

The Standing Rock Sioux Tribe/Sioux County, North Dakota Multi-Hazard Mitigation Plan

A Blueprint for a Safer Tomorrow



Serving the Standing Rock Sioux Tribe and the Districts of Bear Soldier, Cannonball, Kenel, Long Soldier, Porcupine, Rock Creek, Running Antelope, and Wakapala; Sioux County, North Dakota, and the Cities of Fort Yates, Selfridge, and Solen.

**2016 Standing Rock Sioux
Tribe/Sioux County, North Dakota
Multi-Hazard Mitigation Plan**

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- 1. Introduction**
- 2. Adoption
Documentation**
- 3. Planning Process**
- 4. Profile & Inventory**
- 5. Risk Assessment –
Natural Hazards**
- 6. Risk Assessment –
Man-made Threats**
- 7. Mitigation Strategy**
- 8. Capability
Assessment**
- 9. Maps**
- 10. Plan Maintenance**

Appendices

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1. Introduction

Executive Summary

Standing Rock Sioux Tribe and Sioux County, North Dakota are susceptible to natural hazards and man-made threats. The plan update was conducted over an 8-month period and included the review of hazards, risks, vulnerabilities, and capabilities of the tribe and the county and resulting mitigation actions. The review of hazard impacts to the tribe and county is ongoing by tribal and county officials, as are the efforts to mitigate injuries and damages from hazards. The planning process and this plan allow the tribal members, county residents, businesses, stakeholders, and federal and state agencies to have input and to identify actions to assure the safety and protection of people and property. A map of the planning area is shown on the following page.

The natural hazards and man-made threats profiled in this plan include:

- Communicable Disease
- Dam Failure
- Drought
- Flood
- Hazardous Material Release
- Homeland Security Incident
- Severe Summer Weather
- Severe Winter Weather
- Transportation Accident
- Urban Fire/Structure Collapse
- Wildland Fire
- Windstorm

This update of the Standing Rock Sioux Tribe and Sioux County, North Dakota develops a mitigation strategy consisting of six goals and 33 mitigation projects based on an assessment of risks.

The following are the six goals that were reviewed, updated and approved:

Goal 1: Implement education and outreach programs to improve public awareness of hazards.

Goal 2: Improve administrative and technical capability to mitigate hazards.

Goal 3: Improve planning and regulation to mitigate hazards.

Goal 4: Reduce impacts of hazards.

Goal 5: Improve resiliency of critical facilities and infrastructure.

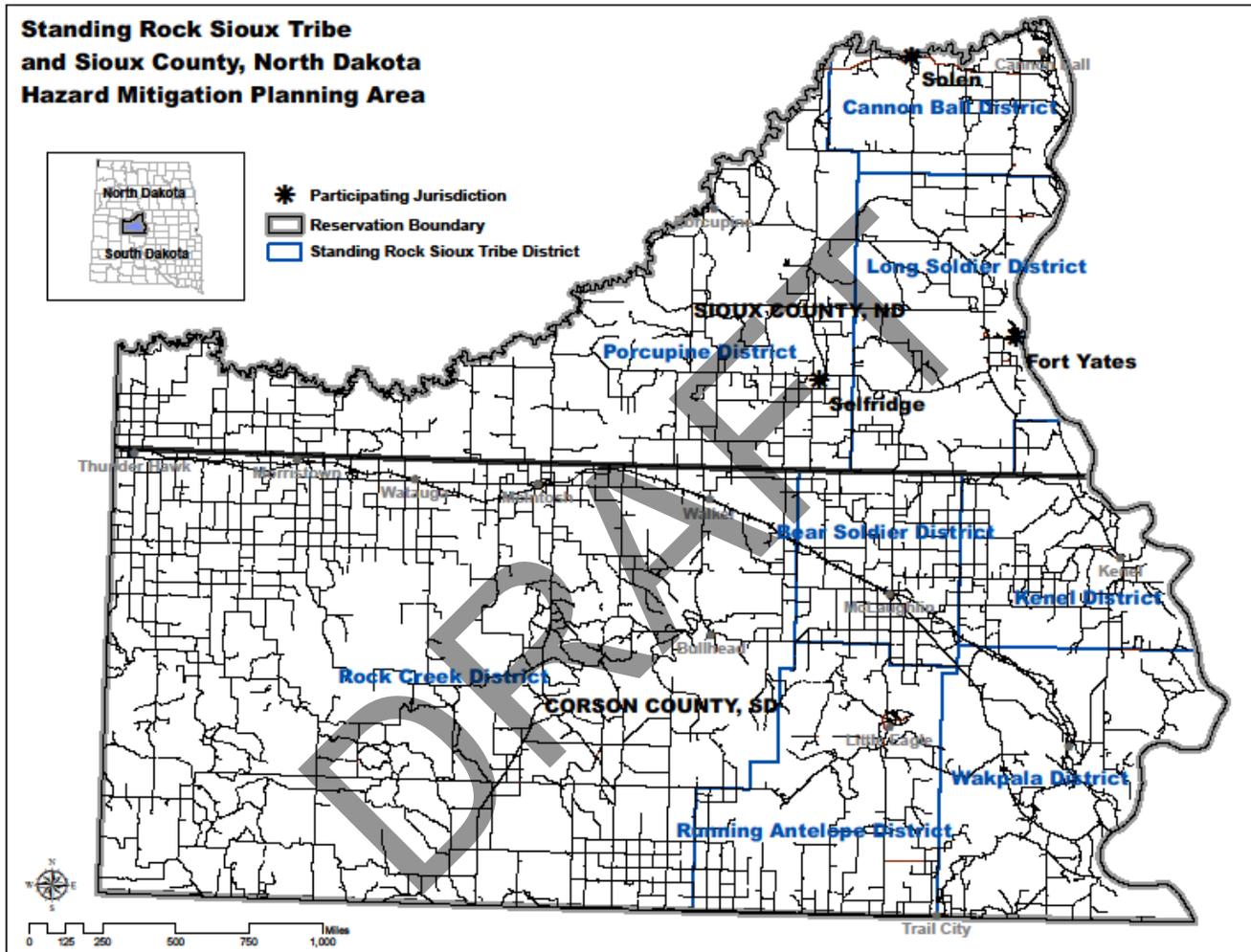
Goal 6: Provide places of refuge and early warnings for public and vulnerable populations to take protective action during hazard events.

To assist in the use, implementation, and updating of this document, the plan includes the federal and state plan approval letters and plan review of this update, and the adoption letters from each of the jurisdictions are included in this document. The chapters and appendices provide a history of the data reviewed and analyzed in the production process of the plan.

Planning Area

The impact and related issues from natural hazards and man-made threats varies between the Standing Rock Sioux Tribe, Sioux County, N.D., tribal districts/tribal communities and county jurisdictions. Figure 1.1 shows the planning area for the hazard mitigation plan update with a detailed description of each area shown immediately after Figure 1.1. Based on information gathered at planning meetings, a problem statement was formed to summarize the needs of the tribe and county.

Figure 1.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Hazard Mitigation Planning Area



Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

Standing Rock Sioux Tribe Tribal Districts

- **Bear Soldier District:** includes the city of McLaughlin.
- **Cannon Ball District:** includes the city of Solen and the Census-Designated Place of Cannon Ball.
- **Kenel District:** includes the unincorporated community of Kenel.
- **Long Soldier District:** includes the city of Fort Yates.
- **Porcupine District:** includes the city of Selfridge and the Censis-Designated Place of Porcupine.

- **Rock Creek District:** includes the cities of McIntosh and Morristown, the Census-Designated place of Bullhead, and the unincorporated communities of Keldron, Thunder Hawk, Walker and Watauga.
- **Running Antelope:** includes the Census-Designated Place of Little Eagle.
- **Wakpala District:** includes the unincorporated communities of Trail City and Wakpala.

Sioux County, North Dakota and County Jurisdictions

- Sioux County, North Dakota: includes the cities of Fort Yates, Selfridge and Solen.

Problem Statements

Problem statements provide a concise description of the vulnerabilities of the jurisdiction to threats and hazards that should be addressed through mitigation actions. The problem statement for SRST/SC is shown below. The specific mitigation actions to reduce the impacts of hazards are identified for each jurisdiction and are found after the problem statement.

Standing Rock Sioux Tribe/Sioux County, North Dakota

SRST/SC have a history of impacts from communicable disease, dam failure, drought, flood (overland and riverine), hazardous material release, homeland security incident, severe summer weather, severe winter weather, transportation accident, urban fire/structure collapse, wildland fire, and windstorm. Flooding is a major issue in many tribal districts/tribal communities and county jurisdictions due to inadequate drainage, critical facilities and infrastructure being located in flood-prone areas, and the presence of the Missouri River. Many communities in the Planning Area experience isolation from impacts of hazards due to a small population dispersed over a large geographic area. Tribal districts/tribal communities experience large losses to property due to the lack of urban fire departments. The tribe has numerous archeological/ceremonial/cultural/historical/spiritual sites impacted from hazards, which need to be inventoried to assess mitigation needs. The planning area has limited mitigation capabilities. SRST/SC relies on outside sources for large-scale mitigation projects such as construction of permanent flood control measures.

Expansion of mitigation capabilities, permanent flood protection, flood control measures, drainage improvements, upgrading of critical facilities and infrastructure, upgrading of emergency sirens, installation of generators for backup power, establishment of urban fire departments, inventorying of material culture and cultural resources, retrofitting and upgrading of existing infrastructure, improved access for emergency services, and construction of additional storms shelters are a priority for the tribe.

Background

The SRST/SC MHMP was developed and approved by Federal Management Agency (FEMA) in January 2011. The plan was updated and submitted for FEMA approval in 2016 to address the needs of the members and people living and working in the Standing Rock Sioux Tribe and Sioux County, North Dakota County.

This document includes a profile of Standing Rock Sioux Tribe and Sioux County, North Dakota and its incorporated cities. A comprehensive assessment is included in the plan of the risks that affect the tribe

and county, maps, hazards, threats and risk assessment, mitigation strategies including goals, objectives, projects, and plan maintenance.

This document articulates the discussions and considerations stated during the planning process in 2016 to update the 2011 Plan. The Plan Update Committee understands that the plan must be dynamic and detailed to include the specific risks of natural hazards and man-made threats. Improvements, updates, and revisions will be made constantly to assure this plan continues to mitigate the potential losses and damages.

Purpose

As defined by the Disaster Mitigation Act of 2000, hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The Act of 2000 was an amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance to authorize a program for pre-disaster mitigation, to streamline the administration of disaster relief, to control the Federal costs of disaster assistance, and for other purposes. According to the 2014 State of North Dakota MHMP, for every dollar spent on mitigation, society saves on average four dollars in avoided future losses. Mitigation can range from infrastructure projects such as raising roads, burying of power lines, or installation of generators for critical facilities and infrastructure to public education and outreach programs.

The purpose of this plan is to fulfill federal, state, and local hazard mitigation planning responsibilities; to promote pre- and post-disaster mitigation measures, short and/or long range strategies that minimize suffering, loss of life, and damage to property resulting from hazardous or potentially hazardous conditions to which citizens and institutions within the county are exposed; to improve quality of life; and to eliminate or minimize conditions which would have an undesirable impact on our citizens, the economy, environment, and well-being of the county.

Objective

The objective of this plan is to establish a methodical process to assist in hazard and threat identification, impact evaluation, and action plan development to decrease the impacts from hazards where possible and to protect lives and property.

Scope

The scope of the SRST/SC Multi-Hazard Mitigation Plan is ubiquitous across the planning area. The Plan is not necessarily limited to Federal, State, or locally declared disasters or emergencies. Any time situations or incidents occur that produce a requirement for mitigation actions, activities, and strategies, etc.; they will be developed and incorporated into the SRST/SC Multi-Hazard Mitigation Plan.

2. Adoption Documentation

Authority

Tribal: Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (P.L. 106-390), provides for the Standing Rock Sioux Tribe to undertake a risk-based approach to reducing risks from natural hazards through mitigation planning. The Standing Rock Sioux Tribe/Sioux County, North Dakota Multi-Hazard Mitigation Plan (SRST/SC MHMP) is a collaborative effort between the Standing Rock Sioux Tribe and the tribal districts of Bear Soldier, Cannonball, Kenel, Long Soldier, Porcupine, Rock Creek, Running Antelope, and Wakpala; and Sioux County, North Dakota and the cities of Fort Yates, Selfridge, and Solen. As such, the Standing Rock Sioux Tribe's Tribal Council and the governing bodies of Sioux County, North Dakota and the cities of Fort Yates, Selfridge, and Solen have the authority to implement this plan and will adopt the SRST/SC MHMP once the plan is determined to be approvable pending adoption by the North Dakota Department of Emergency Services (NDDDES) and FEMA, Region VIII.

Adoption documentation is included in Appendix A.

Federal: Public Law 93-288 as amended, established the basis for federal mitigation activity in 1974. A section of this act requires the identification, evaluation, and mitigation of hazards as a prerequisite for state receipt of future disaster assistance outlays. Since 1974, many additional programs, regulations, and laws have expanded on the original Stafford Act, several additional provisions were also added that provided for the availability of significant mitigation measures in the aftermath or presidentially declared disasters. Civil preparedness Guide 1-3, Chapter 6-Hazard Mitigation Assistance Programs places emphasis on hazard mitigation planning directed towards hazards with a high impact and threat potential.

Legislative: The North Dakota Century Code, Chapter 37-17.1 requires North Dakota Department of Emergency Services to coordinate the development of a hazard mitigation plan. Other state laws require various state agencies to mitigate the effects or impacts of hazards in regard to public safety, environment, etc. The North Dakota State Water Commission is responsible for assisting in the flood insurance program and is the lead agency in flood hazard mitigation actions.

Executive: The Governor has the leadership role in the issuance of guidance to all state agencies to minimize the effects of hazards on the citizens of North Dakota. In state and federal recovery agreements following a presidentially declared disaster, the Governor initiates updating of the state and local mitigation plans based on federal requirements or state and presidentially declared disaster (see State Administrative Recovery Handbook for Mitigation Assistance).

Local: Local governments play an essential role in implementing effective mitigation, both before and after disaster events. Each local government will review all damages, losses, and related impacts to determine the need or requirement for mitigation action and planning whenever seriously affected by a disaster, or when applying for state or federal recovery assistance. In Sioux County, the local governing body responsibility for carrying out plans and policies is the county commission. The Sioux County Commission and each incorporated city in the county – Fort Yates, Selfridge and Solen – are responsible for reviewing and updating ordinances. The county commission represents all townships and

unincorporated communities in the county for planning purposes. Budgets are limited and do not allow the county and jurisdictions the ability to complete as many projects as desired.

Promulgation Statement

Government at all levels has the responsibility for the protection of life, property, and the environment from hazards and threats which are known to impact jurisdictions. The Standing Rock Sioux Tribe and Sioux County, North Dakota, by resolution, hereby adopt the concepts and conditions set forth by the SRST/SC MHMP.

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4. Tribe and County Profile and Inventory

Members of the Standing Rock Sioux Tribal are descendants of the Teton and Yankton Bands of the Lakota/Dakota Nations. Standing Rock Sioux Reservation encompass 2.1 million acres. Figure 4.1 illustrates the location of the Standing Rock Sioux Reservation and Sioux County in the surrounding area. Sioux County, North Dakota lies entirely within the Standing Rock Sioux Reservation and forms the northernmost 30 percent of the reservation. The Standing Rock Sioux Tribe, Sioux County, North Dakota, tribal districts/tribal communities and county jurisdictions are herein referred to as the Planning Area.

Figure 4.1 – Planning Area/Standing Rock Sioux Tribe



Source: North Dakota Studies website

According to the U.S. Census Bureau, the county has a total area of 1,128 square miles, 1,094 square miles of land and 34 square miles of water. Corson County, South Dakota (non-participating jurisdiction) lies entirely within the southern portion of the reservation. Sioux County is bounded by Morton County, N.D. to the north, Emmons County, N.D. to the east, Corson County, S.D. to the south, Adams County, N.D. to the west, and Grant County, N.D. to the northwest.

History

The Standing Rock Sioux Reservation is situated in south-central North and north-central South Dakota. The people of Standing Rock, often called the Sioux, are members of the Dakota and Lakota nations. The term "Sioux" dates back to the seventeenth century when the people were living in the Great Lakes area. The Ojibwa called the Lakota and Dakota "Nadouwesou" meaning "adders." This term, shortened and corrupted by French traders, resulted in retention of the last syllable as "Sioux." There are various Sioux divisions and each has important cultural, linguistic, territorial and political distinctions. The Dakota people of Standing Rock include the Upper Yanktonai in their language called Ihanktonwana, which translates into "Little End Village" and Lower Yanktonai, called Hunkpatina in their language "Campers at the Horn" or "End of the Camping Circle." When the Middle Sioux moved onto the prairie they had contact with the semi-sedentary riverine tribes such as the Mandan, Hidatsa, and Arikara. Eventually the Yanktonai displaced these tribes and forced them upstream. However, periodically the Yanktonai did engage in trade with these tribes and eventually some bands adopted the earth-lodge, bullboat, and horticultural techniques of these people, though buffalo remained their primary food source. The Yanktonai also maintained aspects of their former woodland lifestyle. Today, Yanktonai people of Standing Rock live primarily in communities on the North Dakota portion of the reservation.

The Lakota are the largest division of the Sioux, subdivided into the Ti Sakowin, or Seven Council Fires, and Lakota people of the Standing Rock Reservation. The Lakota people included two of these subdivisions, the Hunkpapa, which means "Campers at the Horn" in English and Sihasapa or "Blackfeet," not to be confused with the Algonquian Blackfeet of Montana and Canada, which are a different group. Today, the Lakota at Standing Rock live predominantly in communities located on the South Dakota portion of the reservation.

The Standing Rock Sioux Tribe is part of the Great Sioux Nation with the Hunkpapa and Blackfeet bands. The Great Sioux Nation retains land base in accordance with the Fort Laramie Treaty of 1851. The Great Sioux Nation extended from the Big Horn Mountains in the west to the east side of Missouri River. The Heart River is the northern boundary and the Platte River in the southern boundary. The Great Sioux Nation boundaries were reduced in the 1868 Fort Laramie Treaty to the Missouri River on the east and the South Dakota State Line on the west.

The Black Hills are located in the center of the Great Sioux Nation. The Black Hills are sacred to the Lakota/ Dakota people and today are considered an important part of our spiritual lives. A direct violation of the 1868 Treaty was committed in 1874 by General George A. Custer and his 7th Cavalry. The 7th Cavalry entered the Black Hills, the center of the Great Sioux Nation and found gold in the Black Hills. The Gold Rush started the conflict between the United States and Great Sioux Nation. The Great Sioux Nation opposed this violation of the treaty. The United States Government wanted to buy or rent the Black Hills from the Lakota people. The Great Sioux Nation refused to sell or rent their sacred lands.

Sitting Bull was a spiritual leader of the Hunkpapa band. Sitting Bull fought to preserve the Lakota way of life. He refused to sell any part of the sacred land and move to the reservation. Sitting Bull had a dream of a great victory over the cavalry soldiers the summer of 1876. The 7th Cavalry under General George A. Custer was requested to bring the Sioux bands in and place them on the reservation lands. On June 15, 1876, the Battle of the Little Big Horn between the 7th Cavalry and Lakota Nation with their

allies Cheyenne and Arapahoes at Greasy Grass, Montana took place. The Sioux Nation won a victory over General George A. Custer and his 7th Cavalry.

The Great Sioux Nation scattered with some going to Canada and others surrendered to the reservations. The United States Government demanded that the Lakota Nation move to the reservations. The people finally surrendered after being cold and hungry and moved on the reservations. The government still insisted on buying the Black Hills from the Lakota people. The Sioux (Lakota) Nation refused to sell their sacred lands. The United States Government introduced the Starve or Sell Bill or the Agreement of 1877, which illegally took the Black Hills from the Great Sioux Nation. The Lakota people starved, but refused to sell their sacred land. The Agreement of 1877 also allotted Indian lands into 160 acre lots to individuals to divide the nation.

The Act of 1889 broke up the Great Sioux Nation into smaller reservations of which two million acres formed the Standing Rock Reservation: the Yanktonais and Cuthead on the North Dakota side, and the Hunkpapas and Blackfeet on the South Dakota side of the reservations. Sitting Bull objected to the reduction of the land and fought to preserve their way of life. Major James McLaughlin, Indian Agent for the Standing Rock Reservation, ordered the arrest of Sitting Bull for participating in the Ghost Dance. In the process of the arrest, Sitting Bull was shot by Indian Police on December 15, 1890.

The Hunkpapa who lived in Sitting Bull's camp and relatives fled south. They joined the Big Foot Band in Cherry Creek, South Dakota and then traveled to the Pine Ridge Reservation to meet with Chief Red Cloud. The 7th Cavalry caught them at a place called Wounded Knee on December 29, 1890.

The 7th Cavalry took all the weapons from the Lakota people. The 7th Cavalry massacred 300 people at Wounded Knee and left the bodies to freeze in the snow. The people of the Great Sioux Nation slowly recovered from this injustice and continued to survive in their homeland.

Culture

The Great Sioux Nation is also called The Lakota Nation, Tetons and the Western Sioux. The people of the Sioux Nation refer to themselves as Lakota/Dakota, which means friend or ally. The United States Government took the word Sioux from (Nadowesiooux), which comes from a Chippewa (Ojibway) word and means little snake or enemy. The French traders and trappers who worked with the Chippewa (Ojibway) people shortened the word to Sioux.

The Standing Rock Sioux Tribe encompasses the bands of Hunkpapa and Blackfeet of the Lakota Nation, and Hunkpatinas and Cuthead bands of the Yanktonais of The Dakota Nation. The Lakota Nation or Great Sioux Nation includes Oglala, Burle, Minnecoujou, Hunkpapa, Blackfeet, Without Bows and Two Kettle. The Lakotas speak an 'L' dialect of Siouan language and were horsemen and buffalo hunters on the plains. The Yankton and Yanktonias are called the Middle Sioux. The Cuthead band belongs to the Upper Yanktonais and the Hunkatina are the Lower Yanktonais. Both live on the Standing Rock Reservation. The Yanktonias speak the 'D' dialect of Siouan language. The Yanktonais were a river-plains people who farmed as well as hunted buffalo.

