	Total	79	\$4,305,643	\$2,206,857	\$6,512,500	\$1,628,125	158
Grass Range	Exempt	2	\$96,020	\$96,020	\$192,040	\$48,010	
	Residential	25	\$674,570	\$337,285	\$1,011,855	\$252,964	53
	Vacant	1	\$4,110	\$4,110	\$8,220	\$2,055	
	Total	28	\$774,700	\$437,415	\$1,212,115	\$303,029	53
Lewistown	Exempt	2	\$1,338,730	\$1,338,730	\$2,677,460	\$669,365	
	Residential	294	\$38,767,207	\$19,383,604	\$58,150,811	\$14,537,703	626
	Vacant	1	\$123,390	\$123,390	\$246,780	\$61,695	
	Total	297	\$40,229,327	\$20,845,724	\$61,075,051	\$15,268,763	626
Moore	Residential	12	\$1,164,587	\$582,294	\$1,746,881	\$436,720	26
	Total	12	\$1,164,587	\$582,294	\$1,746,881	\$436,720	26
Winifred	Agricultural	1	\$154,460	\$154,460	\$308,920	\$77,230	
	Residential	1	\$364,250	\$182,125	\$546,375	\$136,594	2
	Total	2	\$518,710	\$336,585	\$855,295	\$213,824	2
Fergus County	Agricultural	57	\$7,972,070	\$7,972,070	\$15,944,140	\$3,986,035	
	Exempt	2	\$201,600	\$201,600	\$403,200	\$100,800	
	Residential	116	\$17,132,546	\$8,566,273	\$25,698,819	\$6,424,705	247
	Vacant	1	\$20,760	\$20,760	\$41,520	\$10,380	
	Total	176	\$25,326,976	\$16,760,703	\$42,087,679	\$10,521,920	247
Grand Total		594	\$72,319,943	\$41,169,577	\$113,489,520	\$28,372,380	1,112

Sources: DNRC, Hazus, FEMA NFHL

Fergus County has a total of 105 critical facilities located in the 1% annual chance floodplain. 93 are transportation lifelines, five are safety and security lifelines, two are food, water and shelter, two are communication lifelines, two are energy lifelines and one is health and medical. Fergus County has the highest amount of critical facilities located in the SFHA in the Central Region. This is shown in Table below.

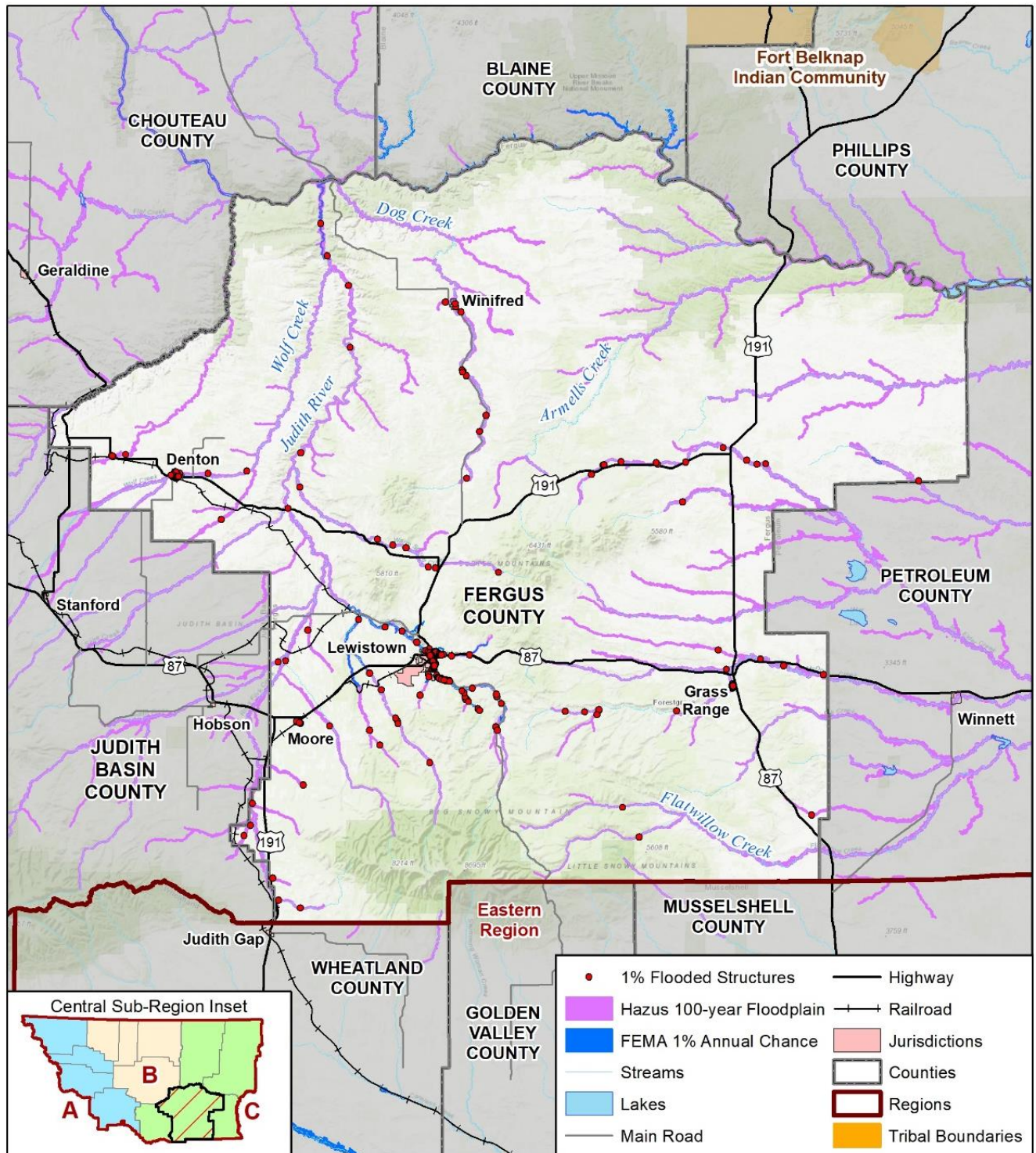
Table F-14 Fergus County Critical Facilities at Risk to 1% Annual Chance Flood Hazards by FEMA Lifeline

Jurisdiction	Communications	Energy	Food, Water, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Total
Denton	-	-	-	-	1	2	1	4
Grass Range	-	-	-	-	-	1	-	1
Lewistown	2	1	-	-	-	1	7	11
Winifred	-	1	-	-	-	-	-	1
Fergus County	-	-	2	-	-	1	85	88
Total	2	2	2	0	1	5	93	105

Source: Montana DNRC, FEMA, HAZUS, HIFLD 2022, MT DES, NBI

All participating jurisdictions in Fergus County contain structures located in the floodplain, as seen in Figure F-12 through Figure F-17 below.

