

IRRIGATION DISTRICTS PROFILE

**North Platte NRD
Hazard Mitigation Plan 2021**

District Planning Teams

Table ID.1: District Planning Team Members

PARTICIPATING IRRIGATION DISTRICTS	NAME	TITLE
ALLIANCE IRRIGATION DISTRICT	Amanda Kepler	Secretary-Treasurer
ALLIANCE IRRIGATION DISTRICT	Bill Pierce	Chairman
*BEERLINE CANAL COMPANY	Laurie Haack	Secretary-Treasurer
BRIDGEPORT IRRIGATION DISTRICT	Kay Anderson	Secretary
*BROWNS CREEK IRRIGATION DISTRICT	Phil Amateis	President
CASTLE ROCK IRRIGATION DISTRICT	Steve Jobman	Chairman
CASTLE ROCK IRRIGATION DISTRICT	Jody Fiscus	Vice President
*CHIMNEY ROCK IRRIGATION DISTRICT	Frank Nerud	Vice President
*CHIMNEY ROCK IRRIGATION DISTRICT	Roger Eirich	President
*CHIMNEY ROCK IRRIGATION DISTRICT	Joe Essay	Director
*EMPIRE CANAL COMPANY	Tim Riggs	President
ENTERPRISE IRRIGATION DISTRICT	Scott Hort	Assistant Manager
ENTERPRISE IRRIGATION DISTRICT	Rick Preston	Manager
FARMERS IRRIGATION DISTRICT	Kevin Adams	Manager
*GERING IRRIGATION DISTRICT	Rita Barnes	Secretary
*GERING IRRIGATION DISTRICT	Ted Roth	Treasurer
GERING-FORT LARAMIE IRRIGATION DISTRICT	Scott Hort	Assistant Manager
HOOPER IRRIGATION DISTRICT	Bruce Burdick	Member
LISCO IRRIGATION DISTRICT	Craig Shaffer	President
MIDLAND-OVERLAND CANAL COMPANY	Joe Van Newkirk	Director
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	Gary Lofing	Manager-President