The government put all the Tribes with similar languages into the Sioux people. The oral tradition of our people states that the Lakota and Dakota people were one nation. The Lakota people broke away and

formed their own nation. The Lakota/Dakota people still practice their sacred and traditional ceremonies which encompass the seven rites of Lakota Nation brought by the White Buffalo Calf Woman. Social activities such as powwow, rodeos, and races are celebrated in the summer months. Special powwows held for individuals who accomplished a stage in their lives such as graduation or acceptance in the armed forces with traditional honoring ceremonies, give away, and feasts to celebrate the accomplishments. The oral tradition is still passed down from the elders to the youth. The future of our people is in the hands of our children. The children of the Great Sioux Nation will bring us into the 21st century with pride

Tribal Government and County Government

The United States Government works on three levels: Federal, State and Tribal. The tribal reservations have a government-to-government relationship with the United States. The Great Sioux Nation signed treaties in 1851 and in 1868 with the United States, which are binding documents that established our original boundaries and recognized our rights as a sovereign government.

The Standing Rock Sioux Tribe became a reservation on March 2, 1889. The Standing Rock Sioux Tribe was defined by the Act of March 2, 1889 including all right-of-way, waterways, watercourses and streams running through any part of the reservation and to such others lands as may hereafter be added to the reservation under the law of the United States.

The Standing Rock Sioux Tribe operates under a constitution approved on April 24, 1959 by the Tribal Council of Standing Rock Sioux Tribe. The Tribal Council consists of a chairman, vice- chairman, a secretary and fourteen additional council members, which are elected by the tribal members. The Tribal Council Chairman provides leadership and administrative direction to the tribe. The Tribal Council Chairman and council members serve a term of four years.

Six of the fourteen additional council members shall be residents of the Standing Rock Sioux Reservation without regard to residence in any district or state. Each of the remaining additional council members shall be a resident of the district from which they are elected. The at-large council members are elected by the district people as whole. The Tribal Council passes legislation, makes budgets, approves of financial transactions, and makes major decisions affecting the tribe including: managing the tribe's real property including trust lands; engaging in business ventures, makes and negotiates loans for tribal governments and guarantees loans for tribal members, entering into contracts for business and for government needs, and passing and enforcing ordinances to serve the general welfare of enrollees, the environment, and the public safety of reservation residents.

The tribe operates in a similar fashion to a corporation, which may makes business decisions, hire employees, grant business licenses, and operate corporate subsidiaries to develop tribal economy. The tribal court hears and prosecutes civil and criminal complaints, where questions of jurisdictional remedies are exhausted before going to a federal court. These three branches of tribal government are meant to provide a balance of power, which, at this point, continues to evolve as it struggles to modernize its method of governance. Regular tribal council meetings are the first Tuesday, Wednesday, and Thursday of the month. Committee meetings are held the second week of the month. The last Monday of the month is for gaming and other tribal business.

The structure and function of Sioux County's government is similar to other counties in North Dakota.

Climate

The monthly average temperature, monthly average maximum temperature, monthly average minimum temperature, and average total precipitation are shown for Sioux County, North Dakota and Corson County, South Dakota. The monthly averages are based on information collected between 1981 and 2010. The information was not available for Standing Rock Sioux Tribe and therefore, information from each separate county is shown. The average temperature ranges from 14.2 degrees in January to 70.9 degrees in July for Sioux County, and from 15.7 in January to 71.7 in July in Corson County. Average total precipitation ranges from 0.4 inches in January and December to 3.2 inches in June for both counties.

Table 4.1 – 1981 to 2010 Sioux County, North Dakota and Corson County, South Dakota Average Monthly Climate Summaries

Sioux County, N.D.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temp (F)	14.2	18.7	29.5	43.4	55.0	64.3	70.9	69.5	58.4	44.9	29.5	16.9
Average Max. Temp (F)	24.5	29.1	40.1	56.2	67.4	76.5	84.1	83.3	72.0	57.6	40.0	26.9
Average Min. Temp (F)	3.8	8.2	18.9	30.3	42.4	52.1	57.7	55.5	44.7	32.2	18.8	6.9
Average Total Precip. (in.)	0.4	0.5	0.9	1.5	2.6	3.2	2.7	1.9	1.5	1.4	0.6	0.4
Corson County, S.D.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temp (F)	15.7	20.0	30.4	43.8	55.2	64.8	71.7	70.2	59.1	45.6	30.2	18.0
Average Max. Temp (F)	26.0	30.4	41.0	56.6	67.5	77.0	85.0	84.1	72.8	58.2	40.8	28.1
Average Min. Temp (F)	5.3	9.5	19.6	31.0	42.8	52.6	58.5	56.2	45.4	32.9	19.5	7.9
Average Total Precip. (in.)	0.4	0.5	1.0	1.6	2.7	3.2	2.7	1.9	1.5	1.5	0.6	0.4

Source: High Plains Regional Climate Center

Population

Population statistics for the Standing Rock Sioux Tribe; Sioux County, North Dakota; tribal districts and county jurisdictions for the years 1990, 2000, and 2010, and 2014 estimates were obtained through the U.S. Census Bureau-Decennial Census and U.S. Census Bureau-American Fact Finder. Table 4.2 summarizes the population statistics for the planning area. Statistics on population trends and projections are needed to understand the distribution of people across the county. These statistics also highlight where potential future needs will be for emergency services.

The population of the Standing Rock Sioux Tribe has been stable since 1990. Between 1990 and 2000, the tribe added 3.4 percent to its population and lost 0.1 percent between 2000 and 2010. However, it is estimated the Tribe added 350 people between 2010 and 2014, increasing to 8,567. Sioux County, North Dakota added 7.5 percent to its population between 1990 and 2000 and another 2.7 percent between 2000 and 2010. As of 2014, it is estimated the county added approximately 217 people for a total population of 4,370.

The population of tribal districts and county jurisdictions has fluctuated between 2000 and 2010. Of the tribal districts, the Kenel District experienced the largest population growth adding 29.6 percent to its population. Conversely, the Running Antelope District experienced the largest population loss with a

decline of 21.8 percent. The city of Fort Yates grew by 24.6 percent between 1990 and 2000 with the addition of 45 people. All county jurisdictions lost population between 2000 and 2010, but are estimated to have gained population as of the 2014 U.S. Census estimates.

Table 4.2 – 1990 to 2010 Standing Rock Sioux Tribe and Sioux County, North Dakota Population Statistics

	1990	2000	2010	2014 Est.	Percent Change 1990 to 2000	Percent Change 2000 to 2010
Standing Rock Sioux Tribe	7,956	8,225	8,217	8,567	+3.4 percent	-0.1 percent
Bear Soldier District	--	1,320	1,430	--	NA	+8.3 percent
Cannon Ball District	--	971	947	--	NA	-2.5 percent
Kenel District	--	260	337	--	NA	+29.6 percent
Long Soldier District	--	2,411	2,563	--	NA	+6.3 percent
Porcupine District	--	648	628	--	NA	-3.1 percent
Rock Creek District	--	1,376	1,205	--	NA	-12.4 percent
Running Antelope District	--	716	560	--	NA	-21.8 percent
Wakpala District	--	548	547	--	NA	-0.2 percent
Sioux County, N.D.	3,761	4,044	4,153	4,370	+7.5 percent	+2.7 percent
City of Fort Yates, N.D.	183	228	184	194	+24.6 percent	-19.3 percent
City of Selfridge, N.D.	242	223	160	170	-7.9 percent	-28.3 percent
City of Solen, N.D.	92	86	83	89	-6.5 percent	-3.5 percent

Sources: Standing Rock Sioux Tribe, U.S. Census: American Fact Finder

With the continuation of energy development in the western portion of North Dakota and construction of the Dakota Access Pipeline starting mid-2016, jobs and support services for the energy industry will impact the planning area. As a result, significant population and job increases are likely to occur in the planning area over the next five years.

Economy: Tribal and County

The economy of the Standing Rock Sioux Tribe and Sioux County are agriculture-based or related industries such as cattle ranching and farming. The tribe operates the Prairie Knights Casino and Lodge, Quik Mart, Grand River Casino, Standing Rock Farms, Standing Rock Sand and Gravel, Standing Rock Propane, Rock Industries, and Standing Rock Telecom. A number of other businesses (small retail/service-oriented) operate within the planning area.

Land Ownership

According to the SRST Dept. of Water Resources, there are three types of land ownership on the reservation; allotted lands, tribal lands, and other lands. Allotted land tracts were allotted to the Indians after the establishment of the Standing Rock Sioux Reservation. These are subject to trust restrictions by the United States Government, but the restrictions can be ended by the Secretary of the Interior under certain conditions. Tribal lands are owned by the Standing Rock Sioux Tribe and come under the management of the Tribal Council. Other lands consist of fee or patent lands, which are acquired through homesteading or by the ending or trust restrictions on allotted lands; also included in this category is Bureau of Indian Affairs agencies, town sites, and cemeteries. The reservation boundaries encompass 2.3 million acres and the Tribe owns approximately 40% of the land within its boundaries.

On the Standing Rock Sioux Reservation, surface ownership and mineral rights are not necessarily owned by the same entity or person. Categories of mineral ownership include: surface and mineral ownership reside with allottees (non-Indians, including government agencies); surface and mineral ownership reside with the Standing Rock Sioux Tribe; Tribal ownership of the mineral estate, but not the surface; lands where the Tribe may own minerals, but the status is uncertain. A map of the 2016 Standing Rock Sioux Tribe and Sioux County, North Dakota Land Status Surface Ownership can be found in Chapter 9, Maps.

Current and Future Land Use

Approximately 77 percent or 1,809,620 acres of the land comprising the Standing Rock Sioux Reservation consists of herbaceous grasslands, while cultivated crops, pasture land, and hay comprise another 16 percent or approximately 384,854 acres. Open water covers three percent or about 65,708 acres of land, while around one percent of the planning area is forested. Woody wetlands occupy about 25,000 acres or one percent and developed open space covers one percent, or around 27,000 acres. The remaining one percent of the planning area is developed or barren land. A map of the 2016 Standing Rock Sioux Tribe and Sioux County, North Dakota Land Use can be found in Chapter 9, Maps.

Hydrologic Setting

Groundwater is not readily obtainable on much of the Standing Rock Sioux Reservation with the exception of the Missouri and Cannonball Rivers. Artesian water from deeply buried bedrock aquifers underlies the reservation in its entirety. These aquifers are not highly developed sources of water because of the high-to-very-high salinity of artesian water in the area.

Water Availability and Use

Surface water is the major water source for the reservation. The Missouri River provides the largest portion of water. Other reservation streams have extremely variable flow patterns and are not reliable enough for a year-round supply. Groundwater is not as abundant as surface water and where available it is usually adequate for only small scale use. Therefore, the Missouri River is the main sources of water for the reservation water supply system. A map of the 2010 Standing Rock Sioux Tribe/Sioux County, North Dakota Water Permits can be found in Chapter 9, Maps.

The total peak water needs are 300 gallons per day (g.p.d.) per section totally 821,000 g.p.d. Of this amount, 292,000 g.p.d. are provided as part of the Indian Range Units and 72,000 g.p.d. are provided by the State Line Rural Water System members. The balance of 457,000 g.p.d. for non-served pasture lands (peak day) and 343,000 g.p.d. (average day).

The tribal communities of Little Eagle, Porcupine, Kenel, Bullhead and Cannonball each depend on one or more wells for their water supply. Fort Yates obtains its water from the Missouri River through an intake and water treatment system. Water for the community of Wakpala is delivered by pipeline from the Missouri River. The non-Indian communities of Keldron, McIntosh, Morrystown, Thunder Hawk, Walker, Wataugua, Mahto, Solen, Selfridge, and McLaughlin depend on wells as their source of supply.

Natural Resources

Soil is the most important natural resource in the county. It provides a growing medium for crops and for the grasses grazed by livestock. Natural resources include river systems, lakes, wildlife, gravel, and wetlands.

Public Utilities

Montana-Dakota Utilities and Mor-Gran-Sou Electric Cooperative supply electricity and natural gas to the planning area. Lakota Energy delivers fuel and gas to individual homes. The West River Telephone Company is the major telecommunication provider and the MR & I Water Distribution System maintains water lines to homes that do not use well water. A map of public utilities infrastructure can be found in Chapter 9, Maps.

Transportation

Due to its expansive size and sparse population, the Planning Area is highly dependent upon its network of tribal, federal, state and county highways. U.S. Highways 12 and 1806 (Lewis and Clark Trail) are the primary transportation corridors in the Planning Area. U.S. Highway 12 is the main east-west transportation corridor crossing the Missouri River near Mobridge, South Dakota and traverses approximately 85 miles before leaving the Planning Area. U.S. Highway 12 does not traverse any portions of the Planning Area located in North Dakota. U.S. Highway 1806 traverses along the Missouri River and is the main north-south transportation corridor in the Planning Area in addition to U.S. Highway 12. Charter buses and limousine provide service to the Prairie Knights and Grand River Casinos daily. The Greyhound Bus services are located in north Bismarck. The nearest commercial airline is in Bismarck, North Dakota, 40 miles north of the reservation. A map of the transportation system in the Planning Area is shown in Chapter 9, Maps.

Tribal and County Community Services

The U.S. Indian Health Service operates the Standing Rock I.H.S. Hospital at Fort Yates and smaller clinics in the Fort Yates, McLaughlin, Wakpala, Cannon Ball and Bullhead districts. The Tribal Health Department provides a number of health services including the Community Health Representative Program, health education, eye examinations, eyeglasses, and emergency health care including ambulance services. The tribe also provides an elderly nutrition program and youth recreational activities. An ambulance service is based in the city of Fort Yates and operates a substation in McLaughlin, South Dakota.

Schools providing K-12 educational services are located in every community on the reservation. The Bureau of Indian Affairs operates the elementary and secondary schools in Ft. Yates. The tribe also provides preschool education through the Head Start Program. Public schools are located in McIntosh, McLaughlin, and Wakpala, South Dakota and in the Ft. Yates District, Selfridge and Solen, North Dakota. There are three school districts within Sioux County. Elementary schools are located in Cannon Ball and Selfridge. The middle school is located in Fort Yates, and two high schools are located in the cities of Selfridge and Solen. St. Bernards is a private parochial school providing K-6 education in Ft. Yates, ND. Post-secondary education is available on the reservation at Sitting Bull College.

Tribal Housing

The Standing Rock Housing Authority has constructed and manages over 650 homes for tribal members living on the reservation. This includes homes on scattered sites built through the HUD Mutual Help home ownership program on individual land or tribal land leased for homesites. The other housing in the districts is low-income HUD for individual residents in reservation communities. As private housing stock is limited, few tribal members own their own homes in rural areas. The tribe plans to build multi-family apartment complexes in the future.

Profile of Planning Area

Tables 4.3 to 4.6 profile the services, housing units, jurisdictional buildings, emergency response services, and utilities of the Planning Area. An “X” indicates if the tribe, tribal district/tribal community, county or county jurisdiction offers the utility or service (either through contract or employees) or possesses the building or resource. Information on the profile of each jurisdiction was gathered at committee meetings during the planning process. Table 4.3 shows the public-owned buildings in the Planning Area.

Table 4.3 – Publicly-Owned Buildings in the Planning Area

Publicly-Owned Buildings	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Airport/Landing Strip												X		
American Red Cross Supply Trailer	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Auditorium												X		
B.I.A.	X													
City Hall												X	X	X
City Shop												X		X
Community Center												X	X	X
Federal Government Buildings	X										X	X	X	
Fire Hall											X	X	X	X
Golf Course														
Indian Health Services	X											X		
Law Enforcement Center	X													
Park	X	X	X	X	X	X	X	X	X	X		X	X	X
Public School	X	*	X	*	*	*	*	*	*	*	X	X	X	X
Public Works												X	X	X
Regional Public Health Dept.	X										X			
State Shop											X			
Storm Shelter	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 4.3 – Publicly-Owned Buildings in the Planning Area - Continued

Publicly-Owned Buildings	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Sioux Co. Courthouse											X			
Sioux Co. Highway Dept.													X	
Sioux Co. Sheriff's Office											X			
Sioux Co. Shop											X			
Tribal Game & Fish	X													
Swimming Pool														
U.S.D.A. Farm Services Agency											X			
U.S. National Guard Training Ctr.														
U.S. Post Office			X									X	X	X
University/College	X	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 4.4 shows the services provided in the Planning Area.

Table 4.4 – Services Provided

Services	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Dive Rescue Team: Tribal Game & Fish	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Dive Rescue Team: Bismarck, ND	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Garbage Collection: Standing Rock Sanitation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hazardous Materials Response Bismarck, ND	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Inert Landfill											X		X	

Table 4.4 – Services Provided - Continued

Services	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Lagoon cells												3	X	X
Landfill											X		X	
Law Enforcement	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Lift Station(s)	X	X	X	X	X	X	X	X	X	X		2		
Newspaper (official): Carson Press	X										X			
Septic Systems/Private	X										X			
Sanitary Sewer System	X										X			
Specialty Units Bismarck, ND	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Storm Water System	X													
Water: Missouri River Intake (MRI)	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Water: Well/City													X	
Water: Well/Individual	X										X			

Table 4.5 shows the emergency response services and facilities in the Planning Area. Some services are provided by outside entities due to the sparse population of the Planning Area.

Table 4.5 –Emergency Response Services and Facilities

Emergency Response Services/Facilities	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Ambulance	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Ambulance Hall	X											X		
County Sheriff	*										X	*	*	*
Fire Department/Wildland	X											X	X	X
Fire District													X	X
Fire Hall											X	X	X	X
First Responders	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Law Enforcement	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Law Enforcement Building											X			

Table 4.6 shows the utility providers for the Planning Area. Some providers for utilities, such as fuel oil and propane are unknown as residents choose providers on an individual basis.

Table 4.6 – Utility Providers

Utility Providers	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Cable Service, Inc.														
Cell Phone: West River														
Cell Phone: Verizon	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Electricity: Mor-Gran-Sou	X	X	X	X	X	X	X	X	X	X	X			
Electricity: MDU													X	
Electricity: REC											X	X		X
Fuel Oil/Individual Basis	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Internet: West River	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Phone: Standing Rock Communications	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 4.6 – Utility Providers - Continued

Utility Providers	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Propane: Standing Rock Propane	X	X	X	X	X	X	X	X	X	X	X	X		X
Propane: Cenex	X										X		X	
Satellite/Dish	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Storm Shelters

Storm shelters provide area of refuges for people during incidents of natural hazards or man-made threats. Information on storm shelters is necessary to mitigation planning to help reduce or eliminate loss of life. Table 4.9 shows information on all storm shelters in Standing Rock Sioux Tribe and Sioux County, North Dakota.

Table 4.9 – 2016 Planning Area Storm Shelters

Facility Name	Location	Capacity	ADA Compliant	Pet Friendly
AJ Agard Building	City of Fort Yates	250	Partially	No
Bear Soldier Community Ctr.	City of McLaughlin	50	Partially	No
Kenel Community Ctr.	Kenel CDP	50	Partially	No
Little Eagle Community Ctr.	Little Eagle CDP	50	Partially	No
Porcupine Community Ctr.	Porcupine CDP	50	Partially	No
Red Gymnasium	Cannon Ball CDP	250	Partially	No
Rock Creek Community Ctr.	Bullhead CDP	50	Partially	No
Solen Public School	City of Solen	100	Fully	Yes
Wakpala Community Ctr.	Wakpala CDP	50	Partially	No
Total Capacity		900		

Source: N.D. Dept. of Emergency Services, WebEOC

New and Future Development

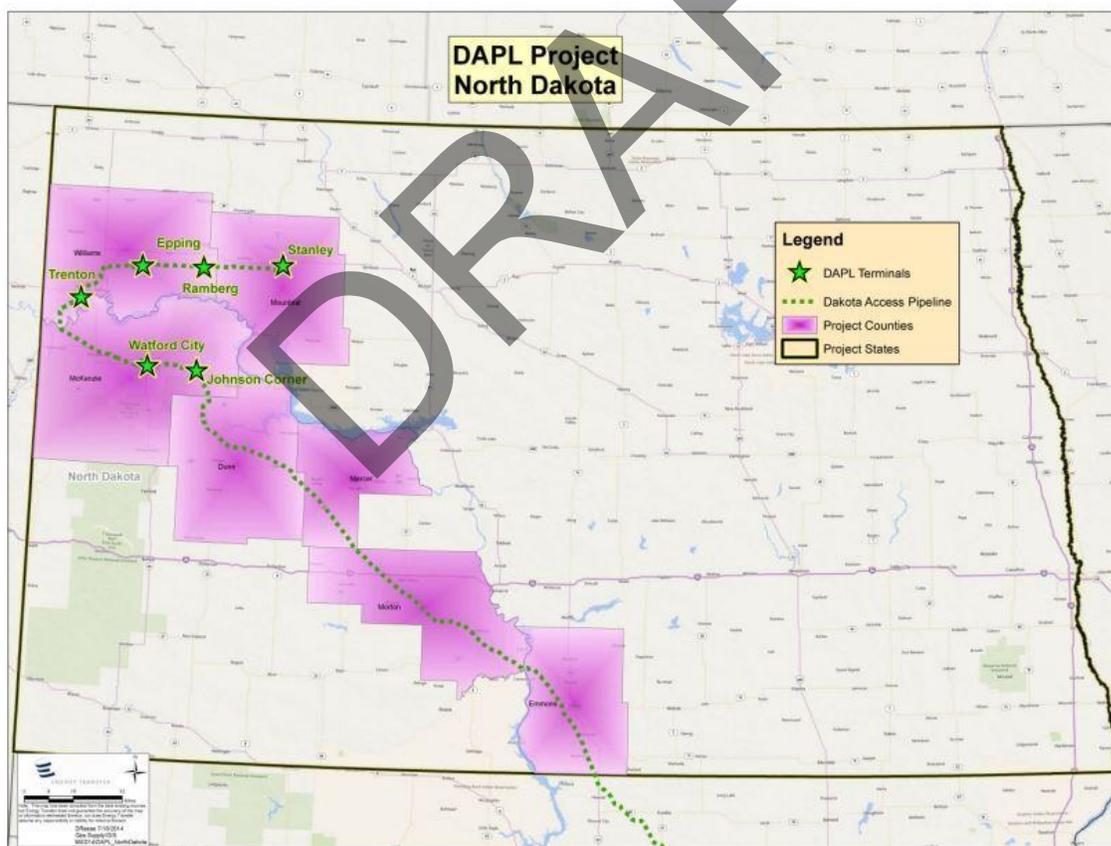
New and future developments in the Planning Area are as follows.