Figure F-12 Fergus County Flood Hazard and Structures

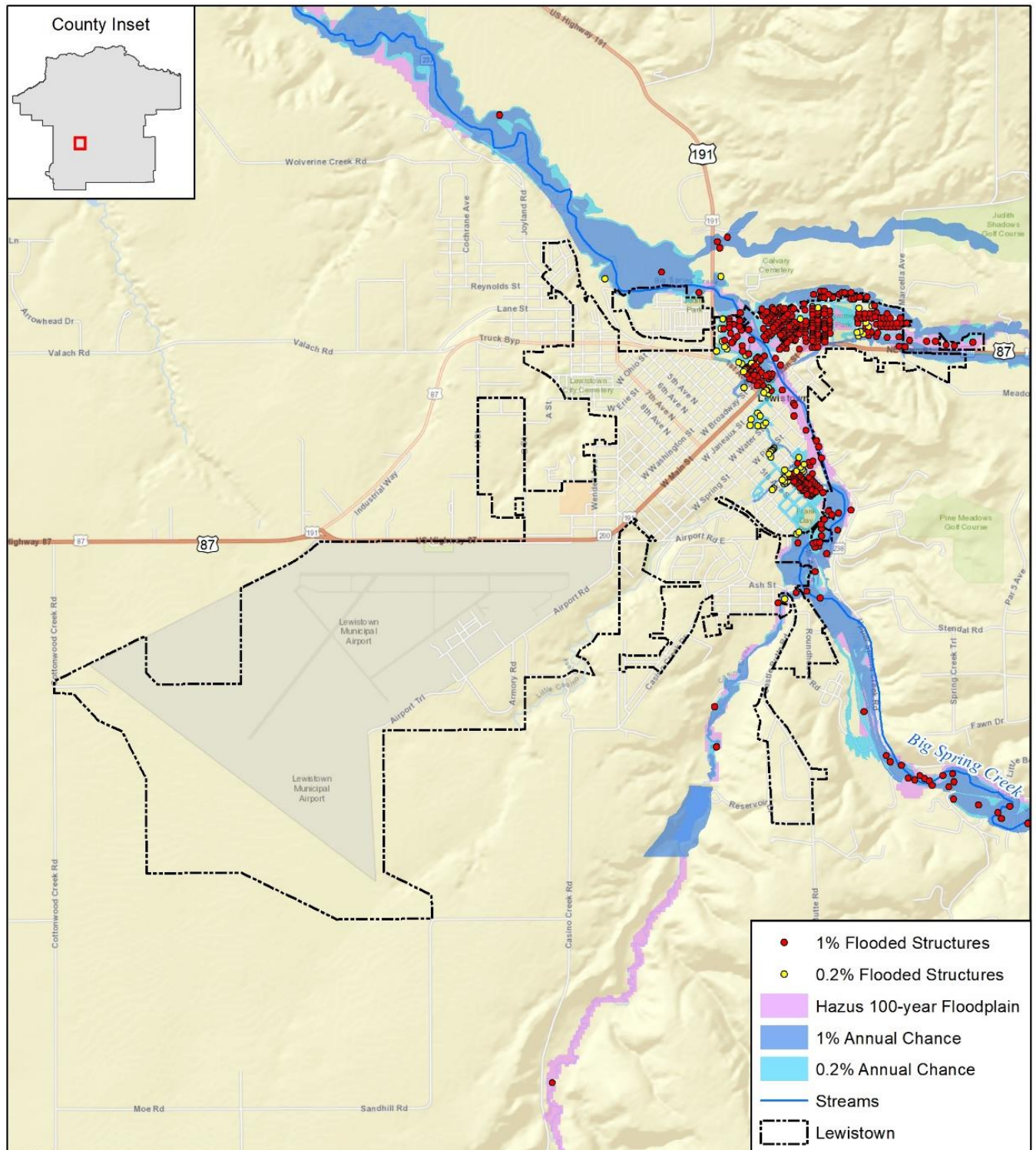


Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
DNRC, FEMA, Hazus

0 10 20 Miles

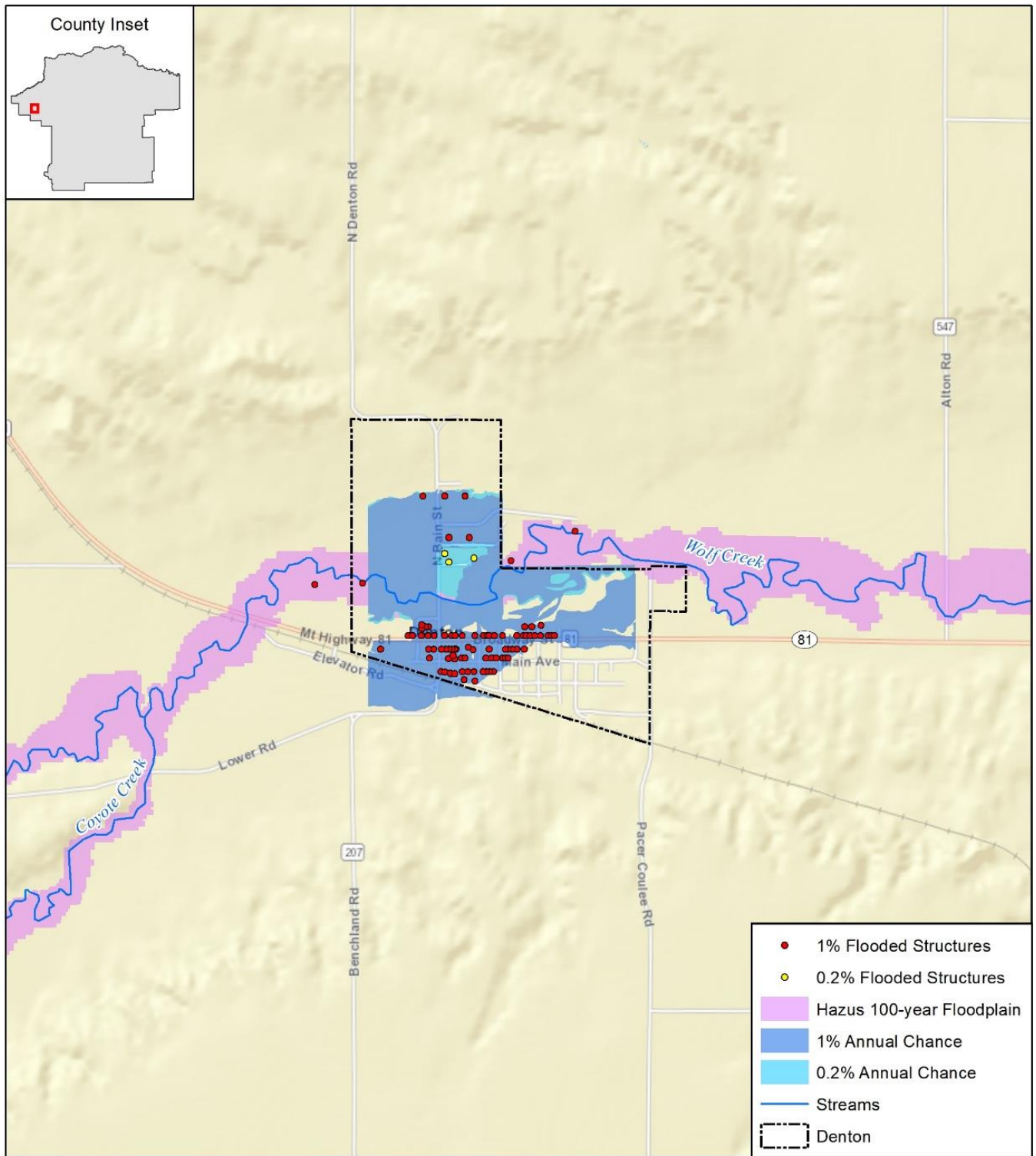


Figure F-13 City of Lewistown Flood Hazard and Structures



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
DNRC, FEMA, Hazus

Figure F-14 Town of Denton Flood Hazard and Structures



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
DNRC, FEMA, Hazus

Figure F-15 Town of Grass Range Flood Hazard and Structures

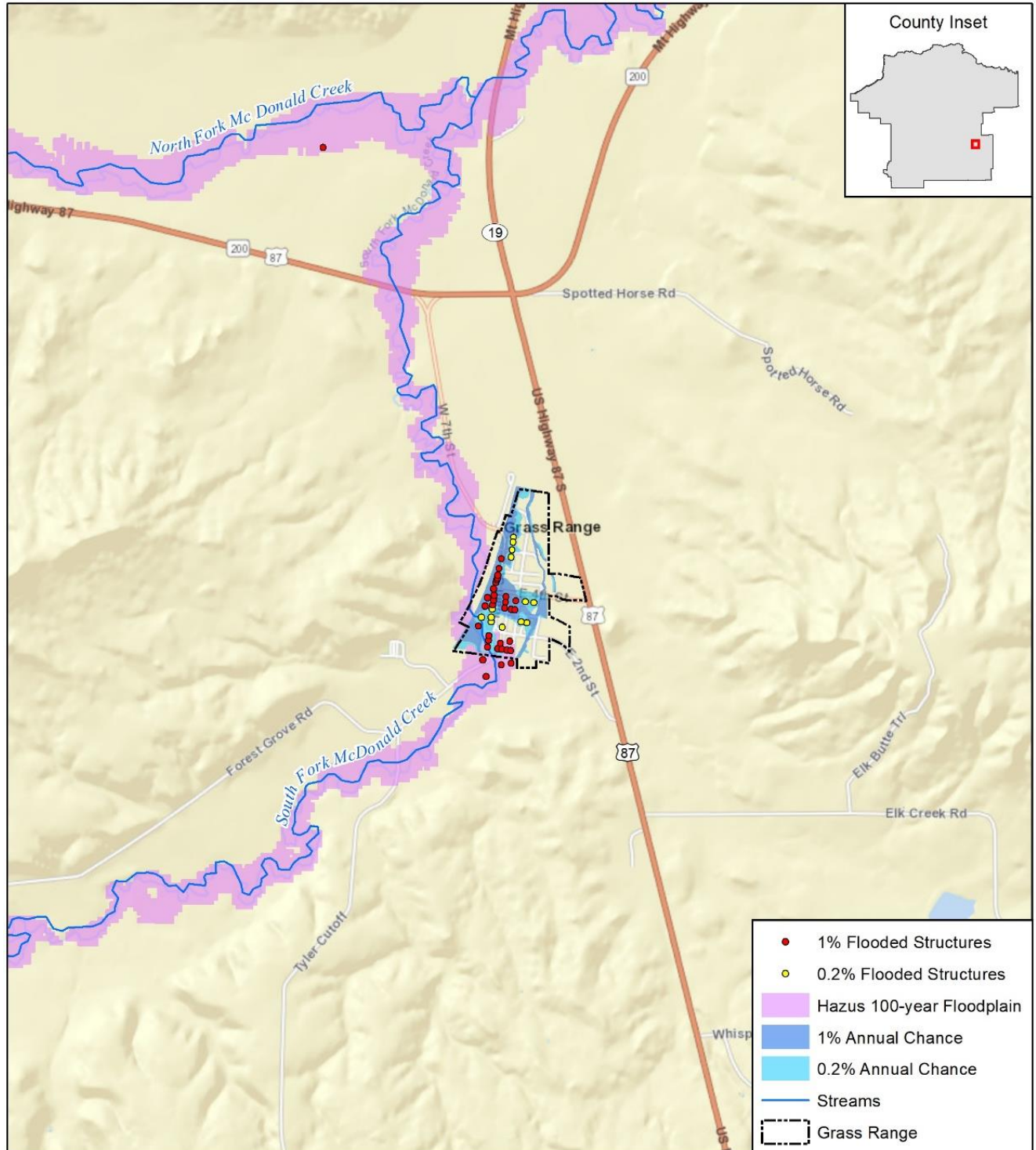
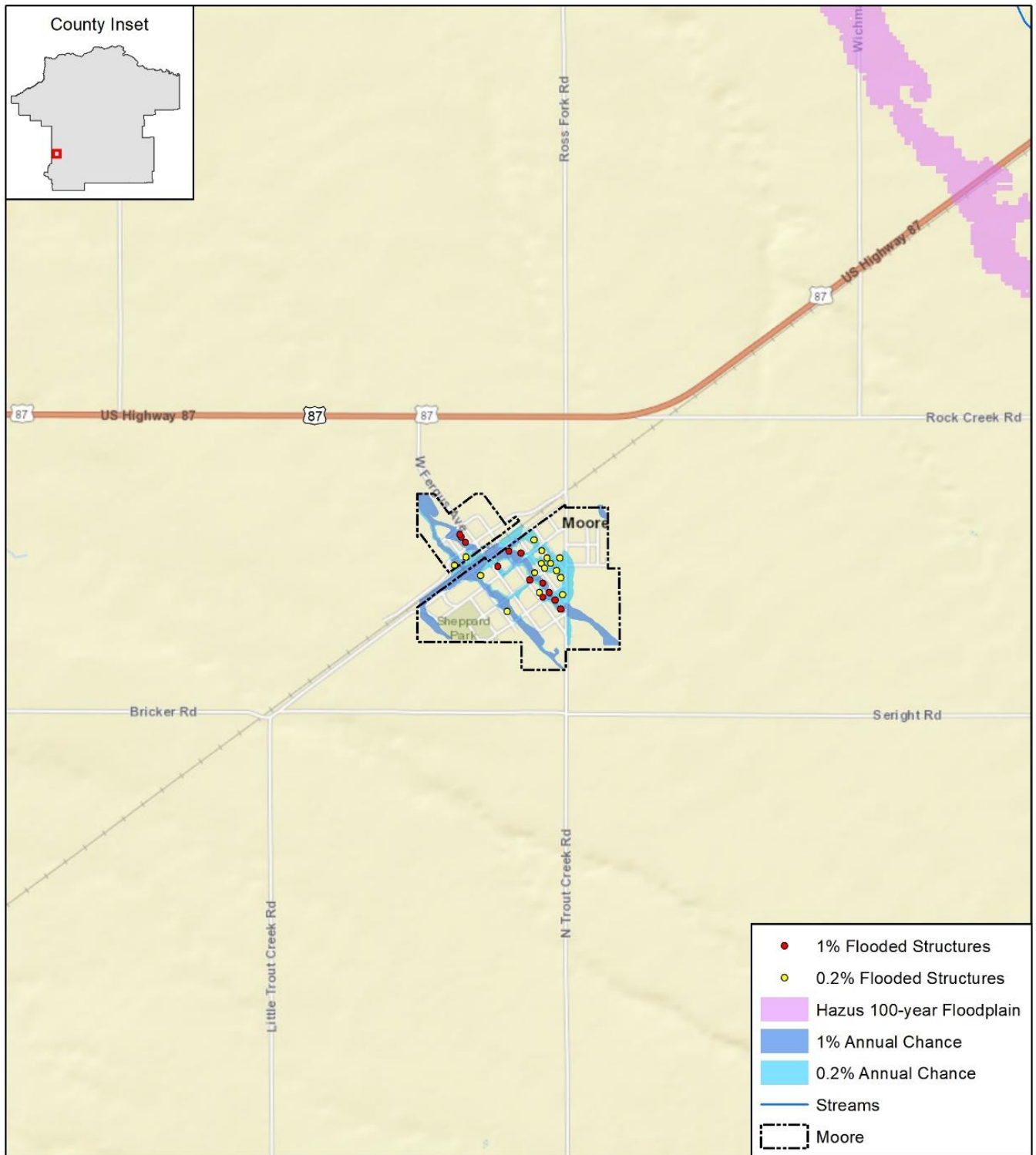