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

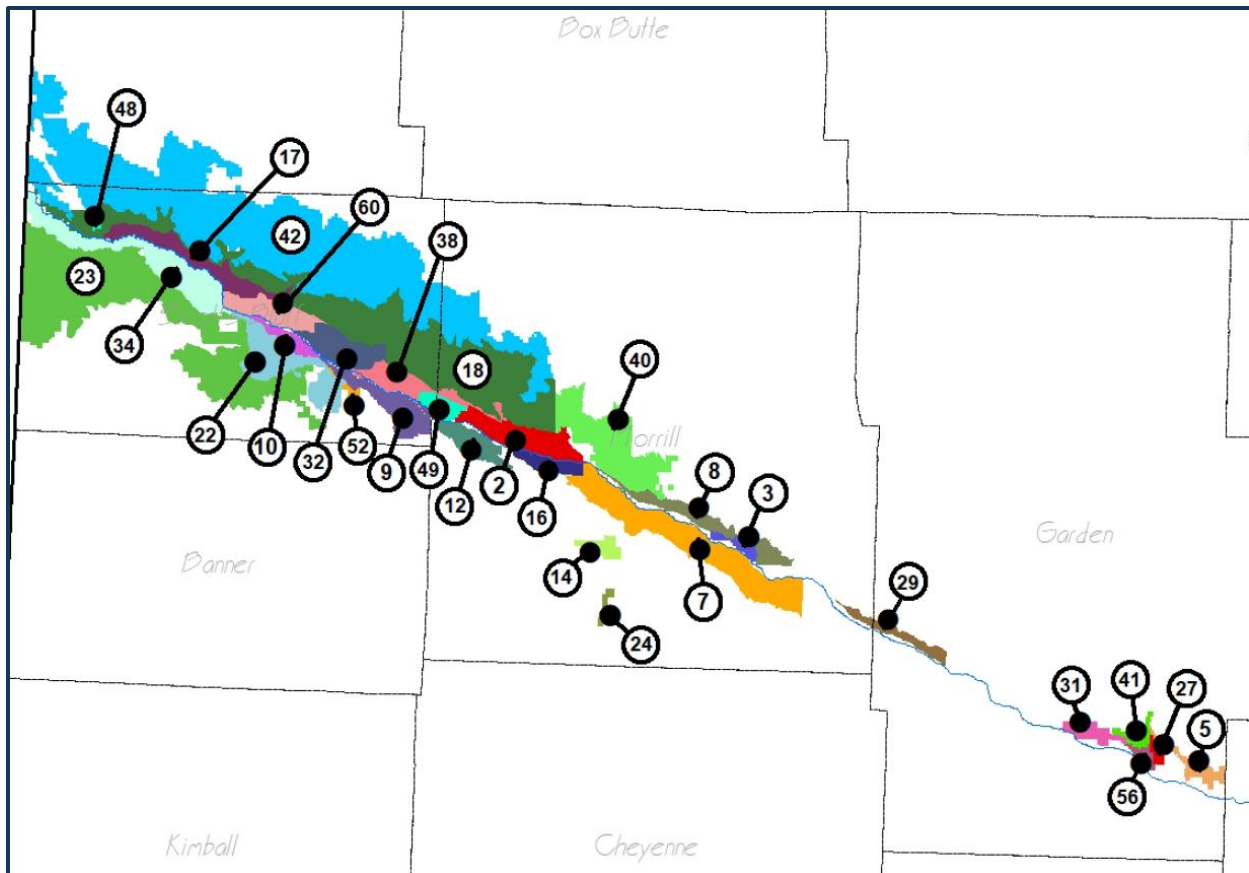
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	Val Baker	Secretary
MITCHELL IRRIGATION DISTRICT	Pete Unrein	President
MITCHELL IRRIGATION DISTRICT	Nick Lara	Secretary/Treasurer
*NINE MILE IRRIGATION DISTRICT	Jim Mai	Director
*NINE MILE IRRIGATION DISTRICT	Barry Stuart	Director
*NINE MILE IRRIGATION DISTRICT	Byron Miller	Director
NORTHPORT IRRIGATION DISTRICT	Robert Landrigan	Vice-President
PATHFINDER IRRIGATION DISTRICT	Rick Miller	Assistant Manager
*SHORT LINE IRRIGATION DISTRICT	Vince Rafferty	President
*WINTERS CREEK CANAL COMPANY	Rodney Adams	President

**Irrigation Districts added to the plan in 2023*

Location

Figure ID.1 shows the location of all the irrigation districts in the planning area.

Figure ID.1: Irrigation Districts in the Planning Area



Source: Nebraska Department of Natural Resources

Table ID.2: Irrigation Districts in the Planning Area

MAP #	IRRIGATION DISTRICT	MAP #	IRRIGATION DISTRICT
2	Alliance Irrigation District	27	Hooper Irrigation District
3	Beerline Canal Company	29	Lisco Irrigation District
5	Blue Creek Irrigation District	31	Midland-Overland Canal Company
7	Bridgeport Irrigation District	32	Minatare Mutual Canal and Irrigation District
8	Browns Creek Irrigation District	34	Mitchell Irrigation District
9	Castle Rock Irrigation District	38	Nine Mile Irrigation District
10	Central Irrigation District	40	Northport Irrigation District
12	Chimney Rock Irrigation District	41	Paisley Irrigation District
14*	Court House Rock Company	42	Pathfinder Irrigation District
16	Empire Canal Company	48	Sheep Creek Lateral Company
17	Enterprise Irrigation District	49	Short Line Irrigation District
18	Farmers Irrigation District	52	Steamboat Irrigation District
22	Gering Irrigation District	52	Union Irrigation District
23	Gering-Fort Laramie Irrigation District	56	Winters Creek Canal Company
24*	Greenwood Creek Mutual Irrigation Company	60	Midland-Overland Canal Company

*Inactive

Services

The primary role of irrigation districts is to serve farmers in the area with surface water irrigation. Irrigation districts within the North Platte Natural Resources District maintain canals in both Nebraska and eastern Wyoming. The table below shows the acres covered and population served by each participating irrigation district.