Future. The Dakota Access Pipeline is proposed construction of a pipeline to transport crude oil from the Bakken/Three Forks play in North Dakota to a terminus in Illinois with additional potential points of destination along the pipeline route. Figure 4.2 illustrates the proposed route of the pipeline. The proposed route will surpass the Planning Area just outside the Cannon Ball District in neighboring

Morton County, North Dakota. According to the project website, the following are key points of the pipeline.

- The pipeline is anticipated to be fully functional by 2016.
- The pipeline will translate into millions in state and local revenues during the construction phase and an estimated \$156 million in sales and income taxes.
- The Dakota Access Pipeline Project is a \$3.7 billion investment into the United States directly impacting the local and national labor force by creating 8,000–12,000 construction jobs and up to 40 permanent operating jobs.
- The committed volume rates of the pipeline project have already created historically high shipment ratios, with the pipeline projected to carry half of the Bakken’s current daily crude oil production.
- The pipeline will meet or exceed state and federal safety requirements and at a minimum will be designed in accordance with 49 Code of Federal Regulations Part 195.

Figure 4.2 – Dakota Access Pipeline Proposed Route



Source: Energy Transfer

5. Threat and Hazard Identification and Risk Assessment (THIRA) – Natural Hazards

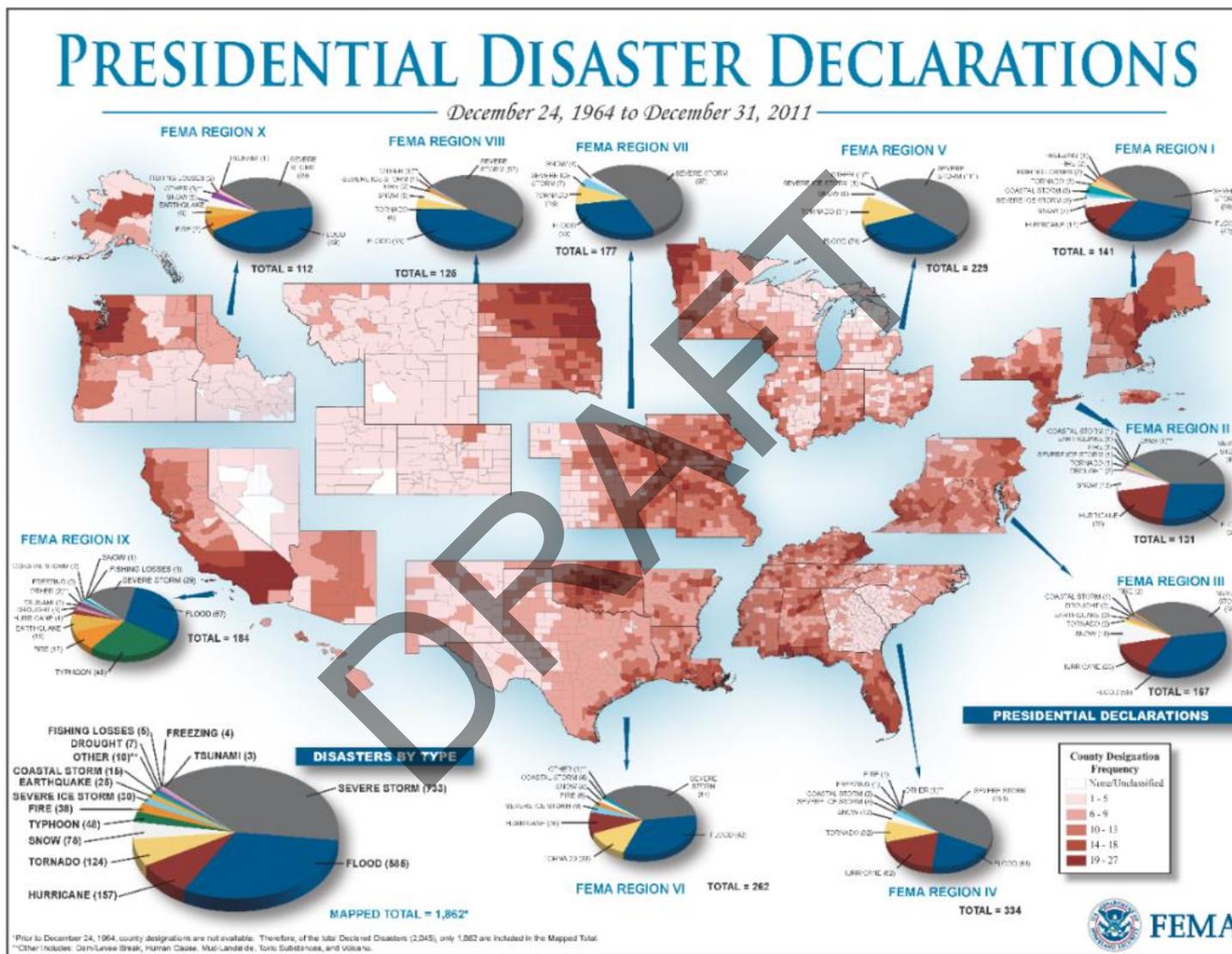
Standing Rock Sioux Tribe/Sioux County, N.D., (SRST/SC) has a history of damages to archeological/ceremonial/cultural/historical/ /spiritual sites, crops, livestock, people and property from natural hazards and man-made disasters. The plan update committee, tribal, district, county and city officials identified six natural hazards and six man-made threats to be included in this plan because risk analysis showed that mitigation, planning, response, and preparedness would assist in limiting injury, loss of life, and loss of property. Chapter 5 of this plan profiles natural hazards impacting the Planning Area and Chapter 6 profiles the man-made threats impacting the Planning Area.

The six natural hazards are:

- Drought
- Flood
- Severe Summer Weather
- Severe Winter Weather
- Wildland Fire
- Windstorm

History shows a high risk of damage from natural disasters to SRST/SC. The FEMA Presidential Disaster Declaration map in Figure 5.1 shows that North Dakota, South Dakota and Standing Rock Sioux Tribe are among areas in the nation with the most presidential disaster declarations in the past 50 years.

Figure 5.1 – 1964 to 2011 Presidential Disaster Declaration Frequency by FEMA Region



Source: Federal Emergency Management Agency

Standing Rock Sioux Tribe has had 14 Presidential Disaster Declarations (Tables 5.1, 5.2 & 5.3); including declarations for flooding, ground saturation, ice jams, severe storms and tornadoes. A majority of declarations (11) have occurred during the months of March, April, May, June and July of any given year; 10 disaster declarations have occurred between 2009 and 2014. No declarations have been declared in Standing Rock Sioux Tribe during the months of January, September, October or November. Table 5.1 shows the presidential disaster declarations for SRST between 1953 and 2015. Tables 5.2 and 5.3 show the presidential disaster declarations for Sioux County, N.D. and Corson County, S.D. between 1953 and 2015.

Table 5.1 – 1953 to 2015 Presidential Disaster Declarations for Standing Rock Sioux Tribe

Year	Disaster Description/Title	Disaster No.
1999	Severe Storms, Flooding, Snow, Ice, Ground Saturation, Landslides, Mudslides, Rain	1279
2004	Severe Storms, Flooding, Snow, Ice, Ground Saturation, Landslides and Mudslides	1515
2005	Severe Storms, Flooding & Ground Saturation	1597
2008	Severe Winter Storm & Record & Near Record Snowfall	1811
2009	Severe Storms & Flooding	1829
2009	Severe Storms & Flooding	1844
2010	Severe Winter Storm	1879
2010	Severe Winter Storm	1887
2010	Severe Winter Storm	1901
2011	Flooding	1981
2011	Flooding	3318
2013	Severe Storms and Flooding	4123
2014	Severe Storms and Flooding	4190
2014	Severe Storms, Tornadoes, and Flooding	4186

Source: FEMA

Table 5.2 – 1953 to 2015 Presidential Disaster Declarations for Sioux County, N.D.

Year	Disaster Description/Title	Disaster No.
1969	Flooding	256
1975	Flooding From Rains & Snowmelt	469
1978	Blizzards & Snowstorms	3061
1978	Storms, Ice Jams, Snowmelt & Flooding	554
1993	Severe Storms & Flooding	1001
1995	Severe Storms, Flooding, & Ground Saturation	1050
1997	Severe Flooding, Severe Winter Storms, Snowmelt, Spring Rains	1174
1997	Severe Winter Storms & Blizzard Conditions	1157
1999	Severe Storms, Flooding, Snow, Ice, Ground Saturation, Landslides, Mudslides, Rain	1279
2002	ND – Again Fire – 06/29/2002	2435
2005	Hurricane Katrina Evacuation	3247
2005	Severe Storms, Flooding & Ground Saturation	1597
2009	Severe Storms & Flooding	1829
2010	Severe Winter Storm	1879
2010	Severe Winter Storm	1901
2011	Flooding	1981
2011	Flooding	3318
2013	Severe Winter Storm	4154

Source: FEMA

Although this plan update is for the Standing Rock Sioux Tribe and Sioux County, North Dakota, presidential disaster declarations are also shown for Corson County, South Dakota as it consists of 70 percent of the total geographic area of the tribe. Table 5.3 below shows the presidential disaster declarations for Corson County, S.D. between 1953 and 2015.

Table 5.3 – 1953 to 2015 Presidential Disaster Declarations for Corson County, S.D.

Year	Disaster Description/Title	Disaster No.
1976	Drought	3015
1993	Severe Storms, Tornadoes & Flooding	999
1995	Sever Winter Storms	1045
1997	Severe Flooding, Severe Winter Storms, Heavy Rains, High Winds	1173
1997	Severe Winter Storms and Blizzard Conditions	1156
2005	Hurricane Katrina Evacuation	3234
2005	Severe Storm	1596
2008	Severe Winter Storm & Record & Near Record Snowfall	1811
2009	Severe Storms & Flooding	1844
2010	Severe Winter Storm	1887
2010	Severe Winter Storm	1914
2013	Severe Storms, Tornado, and Flooding	4125
2013	Severe Winter Storm, Snowstorm, and Flooding	4155
2014	Severe Storms, Tornadoes, and Flooding	4186

Source: FEMA

Risk Assessment Methodology

A risk assessment is process that collects information on the risk of natural hazards and man-made threats to incorporated jurisdictions, and assigns values to those risks to assist with:

1. Identifying and/or comparing courses of action
2. Developing priorities for future mitigation
3. Inform decision-making on creating a local mitigation strategy
 - Foundation for mitigation strategy development

Data for this plan was obtained from the 2014 North Dakota Multi-Hazard Mitigation Plan (NDMHMP), FEMA websites, and other agency sources. History in each hazard profile is a summation of data collected from National Oceanic and Atmosphere Administration (NOAA); National Climatic Data Center (NCDC); National Fire and Incident Reporting System (NFIRS); the Special Hazard Event and Losses Database for the United States (SHELDUS); U.S. Dept. of Agriculture-Risk Management Agency; various state and local agencies; local newspapers; city, county and state records; and oral history from county residents. Data from these sources was used to conduct the risk assessment included in the 2016 Standing Rock Sioux Tribe/Sioux County, N.D. Multi-Hazard Mitigation Plan. The risk assessment was conducted using the scoring and ranking process found on the following pages.

Impact is what damage or losses the hazard causes in a community.

Scored 1	Negligible – less than 10% of the jurisdiction/people affected
Scored 2	Limited – 10% to 25% of jurisdiction/people affected
Scored 3	Critical – 25% to 50% of the jurisdiction/people affected
Scored 4	Catastrophic – More than 50% of the jurisdiction/people affected

Frequency is how often the hazard occurs.

Scored 1	Unlikely – history of events shows less than 1% chance of occurrence
Scored 2	Possible – history of events shows between 1% to 10% chance of occurrence
Scored 3	Likely – history of events shows between 10% to 100% chance of occurrence
Scored 4	Highly likely – history of events shows nearly 100% chance of occurrence

Likelihood is how probable it is that the hazard will happen.

Scored 1	Unlikely – less than 1% chance hazard will occur
Scored 2	Possible – 1% to 10% chance hazard will occur
Scored 3	Likely – 10% to 100% chance hazard will occur
Scored 4	Highly likely – Nearly 100% chance hazard will occur

Vulnerability is the amount of:

1. Vulnerable areas: trailer courts, building construction, and blocked roads, etc.
2. Vulnerable population(s): individuals with special needs, elderly, day cares, and schools, etc.
3. Resources: equipment, services or lack thereof that increases or decreases vulnerability

Who and what is affected? When and why? Identify specific areas of vulnerability. What you have or lack: equipment, vehicles, services available, shelters, buildings, and infrastructure.

Scored 1	Low vulnerability: Adequate resources in the jurisdiction to address any hazard
Scored 2	Moderate vulnerability: Various resources in the jurisdiction
Scored 3	High vulnerability: Few resources in the jurisdiction
Scored 4	Very high vulnerability: Little to no resources in the jurisdiction

Capability is the ability to protect itself against the hazard with resources (i.e. buildings, infrastructure, equipment, personnel, plans, technical, financial/tax base)

Scored 1	Low capability: Little to no ability of the jurisdiction for mitigation
Scored 2	Moderate capability: Few abilities of the jurisdiction for mitigation
Scored 3	High capability: Various abilities of the jurisdiction for mitigation
Scored 4	Very high capability: Adequate abilities of the jurisdiction for mitigation

The formula to determine the total is: Impact plus Frequency plus Likelihood plus Vulnerabilities minus Capabilities equals Total. Higher total scores indicate more vulnerability and lower scores indicate less vulnerability.

Table 5.4 below and on the following pages summarizes risk assessment scoring of the natural hazards for SRST/SC, tribal districts/tribal communities and county jurisdictions. The results of the risk assessment for each natural hazard are shown in the hazard profiles later in this chapter.

Table 5.4 – Standing Rock Sioux Tribe/Sioux County, N.D. Natural Hazard Risk Assessment Scoring Summary

Risk Assessment		Tribe: Standing Rock Sioux Tribe				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	2	3	3	2	9
Flood	4	4	4	4	1	15
Severe Summer Weather	3	4	3	3	2	11
Severe Winter Weather	3	4	4	2	2	11
Wildland Fire	3	3	3	3	2	10
Windstorm	3	3	4	2	2	10

Risk Assessment		Tribal District: Bear Soldier District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	2	3	3	2	9
Flood	4	4	4	4	1	15
Severe Summer Weather	3	4	3	3	2	11
Severe Winter Weather	3	4	4	2	2	11
Wildland Fire	3	3	3	3	2	10
Windstorm	3	3	4	2	2	10

Risk Assessment		Tribal District: Cannon Ball District, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	1	3	3	1	8
Flood	4	4	4	4	1	15
Severe Summer Weather	3	3	3	3	1	11
Severe Winter Weather	3	2	3	3	1	10
Wildland Fire	3	4	4	4	1	14
Windstorm	3	3	3	3	1	11

Table 5.4 – Standing Rock Sioux Tribe/Sioux County, N.D. Natural Hazard Risk Assessment Scoring Summary - Continued

Risk Assessment		Tribal District: Kenel District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	2	3	3	2	9
Flood	4	4	4	4	1	15
Severe Summer Weather	3	4	3	3	2	11
Severe Winter Weather	3	4	4	2	2	11
Wildland Fire	3	3	3	3	2	10
Windstorm	3	3	4	2	2	10

Risk Assessment		Tribal District: Long Soldier, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	2	3	2	2	8
Flood	4	4	4	4	1	15
Severe Summer Weather	2	3	3	3	3	8
Severe Winter Weather	3	3	3	3	2	10
Wildland Fire	3	3	3	3	3	9
Windstorm	3	3	3	3	2	10

Risk Assessment		Tribal District: Porcupine District, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	1	3	3	1	8
Flood	4	4	4	4	1	15
Severe Summer Weather	3	3	3	3	1	11
Severe Winter Weather	3	2	3	3	1	10
Wildland Fire	3	4	4	4	1	14
Windstorm	3	3	3	3	1	11

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 5.4 – Standing Rock Sioux Tribe/Sioux County, N.D. Natural Hazard Risk Assessment Scoring Summary - Continued

Risk Assessment		Tribal District: Rock Creek District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	2	3	3	2	9
Flood	4	4	4	4	1	15
Severe Summer Weather	3	4	3	3	2	11
Severe Winter Weather	3	4	4	2	2	11
Wildland Fire	3	3	3	3	2	10
Windstorm	3	3	4	2	2	10

Risk Assessment		Tribal District: Running Antelope District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	3	3	3	3	3	9
Flood	4	4	4	4	1	15
Severe Summer Weather	2	3	3	3	3	8
Severe Winter Weather	3	3	3	3	1	11
Wildland Fire	3	2	3	2	2	8
Windstorm	3	3	3	3	3	9

Risk Assessment		Tribal District: Wakpala District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	4	1	1	1	1	6
Flood	4	4	4	4	1	15
Severe Summer Weather	3	2	3	3	2	9
Severe Winter Weather	3	4	4	4	1	14
Wildland Fire	4	4	4	4	4	12
Windstorm	3	2	1	1	1	6

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 5.4 – Standing Rock Sioux Tribe/Sioux County, N.D. Natural Hazard Risk Assessment Scoring Summary - Continued

Risk Assessment			Jurisdiction: Sioux County, ND			
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	2	3	3	2	8
Flood	4	4	4	4	1	15
Severe Summer Weather	3	2	3	3	2	9
Severe Winter Weather	3	3	3	3	3	9
Wildland Fire	3	4	4	3	3	11
Windstorm	3	3	3	3	3	9

Risk Assessment			Jurisdiction: Fort Yates, ND			
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	2	2	3	2	7
Flood	4	4	4	4	1	15
Severe Summer Weather	3	2	3	3	2	9
Severe Winter Weather	4	3	4	3	3	10
Wildland Fire	3	4	4	3	3	11
Windstorm	3	3	3	3	3	9

Risk Assessment			Jurisdiction: Selfridge, ND			
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	2	3	3	2	8
Flood	4	4	4	4	1	15
Severe Summer Weather	3	3	3	3	1	11
Severe Winter Weather	3	3	3	3	2	10
Wildland Fire	3	4	3	3	3	10
Windstorm	3	3	3	2	2	9

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 5.4 – Standing Rock Sioux Tribe/Sioux County, N.D. Natural Hazard Risk Assessment Scoring Summary - Continued

Risk Assessment	Jurisdiction: Solen, ND					
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Drought	2	2	3	3	2	8
Flood	4	4	4	4	1	15
Severe Summer Weather	3	3	3	3	1	11
Severe Winter Weather	3	3	3	3	2	10
Wildland Fire	3	4	3	3	3	10
Windstorm	3	3	3	2	2	9

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

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6. Threat and Hazard Identification and Risk Assessment (THIRA) – Man-made Threats

Standing Rock Sioux Tribe/Sioux County, N.D., (SRST/SC) has a history of damages to archeological/ceremonial/cultural/historical/ /spiritual sites, crops, livestock, people and property from natural hazards and man-made disasters. The plan update committee, tribal, district, county and city officials identified six natural hazards and six man-made threats to be included in this plan because risk analysis showed that mitigation, planning, response, and preparedness would assist in limiting injury, loss of life, and loss of property. Chapter 5 of this plan profiles natural hazards impacting the Planning Area and Chapter 6 profiles the man-made threats impacting the Planning Area.

The six man-made threats are:

- Communicable Disease
- Dam Failure
- Hazardous Material Release
- Homeland Security Incident
- Transportation Accident
- Urban Fire/Structure Collapse

A list of presidential disaster declarations for Standing Rock Sioux Tribe; Sioux County, North Dakota and Corson County, South Dakota, are shown at the beginning of Chapter 5.

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Risk Assessment Methodology

A risk assessment is process that collects information on the risk of natural hazards and man-made threats to incorporated jurisdictions, and assigns values to those risks to assist with:

1. Identifying and/or comparing courses of action
2. Developing priorities for future mitigation
3. Inform decision-making on creating a local mitigation strategy
 - Foundation for mitigation strategy development

Data for this plan was obtained from the 2014 North Dakota Multi-Hazard Mitigation Plan (NDMHMP), FEMA websites, and other agency sources. History in each hazard profile is a summation of data collected from National Oceanic and Atmosphere Administration (NOAA); National Climatic Data Center (NCDC); National Fire and Incident Reporting System (NFIRS); the Special Hazard Event and Losses Database for the United States (SHELDUS); U.S. Dept. of Agriculture-Risk Management Agency; various state and local agencies; local newspapers; city, county and state records; and oral history from county residents. Data from these sources was used to conduct the risk assessment included in the 2016 Standing Rock Sioux Tribe/Sioux County, N.D. Multi-Hazard Mitigation Plan. The risk assessment was conducted using the scoring and ranking process found on the following pages.

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Impact is what damage or losses the hazard causes in a community.