Figure F-16 Town of Moore Flood Hazard and Structures

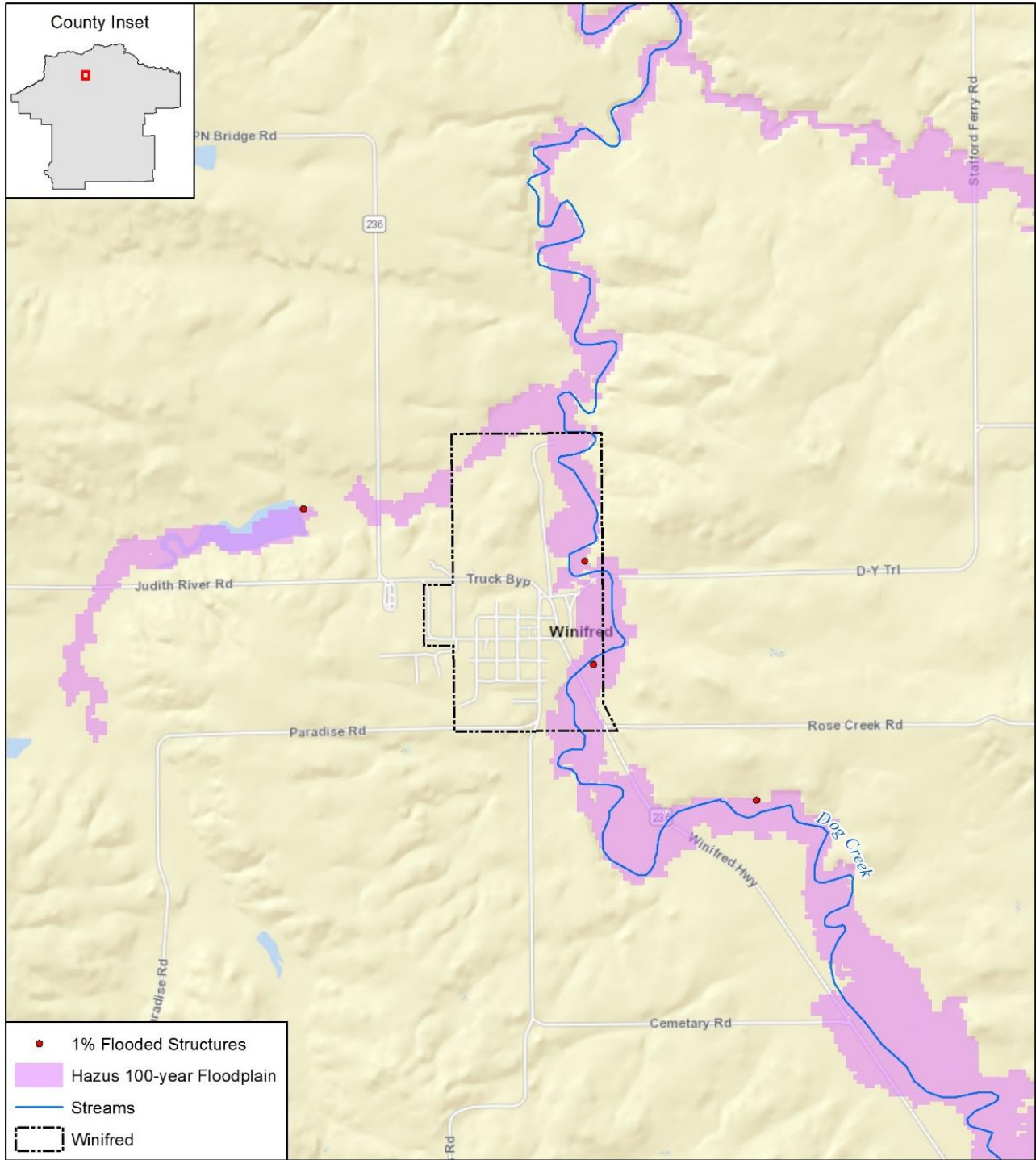


Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
DNRC, FEMA, Hazus

0 0.5 1 Miles



Figure F-17 Town of Winifred Flood Hazard and Structures



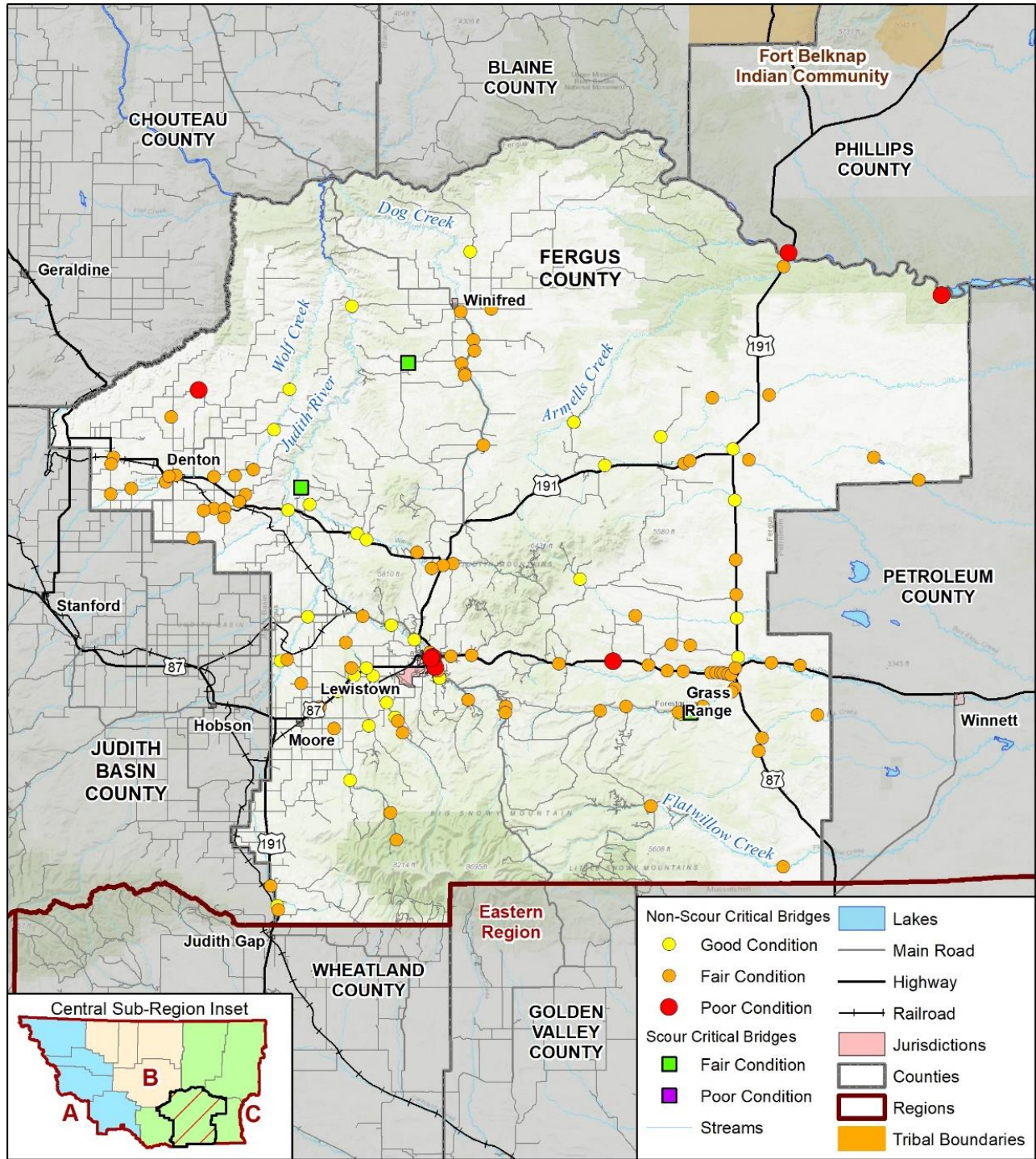
Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
DNRC, FEMA, Hazus

0 0.5 1 Miles



Figure F-18 below displays the location of bridges in Fergus County and their condition. Refer to Chapter 4 for a discussion of the flood risk relative to Fergus County and the Central Region.

Figure F-18 Fergus County Bridges



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library,
National Bridge Inventory

F.4.6 Hazardous Materials Incident

Fergus County has one Risk Management Program (RMP) facility. Additionally, 19 hazardous material incidents that have occurred in Fergus County since 1990. Fergus County has gas transmission pipelines that travel to the towns of Buffalo, Garniell and Straw. There are also Breakout tank lines in the areas of Buffalo, Coffee Creek, Denton, Garneill and Straw.

Refer to Chapter 4 for a discussion of the hazardous materials incident risk relative to Fergus County and the Central Region.

F.4.7 Landslide

Landslides are ranked as a medium overall significance hazard in Fergus County. There has been one recorded instance of a federal disaster declaration due to landslides in the County in 1986. Though Fergus County is the only one within the Central Region that has an annualized landslide frequency of 0.11-9.35. Fergus also has an expected annual loss rating of relatively high. The Areas of Lewistown and Moore ranked landslide as high significance due to susceptibility of soil types and topography in the areas. This is more prevalent during times of snow melt and flooding. For more information, refer to Chapter 4 for a discussion of the landslide risk relative to Fergus County and the Central Region.