Table ID.3: Acres Covered and Population Served

PARTICIPATING IRRIGATION DISTRICT	ACRES COVERED	POPULATION SERVED
ALLIANCE IRRIGATION DISTRICT	5,500 acres	25 landowners
BEERLINE CANAL COMPANY	1,057 acres	13 landowners
BRIDGEPORT IRRIGATION DISTRICT	6,580 acres	40 landowners
BROWNS CREEK IRRIGATION DISTRICT	4,673.46 acres	33 landowners
CASTLE ROCK IRRIGATION DISTRICT	6,000 acres	50 landowners
CHIMNEY ROCK IRRIGATION DISTRICT	5,800 acres	60 landowners
EMPIRE CANAL COMPANY	2,000 acres	4 landowners
ENTERPRISE IRRIGATION DISTRICT	4,362 acres	175 landowners
FARMERS IRRIGATION DISTRICT	61,000 acres	450 landowners
GERING IRRIGATION DISTRICT	13,000 acres	208 landowners
GERING-FORT LARAMIE IRRIGATION DISTRICT	54,841 acres	300 landowners
HOOPER IRRIGATION DISTRICT	832 acres	10 landowners
LISCO IRRIGATION DISTRICT	2,629.3 acres	18 landowners
MIDLAND-OVERLAND CANAL COMPANY	1,640 acres	3 landowners
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	6,720 acres	27 landowners
MITCHELL IRRIGATION DISTRICT	13,300 acres	70 landowners
NINE MILE IRRIGATION DISTRICT	5,000 acres	35 landowners
NORTHPORT IRRIGATION DISTRICT	16,169.1 acres	93 landowners
PATHFINDER IRRIGATION DISTRICT	102,800 acres	865 landowners
SHORT LINE IRRIGATION DISTRICT	2,940 acres	12 landowners
WINTERS CREEK CANAL COMPANY	4,000 acres	25 landowners

Future Development Trends

Alliance Irrigation District

There have been no changes for the irrigation district in the past five years. In the next five years, there are plans to install new head gates at the point of withdrawal from the creek. Along with new headgates, high water warning electronics will be installed to prevent washout and safety rails will be added on catwalks. These updates will make the district more resilient to flooding, dam failure, and severe thunderstorm events.

Beerline Canal Company

Over the past five years, an existing headgate was replaced with a high-capacity structure that can divert a large amount of water to the river if necessary. This structure is upstream of the Village of Broadwater and could minimize the impact of flooding on residents of Broadwater and others downstream. A new spill diversion is planned for when funds can be raised.

Bridgeport Irrigation District

Over the past five years, continual maintenance has been done on the main canal, ditches, dam, and diversion boxes. This will continue in the next five years. No other developments are planned at this time.

Browns Creek Irrigation District

Over the past five years, there have been no changes within the irrigation district. The district hopes to build a diversion and spillway.

Castle Rock Irrigation District

Over the past five years, the district made repairs to the dirt section of the diversion dam due to flooding. There are no planned developments in the next five years at this time.

Chimney Rock Irrigation District

Over the past five years, the district replaced checks and delivery headgates. The district is planning to replace the main diversion structure.

Empire Canal Company

Over the past five years, the district replaced a headgate. The district plans to install more headgates and a new flume in the future.

Enterprise Irrigation District

Over the past five years, there have been no changes within the irrigation district. No developments are planned for at this time.

Farmers Irrigation District

Over the past five years, the district has been replacing open laterals with pvc pipe and replacing old structures. These updates make the district more resilient to flooding, dam failure, chemical spills, and severe thunderstorm events. There are currently no planned developments at this time.

Gering Irrigation District

Over the past five years, the district has cleaned and dug out the main canal and installed several buried pipelines. In the future, the district plans to install automated gates at the Mathers Spill,

Sandhills Spill, and Sandberg Spill. It also plans to install a manual gate at D Street to make the Ehrman Flume larger.

Gering-Fort Laramie Irrigation District

Every year the district maintains its open ditches and tries to install at least one mile of underground pipe to conserve water. These measures help the district to become more resilient to flooding, dam failure, severe thunderstorms, tornadoes and high winds, and drought.

Hooper Irrigation District

There have been no changes over the past five years. In the next five years, the district would like to start replacing the dirt canal with pipeline.