Scored 1	Negligible – less than 10% of the jurisdiction/people affected
Scored 2	Limited – 10% to 25% of jurisdiction/people affected
Scored 3	Critical – 25% to 50% of the jurisdiction/people affected
Scored 4	Catastrophic – More than 50% of the jurisdiction/people affected

Frequency is how often the hazard occurs.

Scored 1	Unlikely – history of events shows less than 1% chance of occurrence
Scored 2	Possible – history of events shows between 1% to 10% chance of occurrence
Scored 3	Likely – history of events shows between 10% to 100% chance of occurrence
Scored 4	Highly likely – history of events shows nearly 100% chance of occurrence

Likelihood is how probable it is that the hazard will happen.

Scored 1	Unlikely – less than 1% chance hazard will occur
Scored 2	Possible – 1% to 10% chance hazard will occur
Scored 3	Likely – 10% to 100% chance hazard will occur
Scored 4	Highly likely – Nearly 100% chance hazard will occur

Vulnerability is the amount of:

1. Vulnerable areas: trailer courts, building construction, and blocked roads, etc.
2. Vulnerable population(s): individuals with special needs, elderly, day cares, and schools, etc.
3. Resources: equipment, services or lack thereof that increases or decreases vulnerability

Who and what is affected? When and why? Identify specific areas of vulnerability. What you have or lack: equipment, vehicles, services available, shelters, buildings, and infrastructure.

Scored 1	Low vulnerability: Adequate resources in the jurisdiction to address any hazard
Scored 2	Moderate vulnerability: Various resources in the jurisdiction
Scored 3	High vulnerability: Few resources in the jurisdiction
Scored 4	Very high vulnerability: Little to no resources in the jurisdiction

Capability is the ability to protect itself against the hazard with resources (i.e. buildings, infrastructure, equipment, personnel, plans, technical, financial/tax base)

Scored 1	Low capability: Little to no ability of the jurisdiction for mitigation
Scored 2	Moderate capability: Few abilities of the jurisdiction for mitigation
Scored 3	High capability: Various abilities of the jurisdiction for mitigation
Scored 4	Very high capability: Adequate abilities of the jurisdiction for mitigation

The formula to determine the total is: Impact plus Frequency plus Likelihood plus Vulnerabilities minus Capabilities equals Total. Higher total scores indicate more vulnerability and lower scores indicate less vulnerability.

Table 6.1 below and on the following pages summarizes risk assessment scoring of the man-made threats SRST/SC, tribal districts/tribal communities and county jurisdictions. The results of the risk assessment for each man-made threat are shown in the hazard profiles later in this chapter.

Table 6.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Man-made Threat Risk Assessment Scoring Summary

Risk Assessment		Tribe: Standing Rock Sioux Tribe				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	2	10
Dam Failure	2	2	2	2	2	6
Hazardous Material Release	3	2	2	2	2	7
Homeland Security Incident	2	2	2	2	2	6
Transportation Accident	2	1	4	4	1	10
Urban Fire/Structure Collapse	4	3	3	4	1	13

Risk Assessment		Tribal District: Bear Soldier District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	2	10
Dam Failure	2	2	2	2	2	6
Hazardous Material Release	3	2	2	2	2	7
Homeland Security Incident	2	2	2	2	2	6
Transportation Accident	4	1	2	4	4	7
Urban Fire/Structure Collapse	4	3		4	3	8

Risk Assessment		Tribal District: Cannon Ball District, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	1	11
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	3	3	3	3	1	11
Homeland Security Incident	3	2	3	3	1	10
Transportation Accident	3	3	4	4	1	13
Urban Fire/Structure Collapse	4	4	4	4	1	15

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 6.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Man-made Threat Risk Assessment Scoring Summary - Continued

Risk Assessment		Tribal District: Kenel District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	2	10
Dam Failure	2	2	2	2	2	6
Hazardous Material Release	3	2	2	2	2	7
Homeland Security Incident	2	2	2	2	2	6
Transportation Accident	4	1	2	4	4	7
Urban Fire/Structure Collapse	4	3	3	4	1	13

Risk Assessment		Tribal District: Long Soldier, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	1	11
Dam Failure	1	1	1	1	1	3
Hazardous Material Release	3	3	4	2	2	10
Homeland Security Incident	3	2	2	2	1	8
Transportation Accident	3	2	3	2	2	8
Urban Fire/Structure Collapse	4	3	3	3	3	10

Risk Assessment		Tribal District: Porcupine District, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	1	11
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	3	3	3	3	1	11
Homeland Security Incident	3	2	3	3	1	10
Transportation Accident	3	3	4	4	1	13
Urban Fire/Structure Collapse	4	4	4	4	1	15

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 6.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Man-made Threat Risk Assessment Scoring Summary - Continued

Risk Assessment		Tribal District: Rock Creek District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	3	2	10
Dam Failure	2	2	2	2	2	6
Hazardous Material Release	3	2	2	2	2	7
Homeland Security Incident	2	2	2	2	2	6
Transportation Accident	2	1	4	4	1	10
Urban Fire/Structure Collapse	4	3	3	4	1	13

Risk Assessment		Tribal District: Running Antelope District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	3	4	1	12
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	3	2	2		3	4
Homeland Security Incident	3	2	2	3	3	7
Transportation Accident	2	3	4	3	2	10
Urban Fire/Structure Collapse	4	4	4	4	1	15

Risk Assessment		Tribal District: Wakpala District, SD				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	4	3	2	11
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	2	2	2	4	4	6
Homeland Security Incident	2	2	2	2	2	6
Transportation Accident	2	2	2	4	1	9
Urban Fire/Structure Collapse	2	2	3	3	1	9

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 6.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Man-made Threat Risk Assessment Scoring Summary - Continued

Risk Assessment		Jurisdiction: Sioux County, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	4	3	2	11
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	3	2	2	2	3	6
Homeland Security Incident	3	2	2	2	3	6
Transportation Accident	3	3	4	3	2	11
Urban Fire/Structure Collapse	4	2	3	3	2	10

Risk Assessment		Jurisdiction: Fort Yates, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	3	4	3	2	11
Dam Failure	NA	NA	NA	NA	NA	NA
Hazardous Material Release	4	2	4	3	4	9
Homeland Security Incident	3	2	2	2	3	6
Transportation Accident	3	3	4	3	2	11
Urban Fire/Structure Collapse	4	2	3	3	2	10

Risk Assessment		Jurisdiction: Selfridge, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	4	3	3	1	12
Dam Failure	2	2	2	2	1	7
Hazardous Material Release	3	3	2	3	2	9
Homeland Security Incident	3	2	2	2	3	6
Transportation Accident	2	2	2	3	2	7
Urban Fire/Structure Collapse	4	1	2	2	3	6

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

Table 6.1 – Standing Rock Sioux Tribe/Sioux County, N.D. Man-made Threat Risk Assessment Scoring Summary - Continued

Risk Assessment		Jurisdiction: Solen, ND				
<u>Man-made Threat</u>	<u>Impact</u>	<u>Frequency</u>	<u>Likelihood</u>	<u>Vulnerability</u>	<u>Capabilities</u>	<u>Total</u>
Communicable Disease	3	4	3	3	1	12
Dam Failure	2	2	2	2	1	7
Hazardous Material Release	3	3	2	3	2	9
Homeland Security Incident	3	2	2	2	3	6
Transportation Accident	2	2	2	3	2	7
Urban Fire/Structure Collapse	4	1	2	2	3	6

(Formula: Impact + Frequency + Likelihood + Vulnerability – Capabilities = Total)

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7. Standing Rock Sioux Tribe/Sioux County, N.D. Mitigation Strategy

Mitigation Purpose, Goals, and Projects

This update of the Standing Rock Sioux Tribe/Sioux County, N.D. Multi-Hazard Plan includes a mitigation strategy consisting of six goals and specific mitigation projects for the Standing Rock Sioux Tribe; Sioux County, North Dakota; tribal districts/tribal communities and county jurisdictions based on the risk assessment developed at Plan Update Committee meetings.

A total of 33 projects were identified. Maps illustrating the location of select mitigation projects are found toward the end of this chapter prior to Table 7.3

All hazards and threats were considered and mitigation projects were formulated based on the potential or previous effects of hazards, the high probability of hazard or threat occurrences, the vulnerability of tribal districts/tribal communities and county jurisdictions to hazards, and hazards each project can mitigate. The problem statement for Standing Rock Sioux Tribe and Sioux County, N.D., which assisted in formulating specific mitigation actions to reduce the impacts of hazards, is shown before the mitigation actions.

The following are the six goals that were reviewed, updated and approved:

Goal 1: Implement education and outreach programs to improve public awareness of hazards.

Goal 2: Improve administrative and technical capability to mitigate hazards.

Goal 3: Improve planning and regulation to mitigate hazards.

Goal 4: Reduce impacts of hazards.

Goal 5: Improve resiliency of critical facilities and infrastructure.

Goal 6: Provide places of refuge and early warnings for public and vulnerable populations to take protective action during hazard events.

Mitigation Project Development

The Plan Update Committee identified the following characteristics of each mitigation project and included each project profile:

- Description/benefit
- Hazard(s) addressed
- Affected Area
- Project status
- Priority
- Responsible agency
- Partners
- Timeframe for completion
- Cost and
- Funding sources

Scoring and Prioritization

The Plan Update Committee also scored and ranked projects based on a FEMA process – STAPLEE – that allows tribal districts/tribal communities and county jurisdictions to understand the support for a project; the potential costs in dollars, time and expertise; environmental impact; and the benefit of the project. The specific words in the acronym STAPLEE are social, technical, administrative, political, legal, economic, and environmental.

Each project was scored using a one to five (1 to 5) scoring. A score of one (1) indicated a project is ineffective, not feasible and/or too costly, and a five (5) indicated the project was highly effective, feasible and/or a higher benefit compared to cost. A score of three (3) was neutral.

Each mitigation project included in the plan is valuable as it addresses needs specific to Standing Rock Sioux Tribe/Sioux County, N.D. (SRST/SC), tribal districts/tribal communities and county jurisdictions. Due to a variety of constraints, not all projects can be implemented simultaneously and must be prioritized with the most critical projects being emphasized for implementation in the near term. However, the prioritization of each project can change over time to respond to changes in a community and to take advantage of resources that become available.

The Plan Update Committee prioritized each mitigation project on a high, medium and low designation based on scoring of the documentation, past experiences and professional judgment, and what projects are technically feasible to accomplish is based on the capabilities of all jurisdictions. Table 7.1 on the following page summarizes the projects by priority for the Standing Rock Sioux Tribe, Sioux County, North Dakota, tribal districts/tribal communities and county jurisdictions.

Table 7.1 – Prioritization of Mitigation Projects by Jurisdiction

Project Number by Prioritization			
	Low	Medium	High
Administrative and Technical	--	1	2, 3, 4, 5, 6, 7
Education and Outreach	--	--	1, 2, 3, 4, 5, 6, 7
Financial	--	--	--
Planning and Regulatory	--	4	1, 2, 3, 5, 6, 7, 8, 9
Infrastructure	6	4, 7, 9	1, 2, 3, 5, 8, 10

Acronyms and Definitions

The acronyms and definitions used in the responsible agency and partners section of each mitigation projects profile are described in Table 7.2.

Table 7.2 – Acronyms and Definitions of Responsible Agencies and Partners for Mitigation Projects

Acronym/Definition	Entity
BIA	Bureau of Indian Affairs
BIE	Bureau of Indian Education
BOR	Bureau of Reclamation – MRI Program
CDBG	Community Development Block Grant
County Commission	Sioux County Commission
County Road Dept.	Sioux County, N.D. Road Department
Dept. of Commerce	N.D. Department of Commerce
Emergency Management	Standing Rock Sioux Tribe Emergency Manager & Sioux County, N.D. Emergency Manager
Emergency Services	Ambulance, fire, law enforcement
Extension Service	NDSU/Sioux County, N.D. Extension Service
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FSA	USDA - Farm Service Agency
HUD	Housing and Urban Development
IAC	N.D. Indian Affairs Commission, S.D. Indian Affairs Commission
IHS	Standing Rock Indian Health Service
Media	Bismarck Tribune, Corson County Messenger, Mobridge Tribune, Teton Times; television stations (KFYR and KXMB); radio stations (KFYR – Bismarck, KOLY - Mobridge, KLND – Fort Yates)
Medical Service Providers	Fort Yates Hospital, McLaughlin IHS Clinic, Wakpala IHS Clinic, Cannon Ball IHS Clinic
NDAC	N.D. Association of Counties
NDDDES	N.D. Department of Emergency Services
NDDH	N.D. Department of Health
NDDOT	N.D. Department of Transportation

**Table 7.2 – Acronyms and Definitions of Responsible Agencies and Partners for Mitigation Projects
– Continued**

Acronym/Definition	Entity
NDLC	N.D. League of Cities
NDTOA	N.D. Townships Officers Association
NOAA	National Oceanic and Atmospheric Administration
NRCS	USDA - Natural Resources Conservation Service
NWS	National Weather Service
Planning Commission	Tribal District Planning Commission
Public Utilities	Mor-Gran-Sou Electric Cooperative, Municipal Rural and Irrigation (MRI), West River Telephone, Standing Rock Telecomm
Rail Transport	Burlington Northern Santa Fe (BNSF)
Red Cross	American Red Cross
Regional Council	Lewis and Clark Regional Development Council
RD	U.S. Dept. of Agriculture – Rural Development
SDDPS	S.D. Dept. of Public Safety
SRSTDC	Standing Rock Sioux Tribe Disaster Committee
SWC	N.D. State Water Commission
TERO	Tribal Employment Rights Office
THPO	Tribal Historic Preservation Office
Tribal Council	Standing Rock Sioux Tribe Tribal Council
Tribal EDA	Standing Rock Sioux Tribe Economic Development Association
Tribal EPA	Standing Rock Sioux Tribe Environmental Protection Agency
Tribal Game & Fish	Standing Rock Sioux Tribe Game and Fish Department
Tribal Health	Standing Rock Sioux Tribe Health Department
Tribal IT	Standing Rock Sioux Tribe Information Technology Department
Tribal Land Management	Tribal Land Management Reservation Resources
Tribal Paleontology	Standing Rock Sioux Tribe Paleontology Department
Tribal Planning	Standing Rock Sioux Tribe Planning Department
Tribal Public Works	Standing Rock Sioux Tribe Maintenance Department
Tribal Roads	Standing Rock Sioux Tribe Highway Department
Tribal Water Resources	Standing Rock Sioux Tribe Water Resources Department
USACE	United States Army Corps. of Engineers
USDA	United States Department of Agriculture
U.S. Dept. of Interior	United States Department of Interior
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service

Problem Statements

Problem statements provide a concise description of the vulnerabilities of the jurisdiction to threats and hazards that should be addressed through mitigation actions. The problem statement for SRST/SC is shown below. The specific mitigation actions to reduce the impacts of hazards are identified for each jurisdiction and are found after the problem statement.

Standing Rock Sioux Tribe/Sioux County, North Dakota

SRST/SC have a history of impacts from communicable disease, dam failure, drought, flood (overland and riverine), hazardous material release, homeland security incident, severe summer weather, severe winter weather, transportation accident, urban fire/structure collapse, wildland fire, and windstorm. Flooding is a major issue in many tribal districts/tribal communities and county jurisdictions due to inadequate drainage, critical facilities and infrastructure being located in flood-prone areas, and the presence of the Missouri River. Many communities in the Planning Area experience isolation from impacts of hazards due to a small population dispersed over a large geographic area. Tribal districts/tribal communities experience large losses to property due to the lack of urban fire departments. The tribe has numerous archeological/ceremonial/cultural/historical/spiritual sites impacted from hazards, which need to be inventoried to assess mitigation needs. The planning area has limited mitigation capabilities. SRST/SC relies on outside sources for large-scale mitigation projects such as construction of permanent flood control measures.

Expansion of mitigation capabilities, permanent flood protection, flood control measures, drainage improvements, upgrading of critical facilities and infrastructure, upgrading of emergency sirens, installation of generators for backup power, establishment of urban fire departments, inventorying of material culture and cultural resources, retrofitting and upgrading of existing infrastructure, improved access for emergency services, and construction of additional storms shelters are a priority for the tribe.

SRST/SC Project AT-1: Upgrade existing Geographic Information System (GIS) capabilities of Standing Rock Sioux Tribe/Sioux County, N.D. and develop framework to educate tribal employees, district officers, planning commissions, and county employees on GIS.

Description/Benefit	Improve administrative and technical capabilities of tribal employees, district officers, planning commissions, and county employees. Increase knowledge of risk to tribal and county assets from natural hazards and man-made threats.						
Hazards Addressed	All hazards						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	Medium						
Responsible Agency	Land Management, Tribal Water Resources						
Partners	Emergency Management, Tribal EDA, Tribal Planning						
Completion Timeframe	Ongoing	Cost	\$30,000 to \$50,000				
Funding Source	County, state, federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>		<u>Process for Integration</u>			
Comprehensive plan, economic development plan, hazard mitigation plan, planning commission, strategic plan, zoning		Capability assessment, hazard history, risk assessment data		Committee and tribal council approval. County commission approval.			

SRST/SC Project AT-2: Establish full-time Tribal Hazard Mitigation Officer Position and Tribal Code Enforcement/Building Inspector Position.

Description/Benefit	Improve administrative and technical, and planning and regulatory capabilities through creation of a full-time position. Recently adopted building codes can be enforced to increase structural integrity of structures, and work to implement mitigation measures.						
Hazards Addressed	All hazards						
Affected Area	Standing Rock Sioux Tribe (all districts)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	Emergency Management, Tribal EPA						
Partners	FEMA, HUD, Standing Rock Sioux Tribe Disaster Committee, Standing Rock Sioux Tribe/Sioux County, N.D. Multi-Hazard Mitigation Task Force						
Completion Timeframe	2 to 3 years			Cost	\$10,000 to develop position and related programming. \$50,000 to \$60,000 annually for each full-time position (\$100k-\$120k total)		
Funding Source	Tribal, state and federal grants.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	4	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Building codes, comprehensive plan, hazard mitigation plan, planning commission, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal council approval.		

Economic: Increase in operating costs for SRST.

SRST/SC Project AT-3: Recruit volunteers and establish tribal structural fire department(s) separate from BIA Wildland Fire Management.

Description/Benefit		Ensure adequate fire protection for all tribal communities and districts to reduce or eliminate the risk of fire to structures, and to save lives and protect property.					
Hazards Addressed		Urban Fire/Structure Collapse, Wildland Fire (all)					
Affected Area		Standing Rock Sioux Tribe (all districts)					
Project Status		New					
Priority		High					
Responsible Agency		Emergency Management, Tribal Planning					
Partners		BIA, FEMA, HUD, IAC, RD, State Fire Marshal (North Dakota & South Dakota)					
Completion Timeframe		3 to 5 years	Cost	\$450,000 to \$750,000			
Funding Source		SAFER Grant; local, state and federal grants					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	4	5	5	1	5	30
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Building codes, comprehensive plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Tribal council approval, State Fire Marshal approval (North Dakota & South Dakota)		

Administrative: Lack of staffing and funding to currently create fire departments.

Economic: Initial costs to begin project are limiting.

SRST/SC Project AT-4: Expand outdoor early warning system.

Description/Benefit	Coverage of current outdoor early warning system/sirens does not provide coverage to tribal communities located in the North Dakota portion of the Standing Rock Sioux Tribe Nation. New sirens were installed in tribal communities located in the South Dakota portion of the Nation. New outdoor early warning system/siren are needed in the following locations:						
	<ul style="list-style-type: none"> • Cannon Ball CDP (SRST) • Porcupine CDP (SRST) • City of Fort Yates (Sioux County, North Dakota) 						
Hazards Addressed	Flood, Hazardous Material Release, Severe Summer Weather, Wildland Fire (All)						
Affected Area	Standing Rock Sioux Tribe (Cannon Ball District, Long Soldier District, Porcupine District); Sioux County, N.D. incorporated city of Fort Yates.						
Project Status	New						
Priority	High						
Responsible Agency	Emergency Management						
Partners	Tribal Council, County Commission, city councils						
Completion Timeframe	1 to 2 years			Cost	Up to \$10,000 per siren, plus installation		
Funding Source	Local, state, federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee, tribal council and district planning commission approval. County commission and city council approval.		

SRST/SC Project AT-5: Install fire index signage at strategic points on the Standing Rock Sioux Reservation.

Description/Benefit	Improve public awareness and education of North Dakota Fire Danger index through installation of fire index signs. The fire danger index from the state provides an indication of rural fire potential for grasslands, and its ability to spread.						
Hazards Addressed	Hazardous Material Release, Severe Summer Weather, Urban Fire/Structure Collapse, Wildland Fire, Windstorm						
Affected Jurisdiction(s)	Standing Rock Sioux Tribe (all districts)						
Project Status	New						
Priority	High						
Responsible Agency	Emergency Management, Emergency Services						
Partners	Tribal Council, Tribal Public Works, Tribal Roads, NWS, USFS						
Completion Timeframe	12 months	Cost	\$8,000 - \$10,000 per sign				
Funding Source	USFS. Local, state and federal grants.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	4	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee, tribal council and district planning commission approval.		

SRST/SC Project AT-6: Install street navigation/way-finding signage at strategic points on the Standing Rock Sioux Reservation.

Description/Benefit	Improve navigation and response capabilities of emergency services through installation of street signs and house numbers. Mitigate the loss of life and damage to property by reducing response times. Will proceed and assist with development of GIS capabilities for emergency services.						
Hazards Addressed	All						
Affected Jurisdiction(s)	Standing Rock Sioux Tribe (all districts)						
Project Status	New						
Priority	High						
Responsible Agency	BIA, Emergency Management, Emergency Services						
Partners	Tribal Council, Tribal Public Works, Tribal Roads, NDDOT, NWS, USFS						
Completion Timeframe	12 months			Cost	Project specific		
Funding Source	Local, state and federal grants.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	4	5	5	4	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, site plan review requirements, strategic plan		Capability assessment, hazard history, risk assessment data			Committee, tribal council and district planning commission approval.		