F.4.8 Severe Summer Weather

Fergus County ranked severe summer weather as a high overall significance hazard. Fergus County experienced the second greatest number of total severe summer weather events in Central Region, including 227 hail events and 15 heavy rain events. There was no recorded lightning events or excessive heat events in the county that resulted in losses, however, lightning events still occur in the county. Property losses from severe summer weather in Fergus County totaled to \$112,000 from 1955 to 2022 (4.3% of total losses in the Central Region), mainly due to hail events. Fergus County experienced greatest total crop losses from severe summer weather, totaling an estimated \$1 million in losses (43.7% of total crop losses in the Central Region). While all property and people are equally vulnerable to severe summer weather events in the County, greatest property losses are likely to occur in the City of Lewistown, where people and infrastructure are concentrated.

Refer to Chapter 4 for a discussion of the severe summer weather risk relative to Fergus County and the Central Region.

F.4.9 Severe Winter Weather

Fergus County ranked severe winter weather as a high overall significance hazard. The Fergus Zone experienced the sixth greatest number of recorded severe winter weather events in the Central Region and the NRI rated Fergus County as one of the six counties with a "relatively moderate" risk index rating for winter weather. None of the property losses recorded in the Central Region occurred in Fergus County, but all people and property in the county are equally vulnerable to future losses from severe winter weather events. (Source: [NPMS Public Viewer \(dot.gov\)](#))

Refer to Chapter 4 for a discussion of the severe winter weather risk relative to Fergus County and the Central Region.

F.4.10 Human Conflict

Human conflict is ranked as an overall low significance for Fergus County, along with nearly all other counties in the Central Region. None of the 23 recorded human conflict events recorded in the Central Region occurred in Fergus County, and all jurisdictions in the county are equally vulnerable to experiencing a human conflict event in the future.

Refer to Chapter 4 for a discussion of the human conflict risk relative to Fergus County and the Central Region.

F.4.11 Tornadoes & Windstorms

Fergus County ranked tornadoes and windstorms as a high overall significance hazard. The Fergus Zone experienced the fifth greatest number of high wind and strong wind events in the Central Region, with 162 total events. Additionally, Fergus County experienced the fourth greatest number of thunderstorm wind events and the greatest number of tornado events. Fergus County experienced the greatest losses from tornado events in the Central Region, with over \$4 million in recorded damages, and around \$500,000 in crop losses from wind damage. The NRI ranked Fergus County as the highest annualized frequency for tornadoes in the Central Region. All people and property are vulnerable to tornado and windstorms in Fergus County, with crops being particularly vulnerable to damages to the agricultural industry present in the county.

Refer to Chapter 4 for a discussion of the tornadoes and windstorms risk relative to Fergus County and the Central Region.

F.4.12 Transportation Accidents

Fergus County ranked transportation accidents as an overall low significance. Fergus County had the third greatest number of roadway crashes in the Central Region. While transportation accidents can occur along any type of transportation route in the county and region, a greater frequency of accidents occur along heavily traveled roadways, such as US Highway 87 and US Highway 191 which run through the county. Due to the presence of these roads in the City of Lewistown, along with the Lewistown Municipal Airport, the City of Lewistown ranked transportation accidents as medium, where the rest of the jurisdictions in the county are ranked as low.

Refer to Chapter 4 for a discussion of the transportation accident risk relative to Fergus County and the Central Region.

F.4.13 Volcanic Ash

All counties in the Central Region and all jurisdictions within Fergus County ranked volcanic ash as an overall low significance hazard. Vulnerability throughout the county is largely uniform and dependent on the scale of volcanic activity impacting the region.

Refer to Chapter 4 for a discussion of the volcanic ash risk relative to Fergus County and the Central Region.

F.4.14 Wildfire

Fergus County ranked Wildfire as a medium significance hazard. Fergus County has the third greatest number of individuals in the Central Region in wildfire risk areas, with a total of 9,251 people exposed in high, very high, or extreme fire risk areas. Figure F-19 below displays the wildfire risk in Fergus County. Divided almost in half, the majority of the eastern half of the county is at high risk of wildfire, while risk is generally ranked as medium-low moving west. Areas of very high and extreme wildfire risk are concentrated in the areas surrounding the City of Lewistown, as well as along roadways and small pockets of WUI development throughout the county. The majority of structures at risk are residential.

The CPT also noted several fires which have occurred in recent years. The Taylor Fire that occurred on August 1st-8th, 2021, roughly 16 miles northeast of Denton burned around 23,000 acres. The South Moccasin Fire began on October 4th, 2021, 7 miles northwest of Lewistown. This event burned around 12,800 acres and resulted in the loss of numerous structures, agricultural buildings, and the death of livestock. Another recent notable event was the Westwind Fire. Beginning on November 30th, 2021, this fire burned 10,500 acres in the vicinity of Denton. 25 commercial, residential, and agricultural buildings were lost, in addition to 18

outbuildings, farm equipment, and fencing in the area. Events similar to the size and scale of these fires are very likely to occur again in the event of a dry summer.

Table F-15 below summarizes the estimated exposed value of improvements in each wildfire risk category. Of the 3,409 properties at risk, 87% are residential and 8% are agricultural. Wildfires typically result in a total building loss including contents. See Chapter 4 in the base plan for details on the methodology of this analysis.

Table F-15 Fergus County Parcels at Risk to Wildfire by Jurisdiction and Risk Rating

At Risk Rating	Jurisdiction	Improved Parcels	Improved Value	Content Value	Total Value	Population
At Risk to Extreme Wildfire Hazards	Grass Range	84	\$3,003,619	\$1,621,830	\$4,625,449	166
	Lewistown	1,021	\$136,708,201	\$71,487,051	\$208,195,252	2,130
	Winifred	77	\$9,921,125	\$6,155,443	\$16,076,568	147
	Fergus County	80	\$3,877,580	\$2,152,900	\$6,030,480	153
	Total	1,262	\$153,510,525	\$81,417,223	\$234,927,748	2,596
At Risk to Very High Wildfire Hazards	Denton	173	\$9,576,463	\$5,088,132	\$14,664,595	343
	Grass Range	3	\$277,260	\$138,630	\$415,890	6
	Lewistown	1,515	\$201,664,533	\$105,526,844	\$307,191,377	3,176
	Moore	81	\$6,380,258	\$3,236,854	\$9,617,112	168
	Winifred	33	\$3,220,185	\$2,296,778	\$5,516,963	58
	Fergus County	877	\$116,851,898	\$68,042,759	\$184,894,657	1,640
	Total	2,682	\$337,970,597	\$184,329,996	\$522,300,593	5,391
At Risk to High Wildfire Hazards	Denton	13	\$807,410	\$407,915	\$1,215,325	21
	Lewistown	6	\$3,569,168	\$1,976,299	\$5,545,467	11
	Moore	27	\$3,720,609	\$2,171,490	\$5,892,099	49
	Fergus County	872	\$181,519,473	\$121,219,682	\$302,739,155	1,182
	Total	918	\$189,616,660	\$125,775,385	\$315,392,045	1,263

Source: MSDI 2022, MWRA

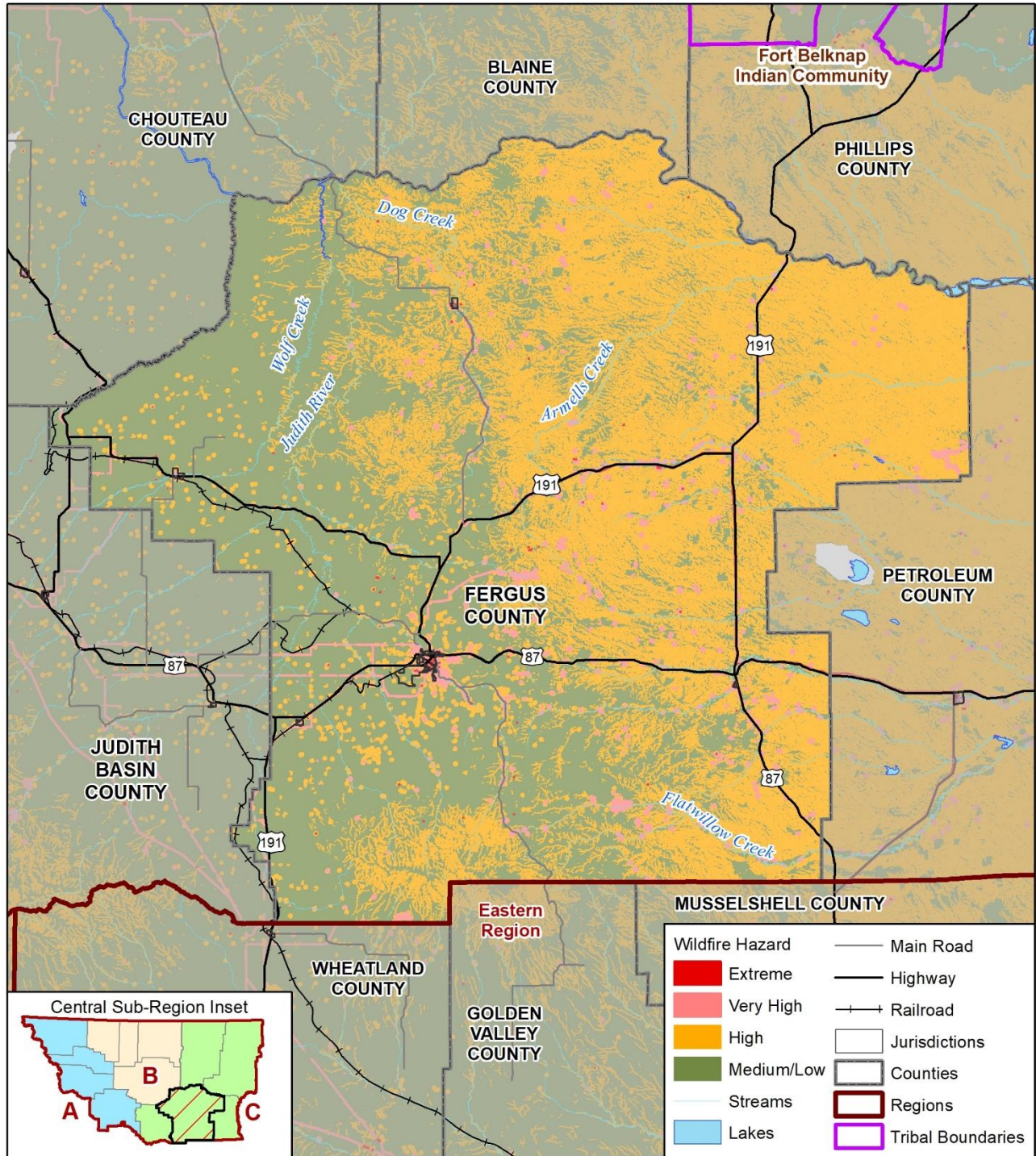
Table F-16 summarizes the potential impact of wildfire on critical facilities and lifelines in Fergus County and its associated jurisdictions. The table highlights the type and number of facilities in each jurisdiction in the County in Wildfire risk areas. See Chapter 4 for the methodology of the critical facilities at risk analysis.