Lisco Irrigation District

There have been no changes over the past five years. In the next five years, the district would like to make substantial repairs to the diversion dam or replace it entirely. This would help the district become more resilient to dam failure and flooding.

Midland-Overland Canal Company

Over the past five years, there have been no changes within the irrigation district. No developments are planned for at this time.

Minatare Mutual Canal and Irrigation Company

Over the past five years, infrastructure has been maintained. This includes cleaning the canal, new headgates, and new concrete for headgates. In addition, repairs to the sand diversion dam have been made. In the next five years, sand dam work with natural rock for the control structure is planned. Total Cost is estimated at \$207,400.

Mitchell Irrigation District

The irrigation district was damaged, and the floor of the drain had to be repaired. In addition, the canal is maintained every winter and issues are fixed. The district is currently in the process of a re-sloping project.

Nine Mile Irrigation District

The irrigation district develops sand dam structures in the river on an annual basis and recently rebuilt its headgate structure at its North Platte River diversion. The district also straightened out a weak spot on the main canal just east of Bayard that was restricting flow and causing water to back up through town. Future development plans include a complete rebuilt of the district's creek diversion, re-lining a siphon, and reinforcing a spillway.

Northport Irrigation District

There have been no changes over the past five years. In the next five years, there are plans to bury lateral lines for more water efficiency. This will help the district become more resilient to drought.

Pathfinder Irrigation District

Over the past five years, the district has installed underground pipelines to help eliminate some of the loss of water due to the open laterals. In addition, canals and structures are continually maintained and repaired to lengthen life expectancy. All of these activities will continue to be done in the next five years. In 2020, the district repaired the Spring Canyon Flume by sandblasting and recoating cracks in the structure.

Short Line Irrigation District

Over the past five years, there have been no changes within the irrigation district. No developments are planned for at this time.

Winters Creek Canal Company

Over the past five years, there have been no changes within the canal company. The company plans to replace the North Platte River diversion, the Winter Creek diversion, and the check structure automation in the future.

Staffing

Each irrigation district is supervised by a board of directors who will oversee the implementation of hazard mitigation projects. The number of staff in each participating district is listed below.

Table ID.4: Staffing

PARTICIPATING IRRIGATION DISTRICT	NUMBER OF STAFF
ALLIANCE IRRIGATION DISTRICT	5 staff
BEERLINE CANAL COMPANY	2 staff
BRIDGEPORT IRRIGATION DISTRICT	3 staff
BROWNS CREEK IRRIGATION DISTRICT	2 staff
CASTLE ROCK IRRIGATION DISTRICT	3 staff
CHIMNEY ROCK IRRIGATION DISTRICT	2 staff
EMPIRE CANAL COMPANY	3 staff
ENTERPRISE IRRIGATION DISTRICT	7 staff
FARMERS IRRIGATION DISTRICT	26 staff
GERING IRRIGATION DISTRICT	3 staff
GERING-FORT LARAMIE IRRIGATION DISTRICT	22 staff
HOOPER IRRIGATION DISTRICT	3 staff
LISCO IRRIGATION DISTRICT	4 staff
MIDLAND-OVERLAND CANAL COMPANY	2 staff
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	7 staff
MITCHELL IRRIGATION DISTRICT	5 staff
NINE MILE IRRIGATION DISTRICT	2 staff
NORTHPORT IRRIGATION DISTRICT	10 staff
PATHFINDER IRRIGATION DISTRICT	29 staff
SHORT LINE IRRIGATION DISTRICT	1 staff
WINTERS CREEK CANAL COMPANY	4 staff

Capability Assessment

Due to the unique structure of irrigation districts, the typical capability assessment table was not used. The following table summarizes each district's overall capability.