SRST/SC Project AT-7: Expand Standing Rock Sioux Tribe and Sioux County, North Dakota administrative and technical mitigation capabilities.

Description/Benefit		Expand administrative and technical mitigation capabilities to improve SRST/SC readiness and preparedness through Firewise Certification and StormReady Certification. Building the technical capabilities of emergency services through the Weather Spotter Program and Bank 5 Radio. Links to each program are shown below. Firewise: http://www.firewise.org/about.aspx?sso=0 StormReady: http://www.stormready.noaa.gov/					
Hazards Addressed		All hazards					
Affected Jurisdictions		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		Emergency Management, Emergency Services					
Partners		Tribal Council, Tribal Public Works, Tribal Roads, NDDOT, NWS, USFS					
Completion Timeframe		1 year - 2 years	Cost	Project specific			
Funding Source		FEMA, Public Utilities, Regional Council, RD					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project EO-1: Use Standing Rock Sioux Tribe/Sioux County, N.D. websites, social and local media outlets, to conduct outreach and provide educational opportunities to improve household disaster preparedness.

Description/Benefit	To keep households and vulnerable populations ready in case of a disaster.						
Hazards Addressed	All hazards						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	Emergency Management, Emergency Services (ambulance, fire, law enforcement), Tribal EPA, Tribal Game & Fish, Tribal Water Resources						
Partners	BIA, BIE, IHS, Tribal IT, Media, Sitting Bull College						
Completion Timeframe	Ongoing	Cost	\$0 to \$5,000 annually				
Funding Source	Tribal, county, state, and federal grants; private sources						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project EO-2: Increase awareness of drought tolerant practices and soil conservation methods in farming and ranching, and municipalities.

Description/Benefit	Make public aware of crop programs, and drought tolerant practices and soil conservation methods in farming and ranching. Educating the public on rationing/restrictions on livestock feed and water usage. Prevent loss of crops and livestock during drought.						
Hazards Addressed	Drought, Severe Summer Weather, Severe Winter Weather, Wildland Fire						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	New						
Priority	High						
Responsible Agency	BIE, NRCS, Tribal EPA, Land Management, Media, BIA Wildland Fire Management						
Partners	BIA, Emergency Management, Tribal IT, THPO						
Completion Timeframe	Ongoing	Cost	Specific to individual awareness programs				
Funding Source	Grants (tribal, state, federal, utilities), local budgets						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	3	5	5	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Political: Pushback from landowners, farmers and ranchers.

SRST/SC Project EO-3: Make public aware of risk of shortage or outage of critical materials or infrastructure and encourage citizens to be self-sufficient.

Description/Benefit	Make public aware of risk of shortage of critical materials and/or infrastructure and encourage citizens to be self-sufficient. Educate residents on the importance of shelter-in-place.						
Hazards Addressed	Drought, Flood, Severe Summer Weather, Severe Winter Weather, Wildland Fire (all)						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	BIA, BIE, Emergency Services (ambulance, fire, law enforcement), IHS, Public Utilities, Media, Red Cross						
Partners	Emergency Management, County Commission, Planning Commission, Tribal IT, Tribal Council, Tribal EPA						
Completion Timeframe	Ongoing	Cost	Specific to individual awareness programs				
Funding Source	Grants (tribal, state, federal, utilities), local budgets						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	3	5	5	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, evacuation and shelter plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Political: Negative pushback from some residents.

SRST/SC Project EO-4: Encourage farmers and general public to have insurance to protect from crop, livestock and property losses.

Description/Benefit	Benefit to crop insurance, residential conservation practices, and property insurance.						
Hazards Addressed	Drought, Flood, Severe Summer Weather, Severe Winter Weather, Wildland Fire (all)						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	New						
Priority	High						
Responsible Agency	Extension Service, Tribal Land Management						
Partners	Banking industry, FSA, Media, private insurance companies						
Completion Timeframe	Ongoing	Cost		Project specific			
Funding Source	Tribal, state and federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	3	5	5	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Political: Negative pushback from some residents.

SRST/SC Project EO-5: Encourage the planning area to participate in and review local ordinances in order to meet or exceed minimum federal and state requirements of the National Flood Insurance Program (NFIP) and enroll in the Community Rating System.

Description/Benefit	To ensure program benefits are available to residents of tribal districts/tribal communities and county jurisdictions.						
Hazards Addressed	Flood (Overland and Riverine)						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	County Commission, FEMA, SWC, Tribal Council, Tribal Water Resources (floodplain administrator)						
Partners	Emergency Management (flood insurance), Tribal EPA, Tribal Game and Fish, Tribal Water Resources Commission						
Completion Timeframe	Ongoing			Cost	TBD		
Funding Source	Tribal, state and federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	4	5	5	5	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, FEMA Flood Map, flood insurance study, flood risk management feasibility study, flood ordinance, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan, tribal water resources plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project EO-6: Conduct annual floodplain administrator education and outreach.

Description/Benefit	To assure tribal floodplain administrators receive education and outreach on changes to NFIP requirements, flood ordinances, and flood control measures.						
Hazards Addressed	Flood (Overland and Riverine)						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	County Commission, FEMA, SWC, Tribal Council, Tribal Water Resources (floodplain administrator), USACE						
Partners	Emergency Management (flood insurance), Tribal EPA, Tribal Game and Fish, Tribal Water Resources Commission						
Completion Timeframe	Ongoing	Cost	TBD				
Funding Source	Tribal, state and federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	4	5	5	2	5	31
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, FEMA Flood Map, flood insurance study, flood risk management feasibility study, flood ordinance, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan, tribal water resources plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Administrative and Economic: Some areas in SRST are small and have little staff or available funding.

SRST/SC Project EO-7: Increase awareness of methods for prevention of communicable diseases.

Description/Benefit		Make public aware of risk of communicable diseases and methods for prevention in people; animals and crops for economic impact. Project should focus on Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD). Members of the Plan Update Committee indicated the Standing Rock Sioux Tribe has a history of STI and STD outbreaks.					
Hazards Addressed		Communicable Disease (All)					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		IHS, NDDH, Tribal Health					
Partners		Center for Disease Control (CDC), Community Health Representatives, Custer Health, Emergency Management, Media, Medical Service Providers					
Completion Timeframe		Ongoing	Cost	\$0 for a local PSA, \$1,000 to \$3,000/week for substantial outreach programs			
Funding Source		Grants (tribal, state and federal)					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, point of dispensing plan, pandemic influenza response plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project PR-1: Inventory material culture and cultural resources.

Description/Benefit	To protect archeological/ceremonial/cultural/historical/spiritual sites from natural hazards and man-made threats. Initial inventory will assist the Tribe in mitigation planning efforts.						
Hazards Addressed	Drought, Flood (Overland and Riverine), Severe Summer Weather, Severe Winter Weather (all)						
Affected Area	Standing Rock Sioux Tribe (all districts)						
Project Status	New						
Priority	High						
Responsible Agency	THPO, Tribal Paleontology, Tribal Planning, Sitting Bull College						
Partners	Emergency Management, Emergency Services (ambulance, fire, law enforcement), NDDDES (SHPO), SDDOS (SHPO), Tribal Council, USACE						
Completion Timeframe	1 to 3 years	Cost	\$100,000 to \$250,000				
Funding Source	Grants (tribal, state and federal)						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval.		

SRST/SC Project PR-2: Encourage the Planning Area to update existing building codes.

Description/Benefit		To ensure new and existing structures adhere to building standards to withstand impacts from hazards. Tribal districts/tribal communities and county jurisdictions updating building codes should focus on inclusion of hazard-resistant codes and disaster-resistant construction methods. SRST adopted buildings codes, which apply to all tribal districts/tribal communities, between 2011 and 2015.					
Hazards Addressed		All					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		Ongoing and continue					
Priority		High					
Responsible Agency		Planning Commission, Tribal Judicial Committee, Tribal Council, Tribal Planning					
Partners		BIA, Emergency Management, HUD, Sitting Bull College, TERO					
Completion Timeframe		Ongoing		Cost		TBD	
Funding Source		Grants (tribal, state and federal)					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project PR-3: Create drought contingency/management plan.

Description/Benefit	Develop methods to conserve available water and protect the integrity of water supply facilities, with particular regard to potable water, sanitary sewer systems and water available for fire suppression. Minimize adverse impacts of water shortages due to drought.						
Hazards Addressed	Drought, Wildland Fire						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	BOR, Tribal Water Resources, Tribal Planning						
Partners	Emergency Management, Tribal EPA						
Completion Timeframe	2 to 3 years	Cost	\$10,000 to \$20,000				
Funding Source	Grants (tribal, state and federal)						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	4	5	5	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Political: Opposition from citizens pertaining to personal water usage.

SRST/SC Project PR-4: Create post-disaster debris management plan.

Description/Benefit		Create management plan to coordinate collection and transportation of waste from structures and livestock for all tribal districts/tribal communities and county jurisdictions to improve resiliency and recovery efforts, and maintain quality of life. The Sioux County Landfill has already been designated as the temporary staging site for disposal of waste. A photo of the landfill is shown on the following page.					
Hazards Addressed		All					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		Medium					
Responsible Agency		Tribal EPA, Tribal Planning, Tribal Public Works, Tribal Roads					
Partners		Emergency Management, FEMA, IHS, NDDES, Standing Rock Sanitation (private company)					
Completion Timeframe		2 to 3 years	Cost	\$10,000 to \$20,000			
Funding Source		Grants (tribal, state and federal)					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Figure PR-4.1 – Sioux County Landfill



SRST/SC Project PR-5: Refine existing or create new memorandums of understanding (MOUs) for grassland fire mutual aid agreements.

Description/Benefit	To ensure all MOUs and mutual aid agreements are up-to-date.						
Hazards Addressed	Wildland Fire (all)						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	New						
Priority	High						
Responsible Agency	BIA Wildland Fire Management, Emergency Services (ambulance, fire, law enforcement)						
Partners	BIA, County Commission, FEMA, Tribal Planning, Tribal Council, USFS						
Completion Timeframe	1 to 3 years			Cost	Up to \$5,000		
Funding Source	Local budgets. Grants (tribal, state and federal)						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			BIA, committee and tribal council approval. County commission and city council approval.		

SRST/SC Project PR-6: Assure Standing Rock Sioux Tribe/Sioux County, N.D. has FEMA-Approved Mitigation Plan.

Description/Benefit	Continuous assessing of vulnerabilities to the tribe and county, and update of hazards and impacts.						
Hazards Addressed	All						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Done. Ongoing and continue on a five-year cycle.						
Priority	High						
Responsible Agency	Standing Rock Sioux Tribe Emergency Management, Sioux County Emergency Management						
Partners	Tribal Council, County Commission, FEMA, NDDDES, SDDPS						
Completion Timeframe	4 to 5 years	Cost		\$30,000 to \$50,000			
Funding Source	Tribal, state, and federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Hazard Mitigation Plan (all other existing mechanisms)		All elements			Approval by committee and tribal council. Approval NDDDES and FEMA. Adoption by tribal districts and county jurisdictions.		

SRST/SC Project PR-7: Assure continued monitoring and maintenance of the dams located in the Standing Rock Sioux Tribe Nation and Sioux County, N.D.

Description/Benefit		To protect human life and property from dam failures. Update emergency action plans (EAPs) for dams on a continued basis, if applicable.					
		<ul style="list-style-type: none"> • Froelich Dam (state-owned) • Prairie Dam #1 (Bullhead Dam) • Prairie Dam #2 (Keeps Eagle Dam) • Shadehill Dam (located in South Dakota west of the reservation, but poses risk to the Tribe) 					
Hazards Addressed		Dam Failure, Flood					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		BIA, BOR, IHS, Shadehill Safety of Dams, Tribal EPA, Tribal Game and Fish, Tribal Safety of Dams Officer, Tribal Water Resources					
Partners		FEMA, State Water Board, SWC, State Game and Fish, USACE					
Completion Timeframe		Ongoing		Cost	TBD		
Funding Source		Tribal, state and federal grants					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	5	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, Standing Rock Sioux Tribe Dam Failure Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project PR-8: Conduct hazardous materials flow study to increase education and awareness of the location and transportation routes of hazardous materials and risks involved, and methods to mitigate releases.

Description/Benefit		Make county emergency management, public officials, and the public aware of risk from hazardous materials and keep informed on current transportation shipping methods, storage methods and staging/transfer sites. <u>SPECIFIC ATTENTION AND RESEARCH SHALL BE PAID TO DAKOTA ACCESS PIPELINE.</u>					
Hazards Addressed		Hazardous Material Release (All)					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		Emergency Management, Tribal EPA, Tribal Game and Fish, Tribal Water Resources					
Partners		NDDDES, NDDH, SDDPS, THPO, Tribal Land Management, USF&W. OSROs (oil spill recovery organization), regional hazmat teams.					
Completion Timeframe		1 to 2 years (depending on advancement of proposed pipeline)	Cost	\$20,000 to \$50,000			
Funding Source		Dakota Access Pipeline and SUNOCO Oil. Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	4	5	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element Utilized</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project PR-9: Update/expand existing and/or create new planning and regulatory capabilities to address new development.

Description/Benefit		Build the planning and regulatory capability of SRST/SC, tribal districts/tribal communities and county jurisdictions by updating existing and/or expand and create new plans, policies, and ordinances. To ensure new and existing structures adhere to building standards to withstand impacts from hazards Energy development (oil and gas) in the western portion of the state may lead to economic and population growth.					
		<p><u>Standing Rock Sioux Tribe/Tribal Districts and Tribal Communities:</u> Abandoned Building/Nuisance Ordinance, Commercial Animal Feed Operation, Crew Camp Ordinance, Evacuation Plan, Flood Operations Management Plan, Grain Bin Ordinance, Hazardous Material Flow Study, Wildfire Protection Plan, Storm Water Management Plan</p> <p><u>Sioux County/County Jurisdictions:</u> Capital Improvement Plan, Commercial Animal Feed Operation, Evacuation Plan, Flood Operations Management Plan, Hazardous Material Flow Study, Storm Water Management Plan</p>					
Hazards Addressed		All					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		Tribal Council, Tribal EPA, Tribal Health, Tribal Planning, County Commission					
Partners		Emergency Management, Tribal IT					
Completion Timeframe		Ongoing	Cost		\$0 to \$10,000		
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	4	5	5	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element Utilized</u>			<u>Process for Integration</u>		
Comprehensive plan, community wildfire protection plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project I-1: Repair and restore riparian areas.

Description/Benefit	Restore riparian areas to stabilize river banks and reduce/eliminate erosion. Rock Creek District: Creek traversing through Bullhead CDP. Running Antelope District: Grand River at S.D. State Highway 63 Bridge south of Little Eagle CDP. Wakpala District: Oak Creek at Hunkpapa Loop/Manto Road north of Wakpala CDP.						
Hazards Addressed	Flood (Riverine), Severe Summer Weather, Severe Winter Weather						
Affected Area	Districts of Rock Creek, Running Antelope and Wakpala						
Project Status	Ongoing and continue						
Priority	High						
Responsible Agency	USACE						
Partners	Emergency Management, HUD, IHS, Tribal EPA, Tribal Planning, Tribal Roads, Tribal Water Resources						
Completion Timeframe	5 to 10 years	Cost		Project specific			
Funding Source	Tribal, state and federal grants.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	3	3	5	3	29
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and Tribal Council approval. USACE approval.		

Political and legal: Challenges with USACE. Environmental: Potential for habitat destruction. Review/permit process is lengthy.

Figure I-1.1 – Oak Creek at Hunkpapa Loop/Manto Road north of Wakpala CDP.



SRST/SC Project I-2: Retrofit and/or upgrade bridges, culverts and roads, and raise road grades to withstand natural hazards.

Description/Benefit		Increase resiliency of bridges, culverts and roads to maintain transportation to assure economic vitality and access for emergency services. A detailed description of each bridge, culvert and road is shown on the following page. Photos of select project sites are also shown on the following pages.					
Hazards Addressed		Flood (Overland and Riverine), Severe Summer Weather, Severe Winter Weather					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		Ongoing and continue/new					
Priority		High					
Responsible Agency		Tribal Council, Tribal Planning, Tribal Roads, Tribal Water Resources					
Partners		Emergency Management, FEMA, NDDES, NDDOT, SWC, USACE					
Completion Timeframe		10+ years	Cost	Project specific			
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	3	4	32
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, Standing Rock Hazardous Materials Plan, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Economic: high cost with these projects.

Environmental: Disturbances to water quality and wildlife habitat, soil disturbances.

SRST/SC Project I-2: Retrofit and/or upgrade bridges and culverts, and raise road grades to withstand natural hazards.

Bridges:

- Rice Street Bridge – City of Solen in Sioux County, North Dakota.
- S.D. State Highway 63 – South of Little Eagle CDP in Running Antelope District.
- Tasunka Street Bridge – Bullhead CDP in Rock Creek District.
- 13th Avenue Bridge near access road Standing Rock Airport.

Culverts:

- Highway 24 east of the city of Solen in Sioux County, North Dakota
- All located on Highway 1806 between the city of Fort Yates and the South Dakota State Line.
- Highway 1806 at Hunkpapa Creek approximately 2.5 miles northwest of Kenel CDP.
- Highway 1806 approximately 6 miles northwest of Kenel CDP.

Road Grade Raises:

- Former causeway in Fort Yates adjacent to current causeway/92nd St. Needed as secondary access point/evacuation route to eliminate isolation of the city of Fort Yates and Standing Rock Agency if Fort Yates Causeway/92nd St. became blocked or destroyed. **A photo of this project is shown on the following page.**
- 13th Avenue from Fort Yates Causeway/92nd St. to 94th Street south of Standing Rock Airport

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Figure I-2.1 – Road Grade Raise of Former Causeway in the city of Fort Yates



Figure I-2.2 – Road Grade Raise of 13th Avenue from Fort Yates Causeway/92nd St. to 94th Street south of Standing Rock Airport



Figure I-2.3 – Retrofit of 13th Avenue Bridge near access road Standing Rock Airport.



SRST/SC Project I-3: Relocate and/or expand sewage lagoons to reduce or eliminate impacts from flooding.

Description/Benefit		Sewage lagoons for sanitary sewer systems are located in flood-prone areas. Relocation of sewage lagoons would ensure continued sanitary sewer service to prevent backups and reduce or eliminate property damage. Project includes relocation of existing facilities in affected district, jurisdiction, tribal community, non-tribal community listed below.					
Hazards Addressed		Flooding, Severe Summer Weather, Severe Winter Weather					
Affected Area		<ul style="list-style-type: none"> • City of Solen (Sioux County) • Long Solider District (City of Fort Yates, Standing Rock Agency, Sioux Village) • Rock Creek District (Bullhead CDP) • Running Antelope District (Little Eagle CDP) • Wakpala District (Wakpala CDP) 					
Project Status		Ongoing and continue					
Priority		High					
Responsible Agency		BIA, City Council, IHS, Public Utilities, Tribal EPA, Tribal Health, Tribal Planning					
Partners		Emergency Management, Emergency Services (ambulance, fire, law enforcement), NDTOA, THPO					
Completion Timeframe		10+ years	Cost	Project specific			
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	4	5	5	3	1	28
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

Administrative: Lack of local expertise to complete projects. Economic: High cost of projects.

SRST/SC Project I-4: Retrofit Tribal Administrative Services Center to reduce or eliminate impacts from hazards.

Description/Benefit		Increase resiliency of critical facilities and infrastructure to assure economic vitality and access for emergency services.					
		<ul style="list-style-type: none"> • Install impact-resistant windows. • Upgrade Areas of Refuge. 					
Hazards Addressed		All					
Affected Area		Long Soldier District					
Project Status		Ongoing and continue					
Priority		Medium					
Responsible Agency		Tribal Planning, Tribal Public Works					
Partners		Emergency Management					
Completion Timeframe		1 to 3 years	Cost		Project specific		
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	3	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and Tribal Council approval.		

SRST/SC Project I-5: Install permanent generators, or upgrade existing generators, at critical facilities and infrastructure.

Description/Benefit		Upgrade existing generators or install new generators to establish permanent source of backup power to maintain continued operation of the following critical facilities and infrastructure: <u>Upgrade:</u> All district buildings/headquarters (8 total), KLND Radio Station, Sioux County Courthouse <u>Install new:</u> Tribal Administrative Services Center, USDA Food Distribution Warehouse, Public School at Wakpala, BIA Schools at Running Antelope and Rock Creek, Selfridge High School, Solen Public School, Backflow prevention gate on levee surrounding city of Fort Yates.					
Hazards Addressed		All					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		Emergency Management, SRSTDC					
Partners		FEMA, NDDDES, SDDPS					
Completion Timeframe		1 to 5 years	Cost	\$60,000 to \$200,000 per generator			
Funding Source		Tribal, state and federal grants. Potential for private sources.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	3	5	33
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element Utilized</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Committee and tribal approval. County commission and city council approval.		

SRST/SC Project I-6: Bury power lines.

Description/Benefit	Bury power lines to reduce/eliminate occurrences of power outages and blocked roads from severe weather. <ul style="list-style-type: none"> • 32nd Avenue to N.D. Highway 6 east of the CDP of Porcupine. • Rural areas southeast of the city of Selfridge, North Dakota 						
Hazards Addressed	All						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	New						
Priority	Low						
Responsible Agency	Public Utilities						
Partners	Emergency Management						
Completion Timeframe	10+ years			Cost	\$50,000 per mile		
Funding Source	Local, state, and federal grants; private sources. Cascade effect with cost passed onto consumers.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
4	5	5	4	5	4	5	32
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element Utilized</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Approval by committee and tribal council. Approval by county commission and city council.		

Social: Negative affect on cultural resources.

Political and Economic: High cost potentially passed to consumers.

SRST/SC Project I-7: Identify and develop locations for new living snow fences.