Table F-16 Critical Facilities at Risk to Wildfire Hazards by Jurisdiction, Facility Type, and Risk Rating

At Risk Rating	Jurisdiction	Communications	Energy	Food, Water, Shelter	Hazardous Materials	Health & Medical	Safety & Security	Transportation	Total
At Risk to Extreme Wildfire Hazards	Grass Range	-	-	-	-	-	5	-	5
	Lewistown	7	-	2	-	1	9	10	29
	Winifred	-	1	-	-	1	4	-	6
	Fergus County	18	3	-	-	-	1	8	30
	Total	25	4	2	0	2	19	18	70
At Risk to Very High Wildfire Hazards	Denton	-	-	-	-	1	2	-	3
	Lewistown	-	1	1	-	-	8	2	12
	Fergus County	3	17	3	-	1	6	34	64
	Total	3	18	4	0	2	16	36	79
At Risk to High Wildfire Hazards	Moore	-	-	-	-	-	4	-	4
	Fergus County	5	-	2	1	-	8	39	55
	Total	5	0	2	1	0	12	39	59
At Risk to Medium/Low Wildfire Hazards	Denton	-	-	-	-	-	3	2	5
	Lewistown	2	-	-	-	-	-	1	3
	Winifred	-	-	1	-	-	-	-	1
	Fergus County	9	5	3	-	-	4	60	81
	Total	11	5	4	0	0	7	63	90

Source: HIFLD 2022, MT DES, NBI, MWRA

Figure F-19 Fergus County Wildfire Hazard



Map compiled 10/2022;
intended for planning purposes only.
Data Source: Montana State Library, MWRA

0 10 20 Miles



F.5 Mitigation Capabilities Assessment

As part of the regional plan development, the Region and participating jurisdictions developed a mitigation capability assessment. Capabilities are those plans, policies and procedures that are currently in place that contribute to reducing hazard losses. Combining the risk assessment with the mitigation capability assessment results in “net vulnerability” to disasters and more accurately focuses the goals, objectives, and proposed actions of this plan. The CPT used a two-step approach to conduct this assessment. First, an inventory of common mitigation activities was made using a matrix. The purpose of this effort was to identify policies and programs that were either in place or could be undertaken, if appropriate. Second, the CPT conducted an inventory and review of existing policies, regulations, plans, projects, and programs to determine if they contribute to reducing hazard related losses.

F.5.1 Regulatory Mitigation Capabilities

Table F-17 lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the Central Region and each participating jurisdiction.

Table F-17 Fergus County and Jurisdictions Regulatory Mitigation Capabilities

Plans and Regulations	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Building Codes	No	Yes	Yes	No	No	No
Building Codes Year	N/A	Yes - 2021	N/A	N/A	N/A	N/A
BCEGS Rating	No	No	No	N/A	No	N/A
Capital Improvements Program (CIP) or Plan	Yes	Yes	Yes	No	No	N/A
Community Rating System (CRS)	No	No	No	No	No	N/A
Community Wildfire Protection Plan (CWPP)	Yes	No	N/A	No	No	N/A
Comprehensive, Master, or General Plan	No	Yes	No	No	No	N/A
Economic Development Plan	No	Yes, Certain Areas Only	No	No	Yes	N/A
Elevation Certificates	Yes	Yes	No	No	No	N/A
Emergency Operations Plan	Yes	Yes	No	No	No	N/A
Erosion/Sediment Control Program	No	No	No	No	No	N/A
Floodplain Management Plan	Yes	Yes	No	No	Yes	N/A
Flood Insurance Study	Yes	Yes	No	Yes	No	N/A

Plans and Regulations	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Growth Management Ordinance	Growth Policy 2022, https://www.cofergus.mt.us/Planning Dept./Growth Plan	Yes	No	No	No	N/A
Hazard-Specific Ordinance or Plan (Floodplain, Steep Slope, Wildfire)	No	Yes, Airport Affected Area, High Wind, Snow Loading	No	No	No	N/A
National Flood Insurance Program (NFIP)	Yes (12/01/82)	Yes (07/19/82)	Yes (07/19/82)	No - Sanctioned (09/21/93)	Yes (07/19/82)	N/A (Not Mapped)
Site Plan Review Requirements	No	Yes	No	No	No	N/A
Stormwater Program, Plan, or Ordinance	Yes - For Subdivision Lots	Yes	No	No	No	N/A
Zoning Code or Ordinance	No	Yes	Yes	No	Yes	N/A

Discussion on Existing Regulatory Mitigation Capabilities

The CPT noted that Fergus County's planning department handles the existing land usage, development ordinances or regulations and hazard specific issues. Fergus County Subdivision Regulations from 2014 is what the planning department uses to ensure compliance and regulation. There also is no county wide zoning within Fergus County, although the Town of Winifred allows Fergus County's planning department to handle their building regulations and ordinances.

The City of Lewistown's CPT has documented that their planning department does floodplain, zoning ordinances as well as Airport Affected Area Public Works looks at water, sewer, wastewater and roads (storm) These regulations are addressed in city ordinance and design standards. They also fall back to DEQ circulars where applicable. Their building codes work to address zoning, setbacks and lot coverage on new or additions. Building codes are as adopted by the State of Montana.

The Town of Denton has a basic land use permit but no jurisdiction specific ordinance or hazard specific regulations. Denton's CPT also noted that there is no existing hazard specific codes and no plans for additional or new building codes.

Discussion on NFIP Participation and Compliance

Fergus County is a participant of the National Flood Insurance Program. The Fergus County Planning Department oversees floodplain activities and where the Floodplain Administrator operates from. Fergus County follows the Floodplain Hazard Regulations created in 2014. The county and Lewistown both have a floodplain administrator, and floodplain regulations are actively enforced. The county floodplain administrator is also the floodplain administrator for Denton and Moore. Floodplain permits are granted on a case-by-case basis. Developments are sternly advised against in the floodplain areas of the county. All jurisdictions with Fergus County participate in the NFIP other than the Town of Winifred whose boundaries are not currently mapped within the Special Flood Hazard Area (SFHA). The flood map for this location has

a status of "not printed". This means that the entire area of the panel is in a single flood zone, so FEMA chose to economize and not create a printable image for this location.

F.5.2 Administrative and Technical Mitigation Capabilities

Table F-18 identifies the County and participating jurisdictions personnel responsible for activities related to mitigation and loss prevention in Fergus County.

Table F-18 Fergus County Jurisdictions Administrative/Technical Mitigation Capabilities

Administrative and Technical	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Emergency Manager	Yes, Ryan Peterson	Yes	No	Yes - Mayor	No	N/A
Floodplain Administrator/ Position/ Department	Yes, Pam Vosen	Yes	No	No	Yes	N/A
Community Planning:	No	No	No	No	No	N/A
- Planner/Engineer (Land Development)	Yes, Pam Vosen	Yes	No	No	No	N/A
- Planner/Engineer/ Scientist (Natural Hazards)	N/A	No	No	No	No	N/A
- Engineer/Professional (Construction)	No	Yes	No	No	No	Yes, Stahly Engineering-Water/Sewer
- Resiliency Planner	Yes, Pam Vosen	No	No	No	No	N/A
- Transportation Planner	Yes, Pam Vosen	Yes	No	No	No	No
Full-Time Building Official	No	Yes	No	No	No	N/A
GIS Specialist and Capability	Yes, Pam Vosen	Yes	No	No	No	N/A
Grant Manager, Writer, or Specialist	No	No	No	No	No	Yes, Stahly Engineering-Water/Sewer
Housing Authority	No	No	No		No	No
Warning Systems: (list the hazards each system is used for)	No	No	No	No	No	N/A
- Sirens	No	Yes	Yes, Fire, Basic Emergency	Yes	No	N/A
- Reverse 911	Yes, Wildfires (through Central Montana Dispatch Ctr)	Yes	No	No	No	N/A
- IPAWS/Wireless Emergency Alerts (WEA)	Yes	Yes	No	No	No	N/A
- Opt-In Notifications (Hyper Reach)	No, Between Vendors	Yes	No	No	No	N/A
- Other system	Yes, NWS		No	N/A	No	N/A

Pam Vosen is responsible for floodplain management and administration. Fergus County follows the Floodplain Hazard Regulations from 2014.

The City of Lewistown has its own Floodplain Regulations Title Ordinance No.1752 and the Planning Department is responsible for administering and promoting participation in the NFIP. They noted that they are struggling to hire and retain a planner to fill this role.

The Towns of Grass Range, and Winifred currently do not participate in the National Flood Insurance Program.

F.5.3 Financial Capabilities

Table F-19 identifies the County and participating jurisdictions financial tools or resources that the jurisdictions have access or are eligible to use and could potentially be used to help fund mitigation activities.

Table F-19 Fergus County Jurisdictions Financial Capabilities

Financial Capabilities	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Ability to fund projects through Capital Improvements funding	Yes	Yes	Yes	No	Yes	N/A
Ability to incur debt through general obligation bonds	Yes	Yes	Yes	No	Yes	Yes
Ability to incur debt through private activities	Yes	No	No	No	Yes	Yes
Ability to incur debt through special tax bonds	Yes	Yes	Yes	No	Yes	Yes
Authority to levy taxes for a specific purpose with voter approval	Yes	Yes	Yes	Yes	No	N/A
Authority to withhold spending in hazard prone areas	Yes	No	No	No	Yes	N/A
Community Development Block Grants	Yes	Yes		Yes	Yes	N/A
FEMA Hazard Mitigation Assistance grants	Yes	Yes	No	Yes	Yes	Yes
FEMA Public Assistance funds	Yes	Yes	No	Yes	Yes	Yes
Stormwater Service Fees	N/A	No	No	No	No	N/A
System Development Fee	N/A	No	No	No	No	N/A
Utility fees (water, sewer, gas, electric, etc.)	No	Yes	Yes	Yes	Yes	Yes - Water and Sewer

The CPT noted that Fergus County currently have no FEMA Mitigation Grant programs, though there has been talk within the smaller jurisdictions. The City of Lewistown notes that there has been mitigation and stabilization projects done since the most recent previous storm event. The Town of Denton has added a backup generator at their Wastewater Treatment Facility and Fire Prevention measures have become an increased emphasis. The Town of Winifred also is focused on upgrading its infrastructure.