Table ID.5: Overall Capability

PARTICIPATING IRRIGATION DISTRICT	FINANCIAL RESOURCES TO IMPLEMENT MITIGATION PROJECTS	STAFF/EXPERTISE TO IMPLEMENT PROJECTS	PUBLIC SUPPORT TO IMPLEMENT PROJECTS	TIME TO DEVOTE TO HAZARD MITIGATION
ALLIANCE IRRIGATION DISTRICT	Limited	Limited	High	Moderate
BEERLINE CANAL COMPANY	Limited	Limited	Limited	Limited
BRIDGEPORT IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
BROWNS CREEK IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
CASTLE ROCK IRRIGATION DISTRICT	Limited	Moderate	Moderate	Moderate
CHIMNEY ROCK IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
EMPIRE CANAL COMPANY	Limited	Moderate	Limited	Limited
ENTERPRISE IRRIGATION DISTRICT	Limited	Moderate	Moderate	Limited
FARMERS IRRIGATION DISTRICT	Limited	High	Limited	Moderate
GERING IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
GERING-FORT LARAMIE IRRIGATION DISTRICT	Moderate	High	Moderate	Moderate
HOOPER IRRIGATION DISTRICT	Limited	Limited	High	Moderate
LISCO IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
MIDLAND-OVERLAND CANAL COMPANY	Moderate	Moderate	Moderate	Moderate
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	Limited	Limited	Moderate	Limited
MITCHELL IRRIGATION DISTRICT	Moderate	Moderate	Moderate	Moderate
NINE MILE IRRIGATION DISTRICT	Limited	Limited	Limited	Moderate
NORTHPORT IRRIGATION DISTRICT	Limited	Limited	Limited	Limited

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

PARTICIPATING IRRIGATION DISTRICT	FINANCIAL RESOURCES TO IMPLEMENT MITIGATION PROJECTS	STAFF/EXPERTISE TO IMPLEMENT PROJECTS	PUBLIC SUPPORT TO IMPLEMENT PROJECTS	TIME TO DEVOTE TO HAZARD MITIGATION
PATHFINDER IRRIGATION DISTRICT	Limited	Limited	Moderate	Limited
SHORT LINE IRRIGATION DISTRICT	Limited	Limited	Limited	Limited
WINTERS CREEK CANAL COMPANY	Limited	Limited	Limited	Limited

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside planning documents (e.g., annual budget), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms. The table below shows who will be responsible for reviewing the profile, the frequency of review, and how the public will be involved.

Table ID.6: Plan Maintenance

PARTICIPATING IRRIGATION DISTRICT	REVIEWERS	FREQUENCY	PUBLIC INVOLVEMENT
ALLIANCE IRRIGATION DISTRICT	Board Members	Annually	Board meeting
BEERLINE CANAL COMPANY	President, Secretary, Manager	Bi-Annually	Local newspaper, Public notice board, Social media
BRIDGEPORT IRRIGATION DISTRICT	Board Members	Annually	Local newspaper, Letters to residents
BROWNS CREEK IRRIGATION DISTRICT	Board Members	Bi-annually	None
CASTLE ROCK IRRIGATION DISTRICT	Board Members	Bi-annually	None
CHIMNEY ROCK IRRIGATION DISTRICT	Board Members	Bi-annually	Board meetings
EMPIRE CANAL COMPANY	President	Bi-annually	Social media
ENTERPRISE IRRIGATION DISTRICT	Manager, Assistant Manager, Board Members	Annually	Board meetings, Letters to landowners
FARMERS IRRIGATION DISTRICT	Manager, Assistant Manager, Board Members	Annually	Board meeting
GERING IRRIGATION DISTRICT	Board Members	Annually	Board meetings, Letters to residents

PARTICIPATING IRRIGATION DISTRICT	REVIEWERS	FREQUENCY	PUBLIC INVOLVEMENT
GERING-FORT LARAMIE IRRIGATION DISTRICT	Manager, Assistant Manager, Board Members	Annually	Board meetings, Letters to landowners
HOOPER IRRIGATION DISTRICT	Board Members	Bi-annually	Board meeting
LISCO IRRIGATION DISTRICT	Board, Ditch Rider, Landowners	Annually	Board meeting
MIDLAND-OVERLAND CANAL COMPANY	President, Secretary-Treasurer	Annually	None
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY	President, Vice President, Secretary, Board Members	Annually	Local newspaper, Letters to residents, Board Meeting
MITCHELL IRRIGATION DISTRICT	Board Members	Bi-annually	Board meeting
NINE MILE IRRIGATION DISTRICT	Board Directors, Secretary/Treasurer	Bi-annually	Board meetings
NORTHPORT IRRIGATION DISTRICT	Vice President	Annually	Local newspaper, Letters to residents
PATHFINDER IRRIGATION DISTRICT	Management	Annually	Website and text notifications
SHORT LINE IRRIGATION DISTRICT	Directors	Annually	Board meetings
WINTERS CREEK CANAL COMPANY	President, Vice President, Secretary/Ditch Rider	Annually	Letter to residents