Description/Benefit	Develop new living snow fences to reduce accumulation of snow blocking roads to maintain visibility and reduce road maintenance/plowing and transportation accidents.						
	<ul style="list-style-type: none"> • Highway 6 immediately north of the ND/SD state line at the curve. • Highway 6 between the city of Solen and the city of Selfridge. 						
Hazards Addressed	Severe Winter Weather, Windstorm						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	Ongoing and continue						
Priority	Medium						
Responsible Agency	County Road Dept., NDDOT, Tribal Roads						
Partners	Emergency Management, Emergency Services (ambulance, fire, police), IRR, NRCS						
Completion Timeframe	Ongoing	Cost	\$25,000 to \$100,000 per project				
Funding Source	Tribal, state and federal grants						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	4	4	4	4	31
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Approval by committee and tribal council. Approval by county commission and city council. NDDOT approval.		

SRST/SC Project I-8: Install fire breaks.

Description/Benefit	Plan and install fire breaks to reduce/eliminate the risk to wildland fires, and losses to people and property. <ul style="list-style-type: none"> All tribal district communities (Bullhead, Cannon Ball, Kenel, Little Eagle, McLaughlin, Porcupine, Wakpala) All county jurisdictions (cities of Solen and Selfridge) 						
Hazards Addressed	Severe Summer Weather, Wildland Fire						
Affected Area	Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)						
Project Status	New						
Priority	High						
Responsible Agency	BIA Wildland Fire Management, district planning commission, Tribal Planning						
Partners	NRCS						
Completion Timeframe	1 to 3 years			Cost	Project specific		
Funding Source	Tribal, state and federal grants.						
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	2	4	3	29
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, community wildfire protection plan, economic development plan, evacuation and shelter plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Approval by committee and tribal council. Approval by county commission and city council.		

Legal: Landowners would resist against destruction of land for farming and ranching.

Environmental: Significant disturbance of soil and ground.

SRST/SC Project I-9: Upgrade existing storm shelters and construct new storm shelters.

Description/Benefit		Provide safe area of refuge for permanent residents and temporary populations a seasonal/recreational population from severe weather. Reduce/eliminate loss of life from hazards and man-made threats. Upgrade existing shelters to be fully ADA compliant and pet-friendly. Construct new storm shelters in jurisdictions currently lacking a storm shelter.					
Hazards Addressed		All					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities) Existing Shelters and Locations: All local district community centers, Selfridge High School, Solen Public School New Shelters and Locations: Standing Rock Community School, Sitting Bull College					
Project Status		New					
Priority		Medium					
Responsible Agency		Planning Commission, HUD, Tribal Council					
Partners		Emergency Management, FEMA, NDDES, SDDPS					
Completion Timeframe		1 to 3 years	Cost		Project specific		
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	4	5	34
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, evacuation and shelter plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			Approval by committee and tribal council. Approval by county commission and city council.		

SRST/SC Project I-10: Construct flood control measures and drainage improvements to reduce or eliminate occurrences of overland flooding.

Description/Benefit		Construction of detention/retention ponds, floodwalls, berms, revetments or bioengineered bank-stabilization techniques to slow runoff of overland flooding from heavy rains and snowmelt, and flood waters from riverine flooding. Detention/retention ponds provide controlled release of water and reduce/eliminate areas and structures from being inundated with flooding.					
		<p>See photos on the following pages.</p> <ul style="list-style-type: none"> • Retrofit existing backflow prevention gate/valve with automatic hydraulic system and/or install pump station on city of Fort Yates Levee. Install generator for backup power. • Improve grading near city of Fort Yates City Park to improve drainage. • Intersection of 13th Avenue and 94th street south of Standing Rock Airport. 					
Hazards Addressed		Flood (riverine and overland), Severe Summer Weather, Severe Winter Weather					
Affected Area		Standing Rock Sioux Tribe (all districts) and Sioux County, N.D. (all incorporated cities)					
Project Status		New					
Priority		High					
Responsible Agency		Fort Yates City Council					
Partners		Emergency Management, FEMA, NDDDES, SDDPS					
Completion Timeframe		1 to 3 years	Cost		Project specific		
Funding Source		Tribal, state and federal grants.					
Values: 1 is low (negative impact and/or too costly) -- Value of 5 is high (positive impact/higher benefit compared to cost)							
Social	Technical	Administrative	Political	Legal	Economic	Environmental	TOTAL
5	5	5	5	5	4	5	35
Integration of Mitigation Plan Requirements into Local Planning Mechanisms							
<u>Planning Mechanisms Utilized</u>		<u>Plan Element</u>			<u>Process for Integration</u>		
Comprehensive plan, economic development plan, hazard mitigation plan, Standing Rock LEOP, strategic plan		Capability assessment, hazard history, risk assessment data			City council approval		

Figure I-10.1 – City of Fort Yates Levee Backflow Gate Retrofit



Figure I-10.2 – City of Fort Yates City Park Grading Improvements



Figure I-10.3 – Intersection of 13th Avenue and 94th street south of Standing Rock Airport.



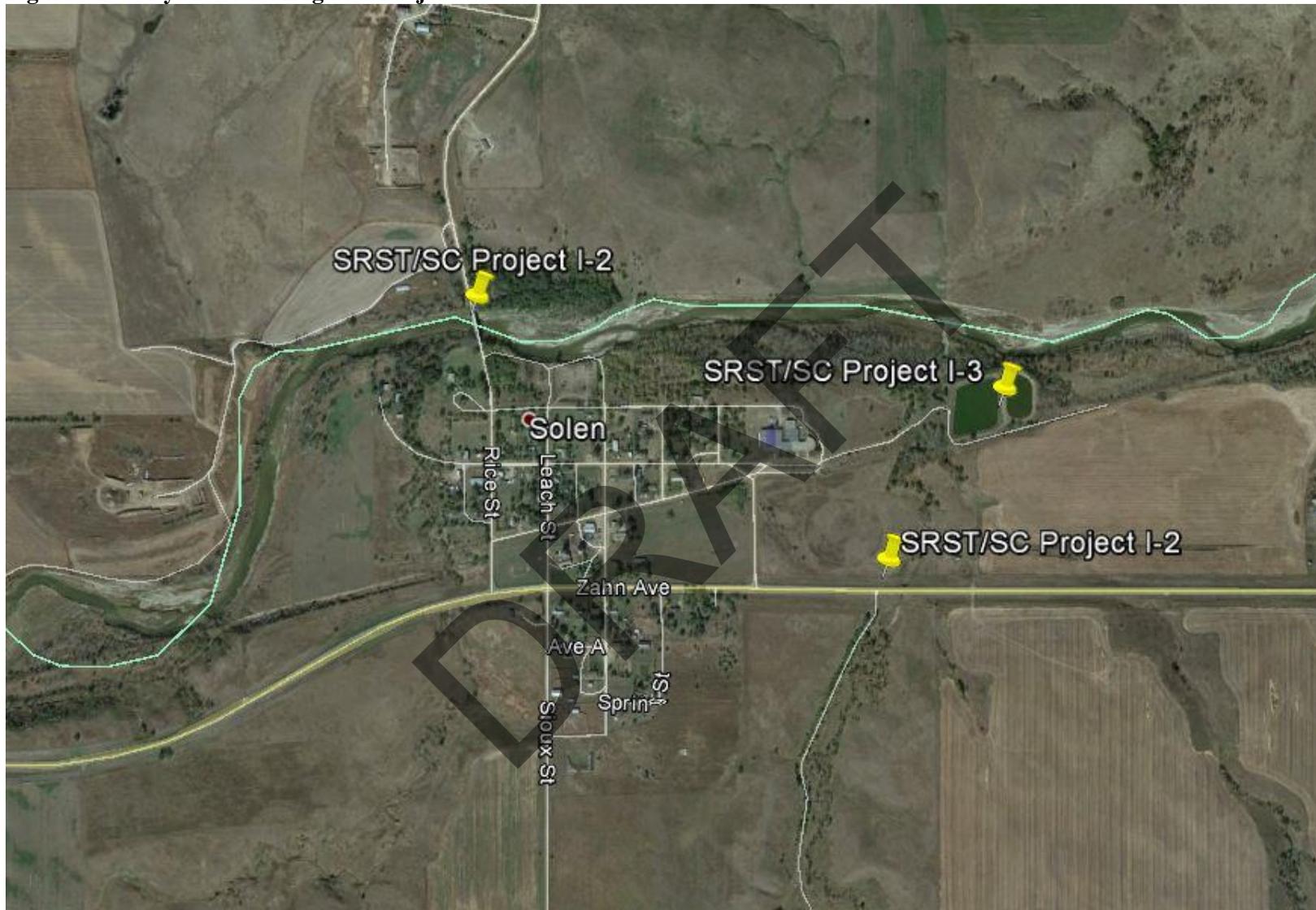
Mitigation Project Mapping

Maps identify locations where mitigation projects are necessary and assist in implementation of those projects. The maps (referred to as figures) on the following pages provide aerial imagery of the location of mitigation projects included in the mitigation strategy for SRST/SC. The figures are shown in the following order.

- **Figure 7.1 – City of Solen, Sioux County, North Dakota**
- **Figure 7.2 – City of Fort Yates, Sioux County, North Dakota and Sioux Village General Vicinity**
- **Figure 7.3 – Areas North of Kenel CDP**
- **Figure 7.4 – Bullhead CDP**
- **Figure 7.5 – Little Eagle CDP**
- **Figure 7.6 – Wakpala CDP**

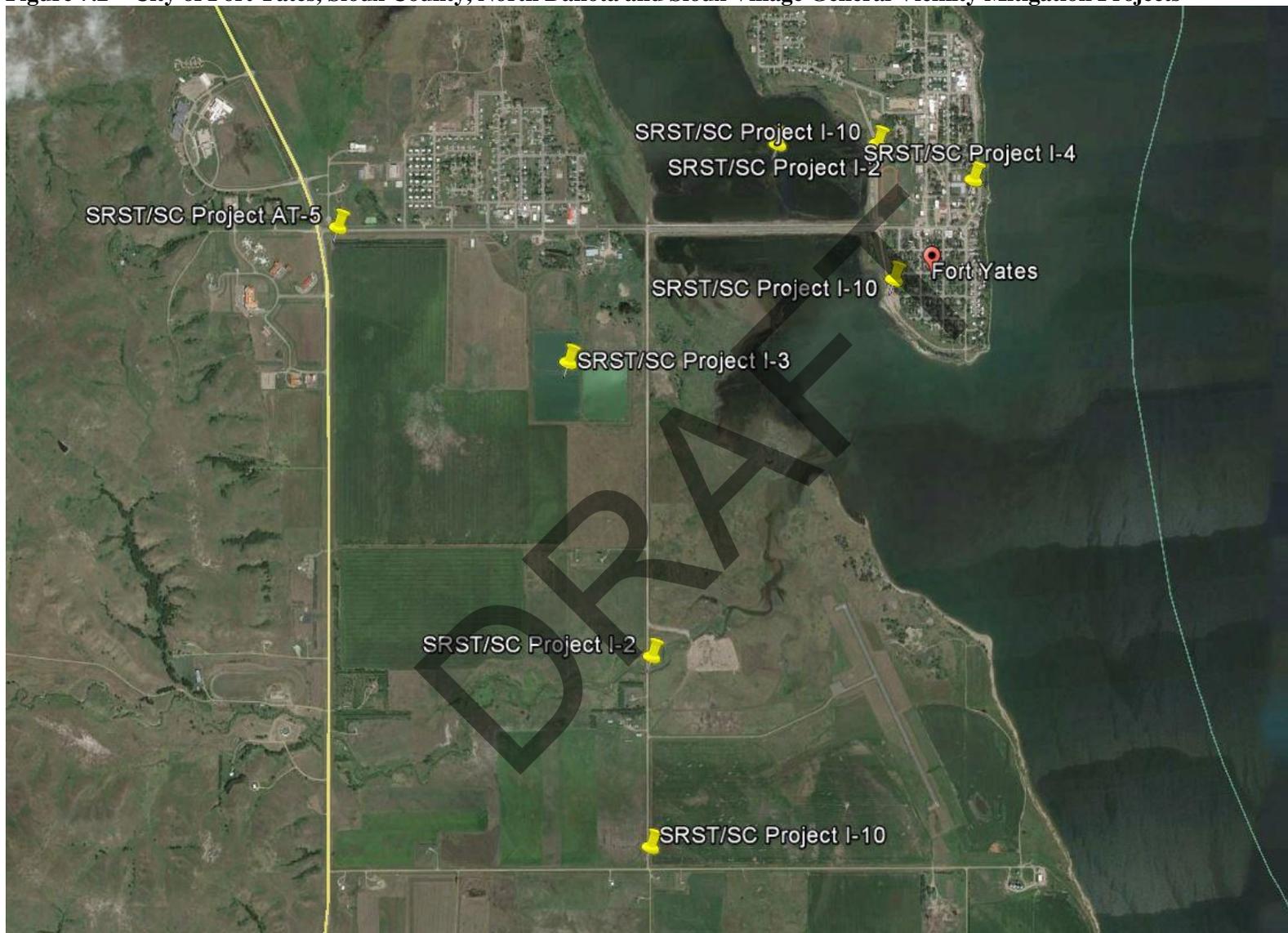
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Figure 7.1 – City of Solen Mitigation Projects



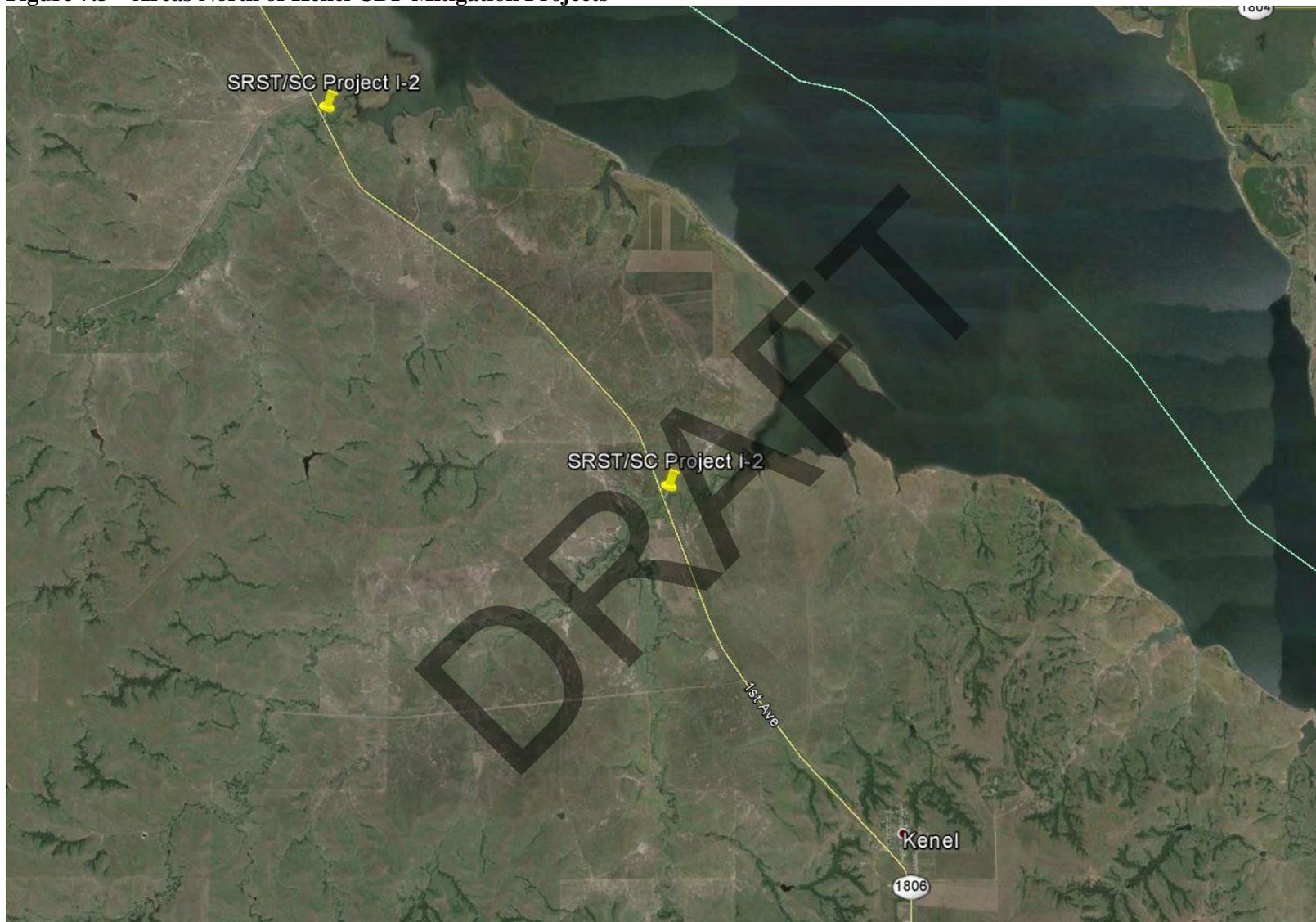
Source: Google Earth

Figure 7.2 – City of Fort Yates, Sioux County, North Dakota and Sioux Village General Vicinity Mitigation Projects



Source: Google Earth

Figure 7.3 – Areas North of Kenel CDP Mitigation Projects



Source: Google Earth

Figure 7.4 – Bullhead CDP Mitigation Projects



Source: Google Earth

Figure 7.5 – Little Eagle CDP Mitigation Projects



Source: Google Earth

Figure 7.6 – Little Eagle CDP Mitigation Projects



Source: Google Earth

Table 7.3 shows each mitigation project and the hazard or hazards it addresses. While some projects are specific to one or two hazards, others address all the hazards. Strategies aimed at reducing the effects of hazards on new and existing buildings and infrastructure are marked with an asterisk (*) next to the project number on the far left column in Table 7.3.

Table 7.3 – Mitigation Project Number and Hazard Addressed

Mitigation Capability Category/Mitigation Project Type and Project Number	Communicable Disease	Dam Failure	Drought	Flood	Hazardous Material Release	Homeland Security Incident	Severe Summer Weather	Severe Winter Weather	Transportation Accident	Urban Fire/Structure Collapse	Wildland Fire	Windstorm
<u>Administrative and Technical</u>												
Project 1*	X	X	X	X	X	X	X	X	X	X	X	X
Project 2*	X	X	X	X	X	X	X	X	X	X	X	X
Project 3*										X	X	
Project 4*				X	X		X				X	
Project 5					X		X			X	X	X
Project 6*	X	X	X	X	X	X	X	X	X	X	X	X
Project 7*	X	X	X	X	X	X	X	X	X	X	X	X
<u>Education and Outreach</u>												
Project 1	X	X	X	X	X	X	X	X	X	X	X	X
Project 2			X				X	X			X	
Project 3			X	X			X	X			X	
Project 4*			X	X			X	X			X	
Project 5*				X								
Project 6*				X								
Project 7	X											
<u>Planning and Regulatory</u>												
Project 1			X	X			X	X				
Project 2*	X	X	X	X	X	X	X	X	X	X	X	X
Project 3*			X								X	
Project 4*	X	X	X	X	X	X	X	X	X	X	X	X
Project 5*											X	
Project 6*	X	X	X	X	X	X	X	X	X	X	X	X
Project 7*		X		X								
Project 8*					X							
Project 9*	X	X	X	X	X	X	X	X	X	X	X	X

Table 7.3 – Mitigation Project Number and Hazard Addressed - Continued

Mitigation Capability Category/Mitigation Project Type and Project Number	Communicable Disease	Dam Failure	Drought	Flood	Hazardous Material Release	Homeland Security Incident	Severe Summer Weather	Severe Winter Weather	Transportation Accident	Urban Fire/Structure Collapse	Wildland Fire	Windstorm
Infrastructure												
Project 1*				X			X	X				
Project 2*				X			X	X				
Project 3*				X			X	X				
Project 4*	X	X	X	X	X	X	X	X	X	X	X	X
Project 5*	X	X	X	X	X	X	X	X	X	X	X	X
Project 6	X	X	X	X	X	X	X	X	X	X	X	X
Project 7*								X				X
Project 8*								X			X	
Project 9*	X	X	X	X	X	X	X	X	X	X	X	X
Project 10*				X			X	X				

8. Tribal/County Mitigation Capability Assessment

Capability for mitigation is divided into four categories: administrative and technical, education and outreach, financial, and planning and regulatory. The following assessment highlights the mitigation capabilities of the Standing Rock Sioux Tribe, Sioux County, N.D. (SRST/SC), tribal districts/tribal communities and county jurisdictions.

- Table 8.1 highlights **administrative and technical** capabilities.
- Table 8.2 highlights **education and outreach** capabilities.
- Table 8.3 highlights **financial** capabilities.
- Table 8.4 shows additional **planning and regulatory** capabilities.
- Table 8.5 lists **state and federal sources** for mitigation.

Current planning mechanisms, and the process for integration of the mitigation plan into planning mechanisms, is discussed after Table 8.4 and before Table 8.5. Also, the process to integrate the mitigation plan into existing planning mechanisms for the tribe and county is shown following each mitigation project in Chapter 6, Mitigation Strategy. Table 8.5 lists state and federal sources for mitigation.

Boxes checked with an “X” indicate the tribe, county, tribal districts/tribal communities and county jurisdictions possess the capability; while boxes left blank indicates it is lacking the capability. An asterisk (*) indicates a capability that can be obtained through the tribe, county, contracted services, or an outside entity. Narratives following each table detail the mitigation capabilities of Standing Rock Sioux Tribe and Sioux County, N.D. The mitigation capabilities for tribal districts/tribal communities and county jurisdictions are also reflected in the table, but narratives discussing the capabilities are shown in the risk assessment portion of each hazard profile in Chapter 5, Threat and Hazard Identification Risk Assessment.

Each identified resource in the four mitigation capability categories can be used to implement mitigation strategies and access funding for projects. A definition of each mitigation capability category is provided.

Administrative and Technical: Identification of administrative and technical capabilities, which include: staff and their skills and tools for mitigation planning to implement specific mitigation actions.