FEMA and Other Grant Funding Leveraged for Hazard Mitigation

Funding for the proposed mitigation projects may come from a variety of sources. Below is a list of funding possibilities. This list is not tied directly to each proposed project; however, these programs could work for specific projects or multiple projects.

- FEMA Hazard Mitigation Assistance Grants including:
 - Building Resilient Infrastructure and Communities (BRIC)
 - Flood Mitigation Assistance Program (FMA).
 - Hazard Mitigation Grant Program (HMGP).
- US Army Corp of Engineers funding
- USDA Environmental Quality Incentive Program.
- USDA Conservation Reserve and Conservation Reserve Enhancement Program.
- USDA Small Watersheds (NRCS).

There are many more potential funding opportunities available to the municipalities and county. Funding research will be done during the scoping process for each project. New funding mechanisms may be present that were not before. Fergus County and its jurisdictions have participated in several of these hazard mitigation assistance projects, summarized in the Table F-20 below.

Table F-20 Fergus County Hazard Mitigation Assistance Projects

Program	Date Approved	Project Type	Status	Location
HMGP	2018-03-05	200.1: Acquisition of Private Real Property (Structures and Land) - Riverine	Closed	Fergus
HMGP	2013-10-18	91.1: Local Multihazard Mitigation Plan	Closed	Fergus
HMGP	2009-03-23	403.2: Stormwater Management - Diversions	Closed	Fergus
HMGP	2005-08-09	403.1: Stormwater Management - Culverts	Closed	Fergus
FMA	2003-05-16	FMA Plan	Closed	Fergus

Source: FEMA Opendata

F.5.4 Education and Outreach Capabilities

Table F-21 identifies the education and outreach programs in place at the County and participating jurisdictions are or could be used to help promote mitigation activities.

Table F-21 Fergus County Education and Outreach Capabilities

Education & Outreach Programs	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
Ongoing public education programs (fire safety, responsible water use, household preparedness, etc)	Yes	Yes	No	No	No	No, DES - DNRC working on it
Local citizen groups that communicate hazard risks	No	Yes	No	No	No	N/A
Firewise or other fire mitigation program	No	Yes	No	No	No	N/A
National Weather Service StormReady	No	Yes	No	No	No	N/A

Although Fergus County has had no past or current hazard mitigation projects or programs meant to reduce disaster losses or protect critical facilities the CPT notes that Lewistown has had mitigation and stabilization projects done since the previous significant storm event. Lewistown's CPT notes that they have an active Local Emergency Planning Committee that has recently done roundtable top scenarios. They also have reviewed previous hazard events and both discussed and researched what changes should take place. From this analysis the City of Lewistown concludes that EOC upgrades and issues regarding communication breakdowns should be improved on.

The Town of Denton noted in their CPT that they have purchased new power generators to help with power loss in the wake of a hazardous event. Denton's CPT also noted that their community priorities are focused on wildfire prevention. The Town of Winifred wants to upgrade its town infrastructure to build a more resilient community to respond and recover from the different hazard events affecting their communities.

F.5.5 Non-Governmental Organizations (NGOs) and Mitigation Partnerships

Table F-22 shows the local chapters partnered with the County and participating jurisdictions.

Table F-22 Fergus County Non-Governmental Organizations (NGOs)

Non-Governmental Organizations (NGOs)	Fergus County	City of Lewistown	Town of Denton	Town of Grass Range	Town of Moore	Town of Winifred
American Red Cross	No, Great Falls or Billings	No	No	No	No	N/A
Chamber of Commerce	Yes, Lewistown 406-535-5436	Yes	No	No	No	N/A
Community Organizations (Lions, Kiwanis, etc.)	No	Yes, Kiwanis, Rotary, JC's	Yes	Yes	No	Yes - American Legion
Environmental Groups	Yes, Lewistown, American Prairie 406-585-4600 Central MT Resource Council 406-248-1154	Yes, Resource Council, TU	No	No	No	N/A
Homeowner Associations	No	Yes	No	No	No	N/A
Neighborhood Associations	No	Yes, Crimestoppers	No	No	No	N/A
Salvation Army	No	Yes, Local Contacts	No	No	No	N/A
Veterans Groups	Yes	Yes	No	No	No	Yes - Legion
Other?	N/A			N/A		

F.5.6 Opportunities for Enhancement

Based on the capabilities assessment, Fergus County uses the Water Conservation Campaign to help mitigate drought concerns. Wildfire concerns countywide are mitigated by promoting the Home Fire Mitigation Campaign. COVID-19 PPE Masks and home tests are also still available. Fergus County's CPT also

notes that inventory on existing sandbags is done to ensure that enough are available. Continuing to train staff on mitigation and the hazards that pose a risk to Fergus County will lead to more informed staff members who can better communicate this information to the public. This also applies to Lewistown who needs a staff grant writer. Hazard Mitigation funding should be researched to see if funds are available to help with hiring for positions such as these. The Town of Denton notes that staff shortages are an obstacle to enhancing their jurisdictions capabilities. The Town of Winifred noted that their enhancement opportunities are focused on drought and grasshopper control education.

Another opportunity for enhancement is to increase public education and outreach on hazards. Creating ongoing public education programs or becoming Firewise and StormReady communities can increase the community's preparedness for hazard events. Improved cross-jurisdictional communication on evacuation and awareness to mitigate life safety impacts during dam incidents, floods, or wildfires including the development of brochures and using existing communication capabilities through social media or other media. Other specific opportunities for improvement include:

- Fergus County:
 - Consider adopting building codes and or a Zoning Ordinance
 - Consider joining FEMA Community Rating System (CRS) to lower the cost of flood insurance
 - Consider adopting a Hazard Specific Ordinance or Plan
 - Additional partnerships with area agencies to further develop hazard mitigation programs.
- City of Lewistown:
 - Consider adopting a Wildland Urban Interface Code (see recommendation in 2022 CWPP)
 - Consider joining FEMA Community Rating System (CRS) to lower the cost of flood insurance
 - Consider an Erosion/Sediment Control Program
- Town of Denton:
 - Consider adopting building codes.
 - Consider joining the NFIP, adopting a Floodplain Ordinance Plan and joining the Community Rating System
 - Consider adopting a Hazard Specific Ordinance and or a Stormwater Program Plan or Ordinance
- Town of Grass Range
 - Consider joining the National Flood Insurance Program
- Town of Moore:
 - Consider adopting building codes.
 - Consider adopting relevant Jurisdictions Regulatory Mitigation Capabilities
- Town of Winifred:
 - Consider adopting relevant Jurisdictions Regulatory Mitigation Capabilities

F.6 Mitigation Strategy

This section describes the mitigation strategy and mitigation action plan for Fergus County. See Chapter 5 of the base plan for more details on the process used to develop the mitigation strategy.

F.6.1 Goals

During the creation of the 2023 Regional Plan, the counties in the Montana Central Region decided to collaborate and develop a set of new, uniform goals, which were adopted by all counties in the Region and move away from hazard-specific goals. The adopted goals are as follows:

- Goal 1: Reduce impacts to people, property, the environment, and the economy from hazards.
- Goal 2: Protect community lifelines and critical infrastructure to ensure the continuity of essential services.
- Goal 3: Increase public awareness and participation in hazard mitigation.
- Goal 4: Sustain and enhance jurisdictional capabilities to enact mitigation activities.
- Goal 5: Integrate hazard mitigation into other plans, processes, and regulations.
- Goal 6: Promote regional cooperation and leverage partnerships in mitigation solutions where possible.

F.6.2 Progress on Previous Actions

During the 2023 planning process, the Fergus County Planning Team reviewed all the mitigation actions from the 2014 plan. As shown in Table F-23, of 34 actions in the previous plan, three have been completed, and five have been deleted. In addition to these completed and deleted actions, the HMPC also decided to merge several existing projects into fewer, more refined projects.

Table F-23 Completed and Deleted Actions

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Status
1	Improve road access to East Fork Dam for ease of maintenance.	Dam Failure	Lewistown	Delete
2	Re-evaluate NFIP participation in Grass Range.	Flooding	Grass Range	Delete
3	Raise and/or maintain rail bed pedestrian trail along old Milwaukee and BNSF railroad grade.	Flooding	Lewistown	Complete
4	Perform streambank restoration activities along Big Spring Creek to prevent erosion.	Flooding	Lewistown	Complete
5	Work with MDT to improve truck route signage	Hazmat	Fergus County/ Lewistown	Complete
6	Designate evacuation shelter facility located a safe distance from likely sources of a hazardous materials incident.	Hazmat	Denton, Grass Range, Lewistown, Moore, Winifred	Delete
7	Require new mobile home/RV parks of a certain size to have a safe room or sheltering plan.	Summer Weather	Denton, Grass Range, Lewistown, Moore, Winifred	Delete
8	Promote alternative tilling methods with area farmers to divert field runoff away from Moore	Flooding	Moore, Fergus County	Delete

F.6.3 NFIP Continued Compliance.

Also important to reducing losses to future development is continued compliance with the NFIP. All the jurisdictions will continue to make every effort to remain in good standing with the program. This includes continuing to comply with the NFIP regarding adopting floodplain maps and implementing, maintaining, and updating floodplain ordinances. See Section 5.4.2 in the base plan for more discussion on NFIP compliance.

F.6.4 Mitigation Action Plan

As a part of the 2023 regional planning process, the CPT developed an updated list of hazard mitigation actions or projects specific to Fergus County and its jurisdictions. The process used to identify, develop, and prioritize these actions is described in Chapter 5 of the base plan. Fergus County has 14 uncompleted mitigation actions carried over from the previous plan and has added an additional 36 new actions.

Table F-24 lists the 2023 Mitigation Action Plan for Fergus County and its participating jurisdictions. The CPT identified and prioritized the following mitigation actions based on the risk assessment and goals, and objectives. It is grouped by hazard(s) mitigated). Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described. Per the DMA requirement, actions have been identified that address reducing losses to existing development as well as future development. Also important to reducing losses to future development is continued compliance with the NFIP. All the jurisdictions will continue to make every effort to remain in good standing with the program. This includes continuing to comply with the NFIP regarding adopting floodplain maps and implementing, maintaining, and updating floodplain ordinances. See Section 5.4.2 in the base plan for more discussion on NFIP compliance.

The Cost Estimate column describes the estimated project costs using the following categories:

- Little to no cost
- Low: Less than \$10,000
- Moderate: \$10,000-\$100,000
- High: \$100,000-\$1,000,000
- Very High: More than \$1,000,000

The Timeline column describes the estimated time of completion for each project using the following categories:

- Short Term: 1-2 years
- Medium Term: 3-5 years
- Long Term: 5+ years
- Ongoing: action is implemented every year

The Status/Implementation Notes column describes the progress made on the actions so far using the following categories:

- Not Started: project is carried over from the previous Fergus County Plan; little to no work has been completed.
- In Progress: project is carried over from the previous Fergus County Plan; work has begun on the project and is proceeding.
- Annual: project is carried over from the previous Fergus County Plan and is implemented every year on an ongoing basis.
- New in 2023: The action is new to this plan update; little to no work has been completed.

Table F-24 below lists the mitigation actions for each participating jurisdiction in Fergus County. All jurisdictions have developed mitigation actions for each identified hazard in the HMP.

Table F-24 Mitigation Actions by Hazard and Jurisdiction Summary

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
1	Acquire and remove repetitive loss and high risk properties in the floodplain.	Flooding	Fergus County, Denton, Grass Range, Moore, Winifred	Floodplain Manager	Varies		2014	Medium	In Progress
2	Upgrade city's floodplain mapping capabilities to include FEMA DFIRM analysis.	Flooding	Fergus County/ Lewistown	Floodplain Manager	Staff Time		2014	Low	In Progress: Staffing Issues have delayed completion
3	Certify and/or improve existing levee system in Denton. Existing levee requires certification for residents to achieve NFIP premium reductions.	Flooding	Denton		Moderate		2015	High	In progress: Project has stalled needs to be resolved.
4	Perform updated hydrologic and hydraulic study of the floodplain.	Flooding	Fergus County/Lewistown	Floodplain Managers	Moderate		2015	Medium	In Progress
5	Study and implement a flood control levee at southern confluence of the diversion and main channel of Big Spring Creek along the Left Bank.	Flooding	Lewiston		High		2018	Medium	Annual
6	Send annual/semi-annual notification letters to property owners located within regulatory floodplain.	Flooding	Fergus County/Lewistown	Floodplain Managers	Staff Time		On-Going	Medium	In Progress
7	Educate residents about hazardous materials and continue first responder training.	Hazardous Materials Incident	Fergus County, Denton, Grass Range, Moore, Winifred		Varies		On-Going	Low	In Progress
8	Upgrade Trade Center building for use as shelter and staging area. Upgrades include water, sewer and a back-up generator.	Multi: Dam Failure, Earthquake, Flooding, Hazardous Materials Incident, Landslide, Summer Weather, Winter Weather, Human Conflict, Tornado/Wind, Transportation Accident, Volcanic Ash, Wildfire	Fergus County/Lewistown		Low		2015	Medium	In progress: Water & Sewer projects done.

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
9	Designate emergency shelters in Denton, Grass Range, Moore and Winifred. Acquire back-up generators for shelters to enable use as warming facilities.	Multi: Dam Failure, Earthquake, Flooding, Hazardous Materials Incident, Landslide, Summer Weather, Winter Weather, Human Conflict, Tornado/Wind, Transportation Accident, Volcanic Ash, Wildfire	Denton, Grass Range, Moore, Winifred		Moderate		2017	Medium	
10	Acquire replacement emergency sirens and identify strategic locations for new sirens.	Summer Weather	Denton, Grass Range, Moore, Winifred		Moderate		2015	Medium	In Progress
11	Develop rural addressing system to aid response.	Wildfire	Fergus County		Staff Time		2016	Medium	In Progress
12	Install additional water storage tanks in selected districts and subdivisions.	Wildfire	Fergus County		Low		On-Going	Medium	In Progress
13	Construct additional radio repeaters or work with service providers to improve cellular coverage.	Wildfire	Fergus County		Low		On-Going	High	In Progress: Important to not have all communication towers in one location
14	ADA Improvements to Lewistown Civic Center. Add stair lift to interior back stairwell. Install grab bars in showers. Resurface shower floor in Men's room to slant into shower. Civic Center is designated as American Red Cross Shelter but needs ADA Compliance.	Wildfires, flood, severe weather, multiple hazards	City of Lewistown	City of Lewistown	Low	FEMA/BRIC/US DOC; Economic Development Admin.	Short Term	Medium	New in 2023
15	New Emergency Shelter at Frand Day Park. Build new shelter to support pool and outer areas as well.	Severe summer, flood	City of Lewistown	City of Lewistown			Long Term		New in 2023
16	Backup Generator of Lewistown WWTP. Install portable generator at wastewater treatment plant in Lewistown to ensure sewage treatment continues during times	Severe summer and winter, flood	City of Lewistown	City of Lewistown	High	FEMA, DNRC	Medium Term	High	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	of power disruption. By using portable generator this could be used/utilized by others during other emergencies.								
17	Backup Generator for Lewistown WWTP. Install portable generator at Wastewater treatment plant in Lewistown, to ensure sewage treatment continues during times of power disruption. By using portable generator this could be used utilized by others during other emergencies	severe summer and winter weather, flooding	City of Lewistown	City of Lewistown	High	FEMA DNRC	Medium Term	High	New in 2023
18	Construct Shelter at Frank Day Park. provide shelter at park/pool in Lewistown to provide shelter during thunder/windstorms this could also be used as emergency shelter, planned to have bathroom/shower and some food prep space	summer and winter severe storms wildfire flooding	City of Lewistown	City of Lewistown Fergus county	High	county rec funds, city, private	Short Term	Medium	New in 2023
19	Mobile Clinic Van for Fergus County Health Department. The health department includes the nurses' office, which provides a variety of services to the public. By purchasing a mobile clinic van, the staff could easily travel to remote rural towns in Fergus County to provide outreach clinics, education, vaccines and boosters, and testing. The health department currently has an Emergency Operations Plan (EDP) to support all of Fergus County in case of a significant disaster or loss of power. The van could be vital to response and recovery operations. If necessary, it could also be utilized for a drive through COVID/Flu testing site.	Public education and outreach, health and safety, emergency response services	Fergus County	Fergus County IT Department, Fergus County HR Department	High	FEMA, COVID funds, PHEP	Short Term	Medium	New in 2023
20	Sign out of all Fergus County Computers. Encourage all Fergus County employees to sign out/log out of their computers at the	Cyber attack	Fergus County	Fergus County Health	Little to no cost	Fergus County	Short Term	Medium	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	end of their shifts every day. This will help prevent hackers from getting in and stealing valuable information.			Department, Fergus County					
21	Dam Failure. No Project. The city of Lewistown and DNRC work to support and mitigate the three dams in Fergus County. Fergus County will support response and recovery efforts.	Dam failure	Fergus County	City of Lewistown, DNRC - Montana			Annual Implementation	Low	New in 2023
22	Install Additional Water Storage Tanks in Selected Districts and Subdivisions. Rural areas are supported only by well water. 3000-4000 gallon storage tanks could support livestock in need of assist firefighters when town water has run low/dry. Secure these above ground in sheltered areas.	Severe summer weather, drought, wildland/range land fires	Fergus County	DNRC, Bureau of Reclamation - Water Conservation Field Services Program	Moderate	Bureau of Reclamation - Water Conservation Field Services Program, USDA - Watershed Processes	Medium Term	Medium	New in 2023
23	Low Seismic Activity in Fergus County. Participate in ShakeOut Earthquake yearly drill	Earthquake	Fergus County	Fergus County DES	Little to no cost	Fergus County	Short Term	Low	New in 2023
24	Replace Tyler Cutoff Bridge. Tyler Cutoff Road connects Grass Range with rural locations in South Central Fergus County. If this bridge failed in a flood, it would take out the bridge downstream. It needs to be replaced and fortified.	Flooding	Fergus County	Fergus County Road Department	High		Short Term	Medium	New in 2023
25	Upgrade Sandbag Inventory for Spot Flooding. Inventory and order more sandbags. Order mechanical filling machine for bags. Research new type of more expensive flood bags.	Flooding, dam failure	Fergus County	Fergus County DES, County shop	Low	FEMA - Flood Mitigation Assistance (FMA)	Short Term	Low	New in 2023
26	Hazardous Materials Spills and Protecting Health Issues with Employees. Ensure all Fergus County offices and shops handle and store hazardous materials correctly. Check SDS sheets are available. Provide	Hazardous materials spills and protecting health issues with employees	Fergus County	Fergus County Safety Department, Road and Weed Departments,	Low	Fergus County	Short Term	Medium	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	necessary PPE if needed and training if needed.			Office/Dept. heads					
27	Hazardous Material Resources for First Responders. As Fergus County does not have a major interstate or rail line through it, large hazardous spills are infrequent. Most spills come from traffic accidents or rollovers. Continue to educate citizens and provide training and resources to First Responders.	Hazardous materials incidents and response, transportation accidents	Fergus County	Lewistown Fire and Police, Rural Volunteer, Fergus County Sheriff's office	Low	FEMA. Fire Prevention & Safety (FP&S)	Short Term	Low	New in 2023
28	Revisit Project by MT DOT US191N Mobridge Study. In December 2018, the landslide area study was to be completed. Location: 191N Mobridge Landslide, RP 84.3 to 84.8. This section of road has sloughing and must be reviewed every year. Millions have been spent on this but not sure if it is fixed yet.	Landslide, transportation accidents	Fergus County	Montana DOT	Very High	FHWA/Surface Transportation Block Grant (STBG)	Short Term	Medium	New in 2023
29	Assist Rural Communities with Shelter Preparation. Work with rural towns to prepare their designated shelter for use as a cooling area/center during times of extreme heat. The shelters help residents cool down, avoid health issues as most residents do not have air conditioning in their homes. Ensure shelter areas have A/C or fans, water, emergency food, and other supplies.	Severe summer weather	Fergus County	Fergus County DES	Low	FEMA	Short Term	Medium	New in 2023
30	Install more Wind/Snow Fences. Install more wind and snow fences in rural plans areas and near critical/dangerous roads.	Severe winter weather	Fergus County	Montana DOT	Low	USDA - Rural Development	Short Term	Low	New in 2023
31	Help Underserved Population with Evacuation and Shelter Needs. Work with the Lewistown "Council on Aging" to designate their building as a backup shelter. Use the fleet of wheelchair	Severe winter weather	Fergus County	Fergus County DES, Council on Aging, Snowy Mountain Development	Low	FEMA	Short Term	High	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	assisted vehicles to evacuate the underserved populations and those in homes, retirement and assisted living facilities. Coordinate with healthcare and transportation partners to ensure access to essential medical care.								
32	Backup Generator for Fergus County Courthouse. The County Courthouse, located in Lewistown, does not have an emergency generator. The courthouse is designated as the primary Emergency Operations Center (EOC), as well as housing the Commissioners and the Public Health Department. Each of these entities need access to critical decision-making equipment and supplies in case of a significant disaster or loss of power.	Severe weather, wildfires, floods, multiple hazards	Fergus County	Fergus County, Facilities, appropriate energy company	High	FEMA, Rural Development Grants	Short Term	High	New in 2023
33	Backup Generator for Fergus County Trade Center. The Trade Center, located in Lewistown at the Fairgrounds, does not have an emergency generator. The large buildings and attached office would require wiring services and the purchase of a large generator. During any significant disaster, this critical location could shelter many evacuees, including adjacent mobile home citizens and small and large animals. During 2021 large wildfires, the Fairgrounds were use by state and local Firefighters as an IC location. Having access to functioning shelter facilities would be a great benefit.	Severe weather, wildfires, floods, multiple hazards	Fergus County	Fergus County, Facilities, appropriate energy company	High	FEMA, Rural Development Grants	Short Term	High	New in 2023
34	Provide Gravel and Grading to Red Hill Road. Red Hill Road (in South Fergus County) is a main route serving agricultural, forestry, and livestock. It also	Severe winter weather, transportation accidents	Fergus County	Fergus County, Road Department	Moderate	FEMA, FHWA, Surface Transportation	Short Term	High	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	is a main route for access to BLM and Forest Service areas. High traffic area and usage.					Block Grant (STBG)			
35	Upgrade Public Schools - Interiors and Exteriors. Interior doors in many of the schools are not up to code with keyed locks. Installing peepholes allow safe visibility in case of intruder attack. Outdoor signage designating room number would assist police/fire/EMS to quickly know where to go. This would speed up the rescue of staff and students by First Responders. Also apply darkening film to found level windows and doors.	Human conflict, terrorism	Fergus County	Fergus County School Superintendent	Low	DOJ-OPP Homeland Security Grant Program (HSGP)	Short Term	High	New in 2023
36	Undergrounding of Electric Distribution Lines. The West side of Fergus County receives the most wind from the Rocky Mountains. Work with utility companies to bury power lines and remove power poles in the rural areas of Moore, Denton, coffee Creek, and Winifred. In December 2021, a power pole was damaged in high winds and ultimately started the West Wind fire damaging and destroying large sections of the Town of Denton.	Tornadoes, windstorms, wildland/range land fires.	Fergus County	Fergus Electric, NorthWestern Energy, USAF - Missile Upgrade (57) in 7 years?	Very High	USDA - Rural Utilities Service, FEMA	Medium Term	Medium	New in 2023
37	Replace Four Bridges in South Fergus County. There are 3 undersized bridges on Forest Grove Road. This road connects from Grass Range to Highway 238 right by the East Fork Dam. This 24 mile, 2 lane road provides access for predominantly agricultural business activities. These bridges are undersized. Also another bridge on Single Pine Road, south of Lewistown, is old and undersized and needs to be replaced.	Transportation accidents	Fergus County	Fergus County Road Department	Very High	FHWA - Highway and Bridge Replacement Program	Short Term	Medium	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
38	Low Ash Fallout Activity. No Project. Evacuate to nearest shelter.	Volcanic ash	Fergus County		?		Annual Implementation	Low	New in 2023
39	Implement Rural and City Addressing. Some rural homes are missing addresses as well as house numbers in city areas. Work with Rural Fire Departments and the City of Lewistown to identify homeowners. This will help emergency services to quickly locate all homes and destinations.	Fire, flood, dam failure, multiple hazards	Fergus County	The 12 rural volunteer fire departments, Fergus County Floodplain Management	Moderate	NIFC/Rural Fire Assistance/DOJ-ODP (Crime Prevention)	Short Term	Medium	New in 2023
40	Complete CWPP (Community Wildfire Protection Plan). Fergus County has procured funds from DNRC to have a contractor complete the CWPP. The CWPP may address issues such as wildfire response, hazard mitigation, hazardous fuel reduction treatment, community preparedness and structure protection. Also work with DNFC, NFS, BLM, and RVFD to promote defensible space around homes and property.	Wildland/rangeland fires	Fergus County	Fergus County, DNRC, BLM, NFS and Rural Volunteer Fire Departments	Moderate	DNRC, Fergus County	Short Term	High	New in 2023
41	Wildland Fire. assist rural fire departments to implement/ complete rural address. This will help emergency services to locate all homes/destinations	fire, flood, dam failure	Fergus County	rural volunteer fire departments (12) Flood plain manager Pam Vosen	Low	some county funds, RVFD	Short Term	Low	New in 2023
42	Public/Agency Education. Inform public and agency partners of the importance of mitigation plans	all hazards	Fergus County	local gov, stat, fed			Annual Implementation	High	New in 2023
43	Backup Generator for the Town of Denton. The Denton High School does not have an emergency generator. The main school building would require wiring services and the purchase of a generator. This location can shelter all 205 residents, as well as double as a central location for emergency	Severe weather, windstorms, wildland/rangeland fires	Town of Denton	<ul style="list-style-type: none"> Fergus County Local Electricians 	Moderate	FEMA/BRIC	Short Term	Medium	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	operations support for the town, in case of a significant disaster or loss of power.								
44	Upgrade Denton's Emergency Siren. Denton's emergency siren is mounted on the fire station that was built in 1990. During the last 2021 West Wind fire, several residents mentioned they didn't hear the siren and did not evacuate. Research of newer models will enhance sound and direction.	Severe weather, windstorms, flood, wildland/rangeland fires	Town of Denton	<ul style="list-style-type: none"> Fergus County Denton 	Moderate	FEMA	Short Term	Medium	New in 2023
45	Resolve Denton's Levee and Floodplain Issues. There seems to be an unresolved issue with the existing levee in Denton. It needs inspections, improvement (if needed) and certification.	Flooding	Town of Denton	<ul style="list-style-type: none"> Army Corp. of Engineers Floodplain Managers Town of Denton 	High	FEMA/Flood Mitigation Assistance Program (FMA)	Short Term	High	New in 2023
46	Backup Generator for the Town of Grass Range. The Grass Range High School does not have an emergency generator. The main school building would require wiring services and the purchase of a generator. This location can shelter all 110 residents, as well as double as a central location for emergency operations support for the town, in case of a significant disaster or loss of power.	Severe weather, windstorms, wildland/rangeland fires	Town of Grass Range	<ul style="list-style-type: none"> Fergus County Local electricians 	Moderate	FEMA/BRIC	Short Term	Medium	New in 2023
47	Wildfire. CWPP reduce wildland fuel	fire danger	Town of Grass Range	Fergus county, Town of Grass, Range, DNRC, BLM grass range vol Fire Dep		State, federal, county	Medium Term	Medium	New in 2023
48	Backup Generator for the Town of Moore. The Moore Public School does not have an emergency generator. The main school building would require wiring services and the purchase of a generator. This location	Severe weather, windstorms, wildland/rangeland fires	Town of Moore	<ul style="list-style-type: none"> Fergus County Local electricians 	Moderate	FEMA/BRIC	Short Term	Medium	New in 2023