Education and Outreach: Identification of education and outreach programs, and methods already in place to implement mitigation activities and communicate hazard-related information.

Financial: Identification of access to or eligibility to use funding resources for hazard mitigation.

Planning and Regulatory: Plans, policies, codes, and ordinances adopted and in place that prevent and reduce the impacts of hazards.

Table 8.1 shows the administrative and technical capabilities of SRST/SC, tribal districts/tribal communities and county jurisdictions. A box marked with an “X” indicates SRST/SC, tribal districts/tribal communities and county jurisdictions have or have access to the administrative or technical capability for mitigation. An asterisk (*) denotes an administrative and technical capability that can be obtained through the tribe, county, contracted services, or an outside entity.

Table 8.1 – Administrative and Technical Capabilities

Administrative and Technical Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
911 Director and User Board	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Chief Building Official/Inspector	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Tribal Council/County Commission	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Civil Engineer	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Disaster Committee Task Force	X	*	*	*	*	*	*	*	*	*				
Emergency Management	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Emergency Services (ambulance, police, fire)	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Emergency Services GIS/GPS capable	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Emergency Siren (dispatch-activated)	X	X	X	X	X	X	X	X	X	X				
Emergency Siren (manual-activated)	X	X	X	X	X	X	X	X	X	X	X		X	X
Fire Index Sign	X											X	X	X
Fire ISO Rating												10	10	10
Firewise Certification														
Floodplain Administrator/Mngr.	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Generator (permanent)	X	X	X	X	X	X	X	X	X	X	X			
Generator (portable)	X													
GIS Coordinator	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Grant Writing Staff	X	*	*	*	*	*	*	*	*	*	X	*	*	*
HAZUS Analysis														
Infrastructure Maintenance Programs	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Local Emergency Planning Committee (LEPC)											X	*	*	*
Mitigation Planning Committee	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Mutual Aid Agreements	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Navigation. Signs for Em. Services	X	X	X	X	X	X	X	X	X	X	X	*	*	*
Other Staff for Administration	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Planning Commission	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Planning and Zoning Administrator	X	X	X	X	X	X	X	X	X	X	X	*	*	*

Table 8.1 – Administrative and Technical Capabilities - Continued

Administrative and Technical Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Planning and Zoning Board	X	X	X	X	X	X	X	X	X	X	X	*	*	*
Planning Services	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Public Works/Road Department	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Reporting of Data to Em. Mngr.	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Sheriff	X	*	*	*	*	*	*	*	*	*	X	*	*	*
StormReady Certification	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Warning Systems/Services	X	*	*	*	*	*	*	*	*	*	X	*	*	*

*Denotes administrative and technical capability that can be obtained through the tribe, county, contracted services, or an outside entity.

Standing Rock Sioux Tribe: Standing Rock Sioux Tribe has an active tribal council. The tribe has building inspection services provided BIA and by tribal government personnel that also administer CBDG funding. The tribe has a 9-1-1 director/ user board, which provides service to all tribal districts. The tribe does not have a tribal engineer, but contracts with several engineering firms in the area for engineering services on an as-needed basis. The tribe has an active full-time emergency manager. The tribe has ambulance and law enforcement services, and limited fire protection. The BIA provides law enforcement with assistant through the tribal game and fish department. The tribe has a wildland fire department, but lacks urban fire departments. GIS/GPS capabilities are provided by Tribal Land Management and Tribal Water Resources. Each tribal district has an emergency siren located at their district office that can be manually-activated, activated through a phone code or by tribal dispatch using the same phone code. The tribe is currently purchasing four new sirens; one in Fort Yates, one outside Fort Yates city limits, one in Sioux Village, and fourth at an undetermined location at this time. The tribe has one fire index sign located outside the BIA office in the city of Fort Yates. The tribe and tribal districts/tribal communities do not have a fire ISO rating as it lacks an urban fire department. Therefore, the tribe and districts/tribal communities are uninsurable for fire insurance. The tribe does not have Firewise Certification.

Tribal Water Resources is the floodplain administrator for the tribe. The tribe has permanent generators located at each district office. Tribal Game and Fish has a portable generator. GIS coordination is provided by Tribal Land Management and Tribal Water Resources. Grant writing is provided by two tribal planners and emergency management. The tribe does not have HAZUS Analysis. Infrastructure maintenance is provided by Tribal Public Works. The BIA is responsible for private homes and buildings. The tribe has a disaster community, which is essentially the local emergency planning committee (LEPC). The tribe also has a mitigation planning committee consisting of various tribal leaders and officials, and stakeholders. The tribe has mutual aid agreements for emergency services with

the county, non-tribal community departments and neighboring counties. The tribe and tribal districts have navigation signs for emergency services. However, some tribal communities lack adequate signage.

The tribe has other staff for administration, which provides services to each tribal district. The tribe and each tribal district have a planning commission, zoning administrator, and zoning board. The tribe has two full-time planners. Tribal Public Works provides maintenance to tribal facilities and Tribal Roads provides maintenance to roads and infrastructure. The planning commission for each tribal district reports hazard data to emergency management, which reports data to the state through WebEOC. The tribe has law enforcement through the BIA and has access to the Sioux County Sheriff. The tribe has had StormReady Certification in the past, but currently does not. The tribe maintains a building alert system consisting of intercom and mass email alerts. Schools also have a call system for parents. TV alerts are received from stations in Bismarck, N.D., Mobridge, S.D. and radio alerts from KLND.

Sioux County, N.D.: Sioux County N.D. has an active county commission. The county receives inspector services through a contract, but lacks a full-time building official/inspector/board. The county sheriff also serves as the 9-1-1 coordinator and coroner for the county and incorporated cities. county does not have a full-time engineer, but can contract with an outside entity. The county has a full-time emergency manager. The county auditor serves as the floodplain administrator. The county has ambulance and law enforcement services, and limited fire protection. County emergency services do not have GIS/GPS capabilities aside from smart phones, but is in the process of implementing this technology. The county has dispatch-activated and manually-activated emergency sirens at the cities of Selfridge and Solen, but not in the city of Fort Yates. The county has fire index signs as each incorporated jurisdiction. The fire ISO rating for county jurisdictions is 10, which makes them uninsurable for fire insurance. The county does not have Firewise Certification.

The county has a permanent generator at the Sioux County Courthouse which needs to be upgraded. The county does not have a GIS coordinator, but can receive services through the tribe, state, contract or outside entity. The county auditor has grant writing capability. The county does not have HAZUS Analysis. Infrastructure maintenance is conducted by county road department on an as-needed basis. The county has a local emergency planning committee (LEPC). The county also has a mitigation planning committee through Standing Rock Sioux Tribe. The county has mutual aid agreements with the tribe and neighboring counties. The county has navigation signage for emergency services.

The county has staff for administration. The county has a planning commission, zoning administrator, and planning and zoning board. Each city jurisdiction's city council serves as the planning commission, planning and zoning board. A member of the city council serves as the zoning administrator. The county does not have a full-time planner, but can contract with the tribe or an outside entity. The county has a road department. The city council for each incorporated jurisdiction reports hazard data to emergency management, which reports data to the state through WebEOC. The county has a full-time sheriff. The county does not have StormReady Certification. The county has a call system for parents through the public school system. The county receives radio and TV alerts through stations located in Bismarck, N.D., Mobridge, S.D., and KLND radio.

Table 8.2 shows the education and outreach capabilities of SRST/SC, tribal districts/tribal communities and county jurisdictions. A box marked with an “X” indicates SRST/SC, tribal districts/tribal communities and county jurisdictions have or have access to the education and outreach capability for mitigation. An asterisk (*) denotes an education and outreach capability that can be obtained through the tribe, county, contracted services, or an outside entity.

Table 8.2 – Education and Outreach Capabilities

Education and Outreach Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Tribal/County and District/City Events	X	*	*	*	*	*	*	*	*	*	X	*	*	*
County Emergency Management	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Entities Providing Public Education	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Non-Profit Organizations	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Other														
Private Entities	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Public-Private Partnerships	X	*	*	*	*	*	*	*	*	*	X	*	*	*
School Programs	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Social Media	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Website with Hazard Education	X	*	*	*	*	*	*	*	*	*	X	*	*	*

*Denotes education and outreach mitigation capability available to the through the tribe, county, contracted services, or an outside entity.

Standing Rock Sioux Tribe: The tribe has events where education and outreach can be conducted such as pow-wows. Tribal emergency management, in collaboration with county emergency management, conducts education and outreach through regular visits to tribal districts/tribal communities and county jurisdictions, and through local media and the LEPC. Entities in addition to emergency management providing public education include Tribal Water Resources, school systems, Indian Health Services (IHS), BIA, and Tribal Game and Fish. Local citizen groups/non-profits/public-private partnerships include the disaster committee task force, Red Cross, and county public health and LEPC. No private entities provide public education and outreach. The tribe had StormReady Certification in the past, but no longer has it. The tribe does not have Firewise Certification. School programs targeting hazard education are conducted by emergency management, emergency services, Tribal Health, Tribal Water Resources and the Tribal Council. The tribe has a website and social media.

Sioux County, N.D.: The county has events where education and outreach can be conducted such as parades and fundraisers. Emergency management, in collaboration with tribal emergency management, conducts education and outreach through regular visits to tribal districts and communities, and through local media and the LEPC. Entities in addition to emergency management providing public education include school systems, public health, fire departments, and county road department. Local citizen

groups/non-profits/public-private partnerships include the tribal disaster committee task force, Red Cross, and county public health and LEPC. No private entities provide public education and outreach. The county does not have StormReady Certification or Firewise Certification. School programs targeting hazard education are conducted by emergency management, emergency services and county road department. The county does not have a website and social media.

Table 8.3 shows the financial capabilities of SRST/SC, tribal districts/tribal communities and county jurisdictions. A box marked with an “X” indicates SRST/SC, tribal districts/tribal communities and county jurisdictions have or have access to the financial capability for mitigation. An asterisk (*) denotes a financial capability that can be obtained through the tribe, county, contracted services, or an outside entity.

Table 8.3 – Financial Capabilities

Financial Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Authority to Levy Taxes for Specific Purposes (sales tax or special assessments)	X	*	*	*	*	*	*	*	*	*	X	X	X	X
Building Permits	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Capital Improvements Fund	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Comm. Dev. Block Grant (CDBG)	X	*	*	*	*	*	*	*	*	*	X	X	X	X
Electric Utility Fee														
Gen. Oblig. Bond/Special Tax Bond	X	*	*	*	*	*	*	*	*	*	X	X	X	X
Impact Fees for New Development														
Other														
Private Entities or Activities	X	X	X	X	X	X	X	X	X	X	X	*	*	*
Road District Tax														
Sanitary Sewer Utility Fee														
State Funding Programs	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Storm Water Utility Fee														
Street Maintenance Fee												*	*	*
Water Utility Fee	X	*	*	*	*	*	*	*	*	*				
Wheel Tax														

* Denotes financial mitigation capability available to the jurisdiction through the tribe, county, contracted services, or an outside entity.

Standing Rock Sioux Tribe: The tribe has the authority to levy taxes for specific purposes, such as sales tax or special assessments, to raise revenue if warranted, but has not done so in the recent past. Building permits are required for new construction, repair and renovation. The tribe has a capital improvements

fund through tribal economic development with funds available upon request. Tribal districts can also receive funding upon request. The tribe qualifies for funding through the Community Development Block Grant (CDBG) as it meets the low-to-moderate income requirement. All tribal districts/tribal communities also qualify and would apply for CDBG funding through the tribe. Funding from the CDBG program has been used in the past. The tribe and tribal districts have or have used general obligation bonds and special tax bonds. A two-percent impact fee is implemented through the Tribal Employment Rights Office, but is not considered an impact fee for new development. Funding is also received through donations from private individual and companies. The tribe does not have an electric utility fee, road district tax, sanitary sewer utility fee, storm water utility fee or wheel tax. Water utilities are charged to non-tribal members and tribal members consuming large amounts of water. The tribe receives funding through the federal government and various programs, Bureau of Indian Affairs, and state programs.

Sioux County, N.D.: The county has the authority to levy taxes for specific purposes, such as sales tax or special assessments, to raise revenue if warranted, but has not done so in the recent past. Building permits are required for new construction, repair and renovation. The county has a capital improvement fund. The county and city jurisdictions qualify for funding through the Community Development Block Grant (CDBG) as they meet the low-to-moderate income requirements. The county and incorporated jurisdictions have access to general obligation bonds and special tax bonds, but have not done so in the recent past. Private funding is received from Mor-Gran-Sou Electric Cooperative. The county does not have an electric utility fee, impact fee, road district tax, sanitary sewer utility fee, storm water utility fee, water utility fee or wheel tax. The county receives funding through the federal government and state programs.

In addition to the aforementioned financial capabilities of SRST/SC, tribal districts/tribal communities and county jurisdictions, the following local, regional, state and federal entities can be used to obtain funding for mitigation.

- Ambulance Districts;
- Electric Cooperatives;
- Extension Service;
- Federal Emergency Management Agency (FEMA);
- Fire Districts;
- School Districts;
- North Dakota Department of Public Health;
- North Dakota Department of Emergency Services;
- Townships, and
- Utility providers.

Table 8.4 shows the planning and regulatory capabilities of SRST/SC, tribal districts/tribal communities and county jurisdictions. Boxes marked with an “X” indicate SRST/SC, tribal districts/tribal communities and county jurisdictions have the planning and regulatory capability. An asterisk (*) indicates a capability that can be obtained through the tribe, county, contracted services, or an outside entity.

Table 8.4 – Planning and Regulatory Capabilities

Planning and Regulatory Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Abandoned Building/Nuisance Ord.												X	X	X
Building Codes	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Building Permits	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Burn Bans	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Capital Improvement Plan														
Chief Building Official/Inspector	X	*	*	*	*	*	*	*	*	*	*	*	*	*
Commercial Animal Feed Operation (CAFO) Ordinance														
Comprehensive Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Community Wildfire Protection Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Continuity of Operations Plan	^	^	^	^	^	^	^	^	^	^	^	^	^	^
Crew Camp Ordinance												X	X	X
Drought Management Plan											X			
Easements	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Economic Development Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Evacuation and Shelter Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
FEMA Flood Map	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Flood Insurance Study	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Flood Operations/Management Plan														
Flood Ordinance	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Flood Risk Mgmt. Feasibility Study	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Grain Bin Ordinance														
Hazard Mitigation Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Hazardous Material Flow Study														
Impact Fees														
Land Use Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Local Emergency Operations Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
National Flood Insurance Program (NFIP)	X	*	*	*	*	*	*	*	*	*	X	*	*	*

Table 8.4 – Planning and Regulatory Capabilities

Planning and Regulatory Mitigation Capability	Standing Rock Sioux Tribe	Bear Soldier District	Cannonball District	Kenel District	Little Eagle District	Long Soldier District	Porcupine District	Rock Creek District	Running Antelope District	Wakpala District	Sioux County, N.D.	City of Fort Yates	City of Selfridge	City of Solen
Noise Control Ordinance	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Pandemic Influenza Response Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Planning Commission	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Point of Dispensing (POD) Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Shelter and Mass Care Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Site Plan Review Requirements	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Storm Water Management Plan														
Strategic Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Subdivision Ordinance	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Transportation Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Water Conservation Plan	X	*	*	*	*	*	*	*	*	*	X	*	*	*
Zoning	X	*	*	*	*	*	*	*	*	*	X	*	*	*

*Denotes planning and regulatory mitigation capability available through the tribe, county, contracted services, or an outside entity.

^ Denotes planning and regulatory mitigation capability in progress.

Standing Rock Sioux Tribe: The tribe has adopted building codes, which apply to all tribal districts and tribal communities. Building permits are required for new construction, repair and renovation. Burn bans are implemented by emergency management. The tribe has building inspection services provided BIA and by tribal government personnel that also administer CBDG funding. The tribe has a comprehensive plan, community wildfire protection plan, easements for flowage and drainage, economic development plan, emergency operations plan, evacuation and shelter plan, hazard mitigation plan, land use plan, local emergency operations plan, noise control ordinance, pandemic influenza response plan, point of dispensing (POD) plan, shelter and mass care plan, site plan requirements, strategic plan, subdivision ordinance, transportation plan, water conservation plan and zoning. The tribe is FEMA flood mapped, has a flood risk management feasibility study and flood insurance study. The tribe and each tribal district have a planning commission. The tribe is in the process of developing a continuity of operations plan.

The tribe does not have an abandoned building/nuisance ordinance, commercial animal feed operation ordinance, crew camp ordinance, grain bin ordinance, a hazardous material flow study or impact fees. The tribe does not have a capital improvement plan, drought management plan, flood operations/management plan or storm water management plan.

Sioux County, N.D.: The county has adopted building codes, which apply to all communities. The county has a contract for building inspection services. Building permits are required for new construction, repair and renovation. Burn bans are implemented by emergency management. The county has a comprehensive plan, community wildfire protection plan, continuity of operations plan, drought management plan, easements for flowage and drainage, economic development plan, emergency operations plan, evacuation and shelter plan, hazard mitigation plan, impact fees, land use plan, local emergency operations plan, noise control ordinance, pandemic influenza response plan, point of dispensing (POD) plan, shelter and mass care plan, site plan requirements, strategic plan, subdivision ordinance, transportation plan, water conservation plan and zoning. The tribe is FEMA flood mapped, has a flood risk management feasibility study and flood insurance study. The county has a planning commission. The county is in the process of developing a continuity of operations plan.

The county does not have an abandoned building/nuisance ordinance, commercial animal feed operation ordinance, crew camp ordinance, grain bin ordinance or hazardous material flow study. The county does not have a capital improvement plan, flood operations/management plan or storm water management plan.

Integration of Mitigation Plan into Planning Mechanisms

To integrate the requirements of the mitigation plan into tribal SRST, county, tribal districts/tribal community and county jurisdiction planning mechanisms such as comprehensive or capital improvement plans, all areas will need to identify their current planning mechanisms, which elements of the mitigation plan to incorporate, and the method for doing so. The tables shown above in this chapter identify the current planning mechanisms for SRST/SC, tribal districts/tribal communities and county jurisdictions. The mitigation capabilities for tribal districts/tribal communities and county jurisdictions are also reflected in the table, but narratives discussing the capabilities are shown in the risk assessment portion of each hazard profile in Chapter 5, Threat and Hazard Identification Risk Assessment.

Current planning mechanisms, the mitigation plan elements incorporated and the method for incorporation are discussed after each mitigation project in Chapter 6, Mitigation Strategy.

Mitigation Funding Sources

Table 8.5 lists state and federal sources for mitigation. These sources are able to fund and administer mitigation projects in addition to the aforementioned local capabilities of the county and city jurisdictions.

Table 8.5 – State and Federal Mitigation Funding Sources

Funding Source	Managing Agencies
AmeriCorps	Corporation for National & Community Service
Community Development Block Grant (CDBG)	US Housing and Urban Development North Dakota Department of Commerce
Economic Development Administration (EDA) Grants and Investments	US Economic Development Administration
Emergency Watershed Protection	US Natural Resources Conservation Service
Environmental Quality Incentives Program	US Natural Resources Conservation Service
Flood Mitigation Assistance Program (FMA)	North Dakota State Water Commission and FEMA
Hazard Mitigation Grant Program (HMGP)	North Dakota Department of Emergency Services and FEMA
Hazardous Fuels Mitigation Program	North Dakota Department of Transportation
Homeland Security Grants	North Dakota Department of Emergency Services, US Department of Justice, US Department of Homeland Security
Individual Assistance (IA)	FEMA, North Dakota Department of Emergency Services
Map Modernization Program	North Dakota State Water Commission and FEMA
National Fire Plan (NFP)	North Dakota Forest Service and US Forest Service
NRCS Conservation Programs	U.S.D.A. Natural Resources Conservation Service
Pre-Disaster Mitigation (PDM) Grants	North Dakota Department of Emergency Services and FEMA
Public Assistance (PA)	North Dakota Department of Emergency Services and FEMA
Repetitive Flood Claims (RFC) Grant	North Dakota State Water Commission and FEMA
Rural Fire Assistance (RFA) Grant	National Interagency Fire Center
SBA Pre-Disaster Mitigation Loan Program	U.S. Small Business Administration (SBA)
Severe Repetitive Loss (SRL) Grant	North Dakota State Water Commission and FEMA
Small Flood Control Projects	US Army Corps of Engineers (USACE)
Streambank & Shoreline Protection	US Army Corps of Engineers (USACE)
Wetland Program Development Grants (WPDGs)	US Environmental Protection Agency

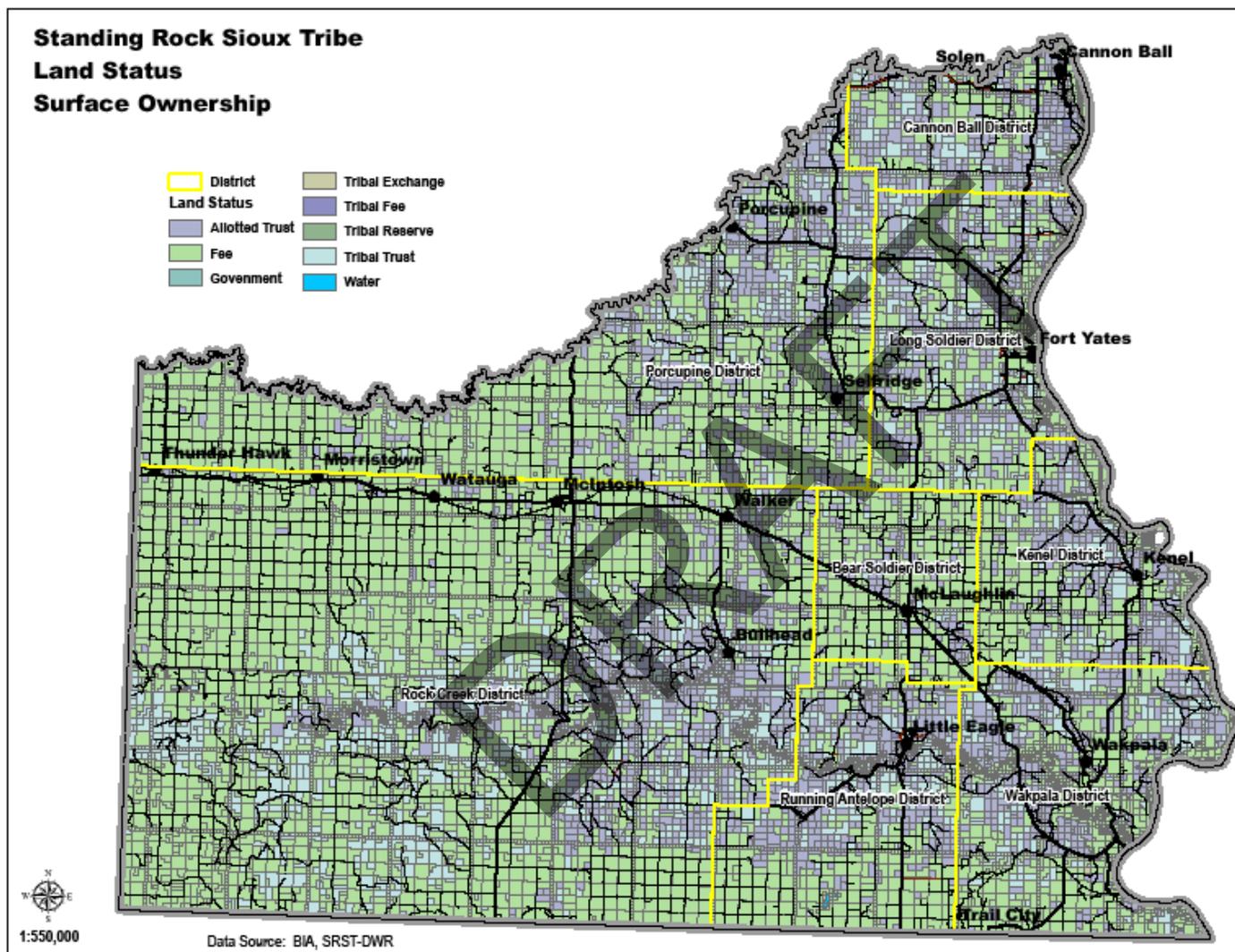
9. Maps

Maps provide visual illustrations of the geography of SRST/SC and assist in mitigation by providing details of the inventory of the county, where critical facilities and infrastructure are located, geographic coverage of emergency services, etc. Maps are drawings, depictions, and illustrations, and are commonly referred to as figures in planning documents. All figures located in this chapter aside from the Digital Flood Insurance Rate Maps were provided by SRST/SC.