ID	Action Name & Description	Hazard(s) Mitigated	Jurisdiction	Lead Agency and Partners	Cost Estimate	Potential Funding	Timeline	Priority	Status/ Implementation Notes
	can shelter all 194 residents, as well as double as a central location for emergency operations support for the town, in case of a significant disaster or loss of power.								
49	Backup Generator for the Town of Winifred. The Winifred Community Center does not have an emergency generator. The main school building would require wiring services and the purchase of a generator. This location can shelter all 172 residents, as well as double as a central location for emergency operations support for the town, in case of a significant disaster or loss of power.	Severe weather, windstorms, wildland/rangeland fires	Town of Winifred	<ul style="list-style-type: none"> Fergus County Town and County Electric 	Moderate	FEMA/BRIC	Short Term	Medium	New in 2023
50	Severe weather. Wiring to support the Wilifred community center with generator back-up purchase or rent generator	sever summer weather, severe winter weather, drought	Town of Winifred	Town and county electric	Moderate	FEMA IDES	Short Term	Low	New in 2023

F.7 Plan Implementation and Maintenance

Moving forward the Fergus County CPT will use the mitigation action table in the previous section to track progress on implementation of each project. Implementation of the plan overall is discussed in Chapter 6 of the base plan.

F.7.1 Incorporation into Existing Planning Mechanisms

As described in the capability assessment, the County already implements policies and programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through these other program mechanisms. Where applicable, these existing mechanisms could include:

Fergus County:

- Fergus County Pre-Disaster Mitigation Plan, 2014
- Fergus County Growth Policy, 2022
- Malmstrom AFB Joint Land Use Study, 2012
- Fergus County Community Wildfire Protection Plan, 2008
- Fergus County Flood Insurance Study, 2013
- Fergus County Zoning Regulations, 2021
- Fergus County Subdivision Regulations, 2018
- Dam Emergency Action Plans
- Fergus County Floodplain Regulations, 2013

City of Lewistown:

- Lewistown Grow Policy, 2006
- City of Lewistown FIRMS, 2010
- City of Lewistown, Flood Insurance Study, 2010
- City of Lewistown Floodplain Regulations Ordinance 1752, 2016

Town of Denton:

- Land Use Permit
- Town of Denton Floodplain Hazard Management Regulations

Town of Grass Range:

- Flood Insurance Study

Town of Moore:

- Town of Moore Floodplain Hazard Management Regulations

The process for incorporation of the Regional Hazard Mitigation Plan into other planning mechanisms can be as simple as cross-referencing the Hazard Mitigation Plan where applicable. Integrated planning is a key to building community resiliency.

The CPT noted that Fergus County has used the Montana State Hazard Mitigation Plan as a tool for floodplain management and mitigation. It directly correlates with the Fergus County Growth Policy's Goals and Objectives which are analyzed when doing zoning permitting, and subdivisions.

F.7.2 Monitoring, Evaluation and Updating the Plan

Fergus County will follow the procedures to review and update this plan in accordance with Montana Central Region as outlined in Chapter 6 of the Regional Plan. The County and municipalities realize that it is important to review and update this plan regularly and update it on a five-year cycle. The Fergus County Annex to the Montana Central Region Plan will be evaluated on a regular basis to determine the effectiveness of programs, and to reflect changes in land development or programs that may affect mitigation priorities.

Continued public involvement will be followed as outlined in Chapter 6 of the base plan, with an emphasis on vulnerable populations or groups that could have been missed during the 2023 process.

DRAFT