The Digital Flood Insurance Rate Maps (DFIRMs) for SRST/SC are located on a disc at the beginning of Chapter 5.4, Flood.

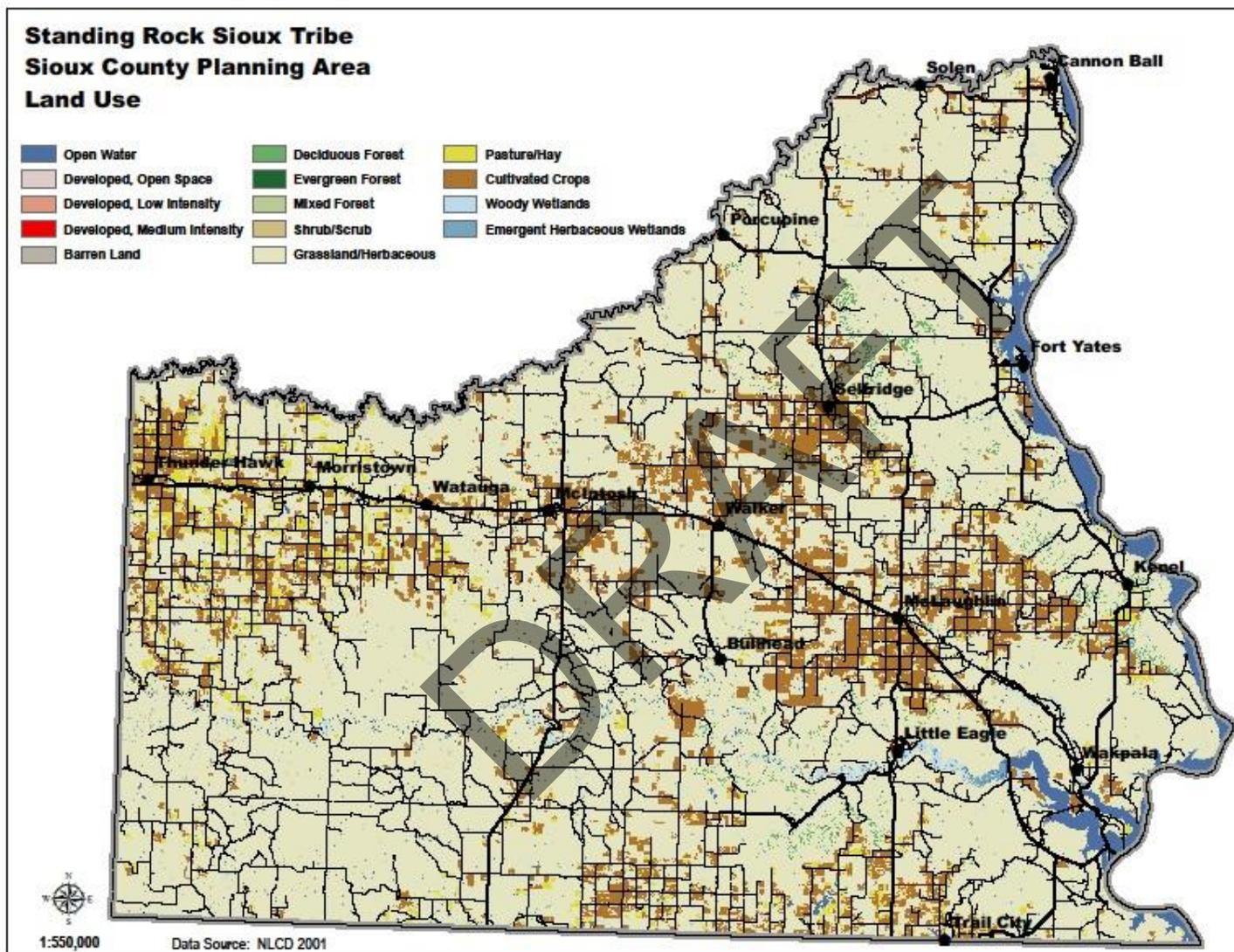
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Figure 9.1 – 2016 Standing Rock Sioux Tribe and Sioux County, North Dakota Land Status Surface Ownership



Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

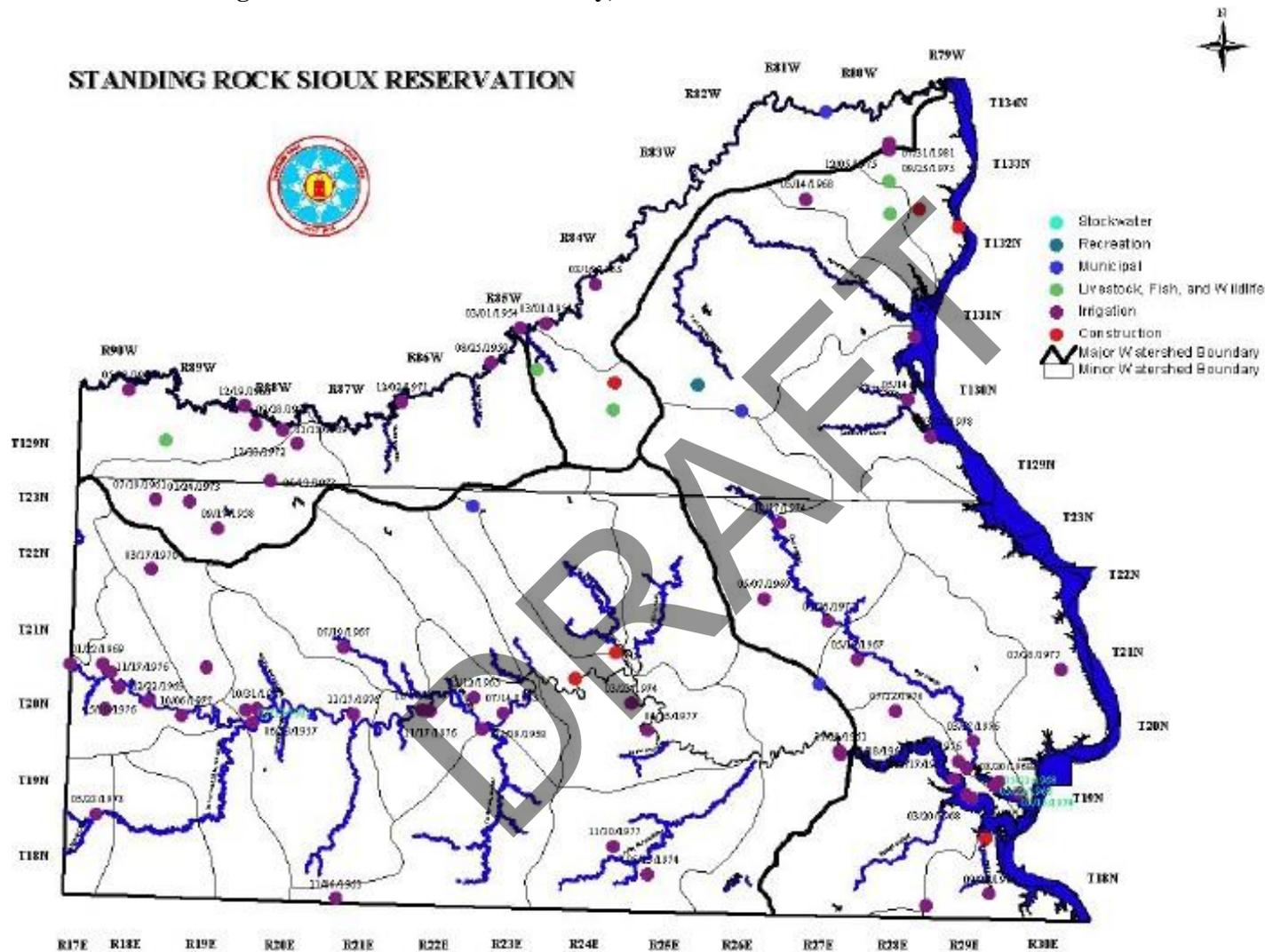
Figure 9.2 – 2016 Standing Rock Sioux Tribe and Sioux County, North Dakota Land Status Surface Ownership



Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

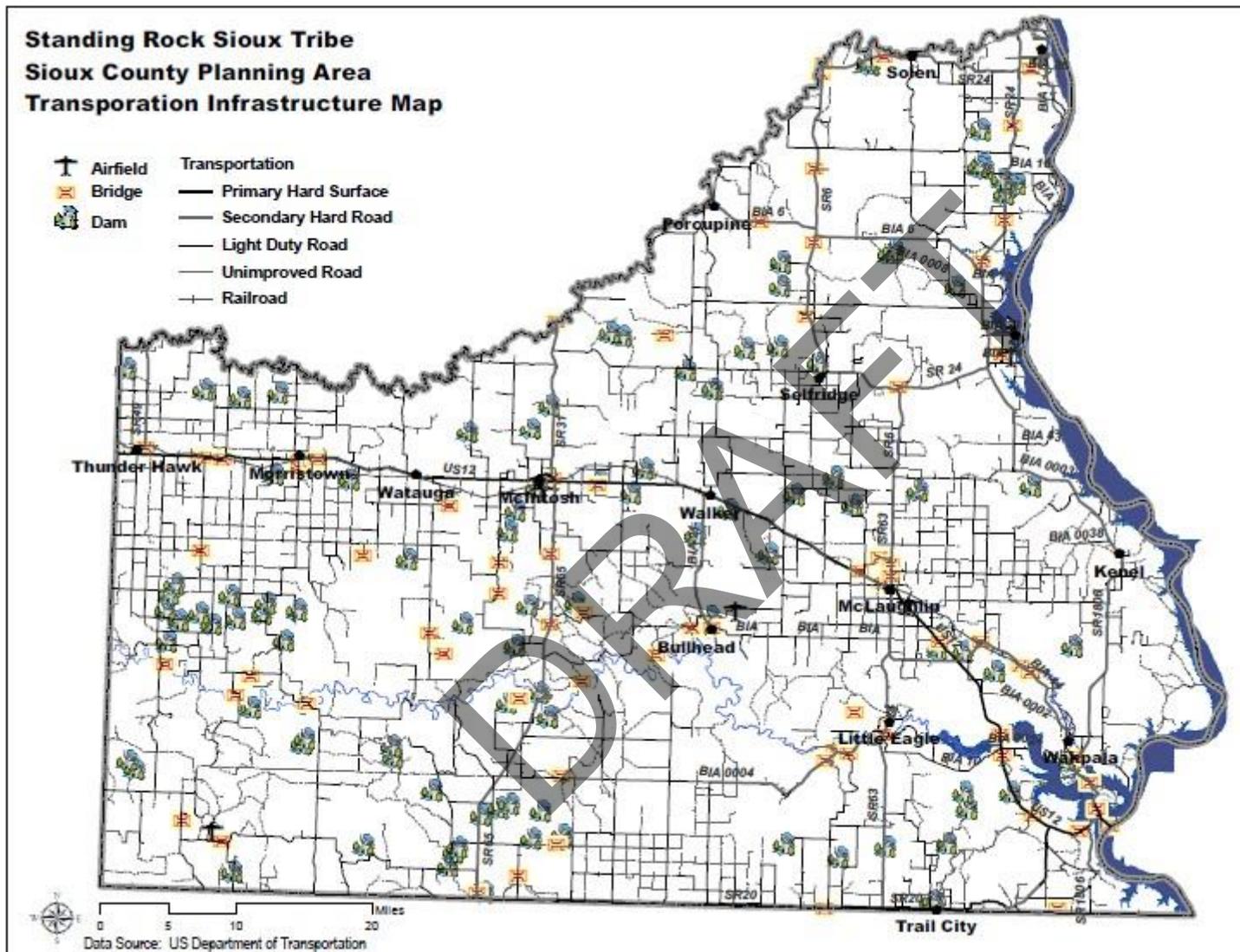
2016 Standing Rock Sioux Tribe/Sioux County, N.D, Multi-Hazard Mitigation Plan

Figure 9.3 – 2016 Standing Rock Sioux Tribe/Sioux County, North Dakota Water Permits



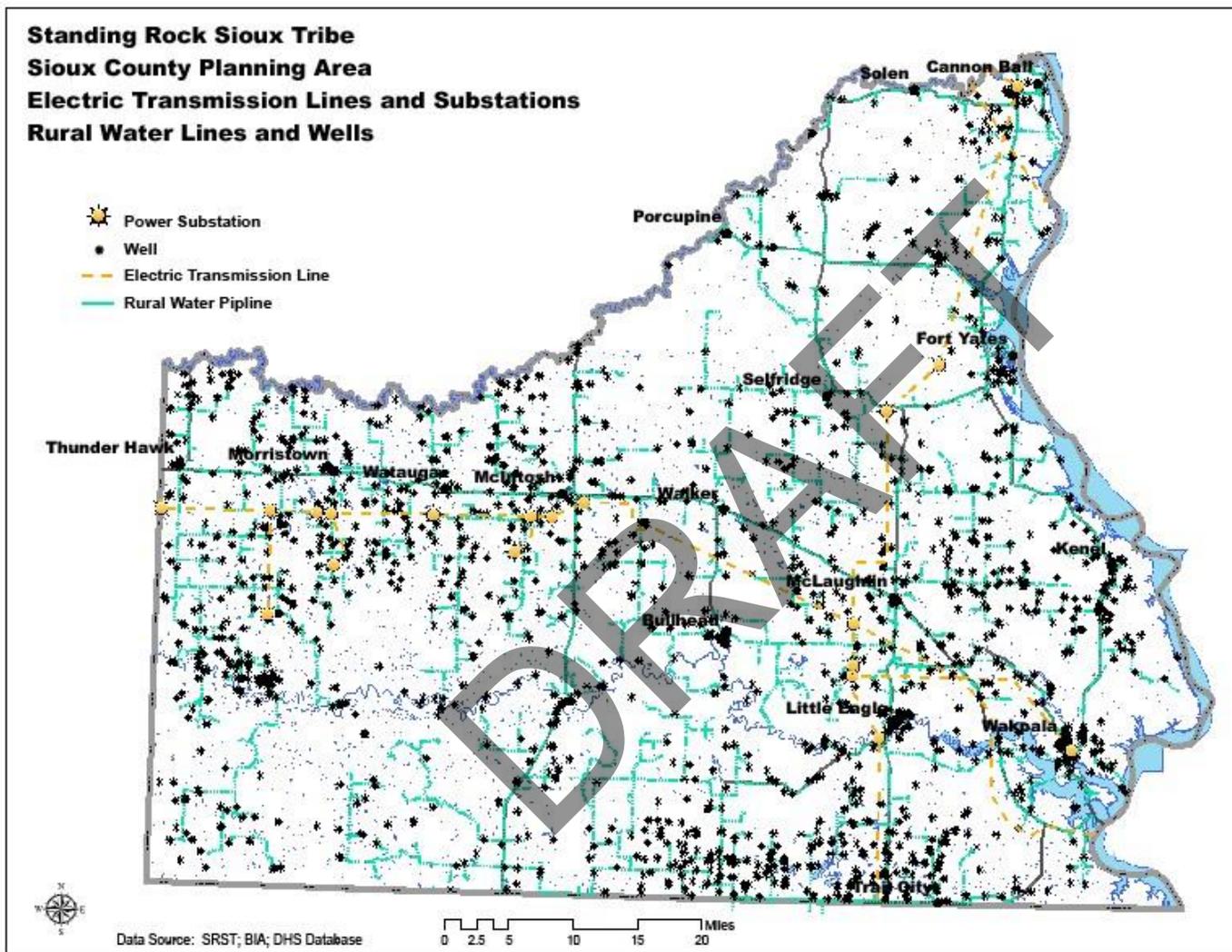
Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

Figure 9.4 – 2016 Standing Rock Sioux Tribe/Sioux County, North Dakota Transportation Infrastructure Map



Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

Figure 9.5 – 2016 Standing Rock Sioux Tribe/Sioux County, North Dakota Utility Infrastructure



Sources: 2011 SRST/SC MHMP, Standing Rock Sioux Tribe Emergency Management

10. Plan Maintenance

Mitigation planning for SRST/SC is continuous. An important aspect of any useable plan is the maintenance and upkeep of the document. At any given time planning, risk analysis, updating the situation assessment, research, coordinating, disaster response or other activity is occurring. Thus, ensuring the plan will remain useful for the tribe and county for many years.

Plan Monitoring

The SRST/SC emergency manager and LEPC are responsible for monitoring, evaluating and updating the plan. All disaster and emergency incidents will be evaluated for general and specific hazard history and mitigation strategy recommendations to be added to the plan.

The plan will be updated and submitted to NDDES and FEMA within five years to assure SRST/SC maintains a FEMA-approved mitigation plan.

Plan Evaluation

At its first meeting of the calendar year, each tribal district planning commission, city council and emergency response entity will review actions taken on mitigation projects and losses due to hazards in the past year.

Sample forms for reporting are included in Chapter 10.1 for the tribe and 10.2 for the county. The annual reports are due back to the tribe and/or county emergency manager by March 15.

The comments about the plan, project implementation, and information will be shared through minutes and these minutes will be sent to the tribe and county emergency management offices. The emergency manager will share this information with the Standing Rock Sioux Tribe Tribal Council and Sioux County Commission. The fire departments, law enforcement departments, tribal and county health department, and emergency medical services will be encouraged to constantly inform the emergency management office of incidents as they occur so that the data can be considered immediately to better understand the risks in the tribe and county, and enable accurate updating of hazard information.

Public Involvement

The public will be informed of the opportunity to comment on plan updates through the advertising of task force, disaster committee and tribal council meetings. The plan will be available to the public at the Tribal Administrative Services Center and the planning commission for each tribal district, and the Sioux County Courthouse. During plan updates, the plan will also be on the tribe website. The public is encouraged to share input on the plan.

10.1 Standing Rock Sioux Tribe Mitigation Action Progress Report Form

The Mitigation Action Progress Report Form for the Standing Rock Sioux Tribe is shown below. The form is part of the annual review of hazard impacts, mitigation projects and reporting of data to the emergency manager. Please complete as part of the effort to maintain the mitigation plan for SRST/SC. Include date and location of incident(s).

Return to: Standing Rock Sioux Tribe Emergency Manager
Standing Rock Avenue - Building #1
Fort Yates, ND 58538

Due: March 15

List injuries or property losses due to hazards in past year:

List new vulnerable areas that need to be addressed:

Identify what actions on jurisdiction's mitigation projects were taken in past year:

If no action, why:

First & Last Name	District or Tribal Community
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Date (MM/DD/YYYY)	Contact Info (Email & Phone)
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10.2 Sioux County, North Dakota Mitigation Action Progress Report Form

The Mitigation Action Progress Report Form for Sioux County, North Dakota is shown below. The form is part of the annual review of hazard impacts, mitigation projects and reporting of data to the emergency manager. Please complete as part of the effort to maintain the mitigation plan for SRST/SCO. Include date and location of incident(s).

Return to: Sioux County Emergency Manager
P.O. Box L
Fort Yates, ND 58538

Due: March 15

List injuries or property losses due to hazards in past year:

List new vulnerable areas that need to be addressed:

Identify what actions on jurisdiction's mitigation projects were taken in past year:

If no action, why:

First & Last Name

County Jurisdiction

Date (MM/DD/YYYY)

Contact Info (Email & Phone)