Plan Integration

Most irrigation districts within the planning area do not have any formal response plans for emergency situations or plans that discuss hazards. However, districts can open or close their diversion dam during an emergency. In any future planning mechanisms, the irrigation districts will work to integrate the goals and objectives of the hazard mitigation plan within them as appropriate.

Community Lifelines

Critical Facilities

Each participating district identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster, per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for each irrigation district.

Table ID.7: Critical Facilities

CF #	NAME	COMMUNITY SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	Alliance Irrigation District – Diversion Dam	N	N	Y
2	Bridgeport Irrigation District – Shop	N	N	N
3	Castle Rock Irrigation District – Diversion Dam	N	N	Y
4	Enterprise Irrigation District – Shop	N	N	N
5	Farmers Irrigation District – Headgates	N	Y	Y
6	Farmers Irrigation District – Mitchell Shop	N	N	N
7	Farmers Irrigation District – Minatare Shop	N	N	N
8	Farmers Irrigation District – Office	N	N	N
9	Farmers Irrigation District – Bayard Shop	N	N	N
10	Farmers Irrigation District – Red Willow Spillway	N	N	N
11	Farmers Irrigation District – Winter Creek Spillway	N	N	Y
12	Gering-Fort Laramie Irrigation District – Main Office/Shop	N	N	N
13	Gering-Fort Laramie Irrigation District – Shop	N	N	N
14	Hooper Irrigation District – Diversion Dam	N	N	Y
15	Lisco Irrigation District – Diversion Dam	N	N	Y
16	Midland-Overland Canal Company – Diversion Dam	N	N	Y
17	Minatare Mutual Canal and Irrigation Company – Diversion Dam	N	N	Y
18	Mitchell Irrigation District – Office	N	N	Y
19	Mitchell Irrigation District – Diversion Dam House	N	N	Y

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

CF #	NAME	COMMUNITY SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
20	Northport Irrigation District – Main Office	N	N	N
21	Northport Irrigation District – Shop Building	N	N	N
22	Pathfinder Irrigation District – Lake Minatare Dam	N	N	Y
23	Pathfinder Irrigation District – Lake Alice Dam 1	N	N	Y
24	Pathfinder Irrigation District – Lake Alice Dam 1.5	N	N	Y
25	Pathfinder Irrigation District – Automated Equipment at Diversion at High Line	N	N	N
*26	Beerline Irrigation District – Spillway	N	N	N
**	Browns Creek Irrigation District – Canal/Diversion Infrastructure (Unmapped)	N	N	N/A
**	Chimney Rock Irrigation District – Canal/Diversion Infrastructure (Unmapped)	N	N	N/A
**	Empire Canal Company – Canal/Diversion Infrastructure (Unmapped)	N	N	N/A
**	Gering Irrigation District – Mathers Spill (Unmapped)	N	N	N/A
**	Gering Irrigation District – Sandhill Spill (Unmapped)	N	N	N/A
**	Gering Irrigation District – Ehrman Flume (Unmapped)	N	N	N/A
**	Gering Irrigation District – Sandberg Spill (Unmapped)	N	N	N/A
**	Gering Irrigation District – D St (Unmapped)	N	N	N/A
**	Nine Mile Irrigation District – North Platte River Diversion (Unmapped)	N	N	N/A
**	Nine Mile Irrigation District – Nine Mile Creek Diversion (Unmapped)	N	N	N/A
**	Nine Mile Irrigation District – Spillways (6) (Unmapped)	N	N	N/A
**	Nine Mile Irrigation District – Siphon (Bayard Drain/Wildhorse Creek) (Unmapped)	N	N	N/A
**	Nine Mile Irrigation District – Main Canal (Unmapped)	N	N	N/A

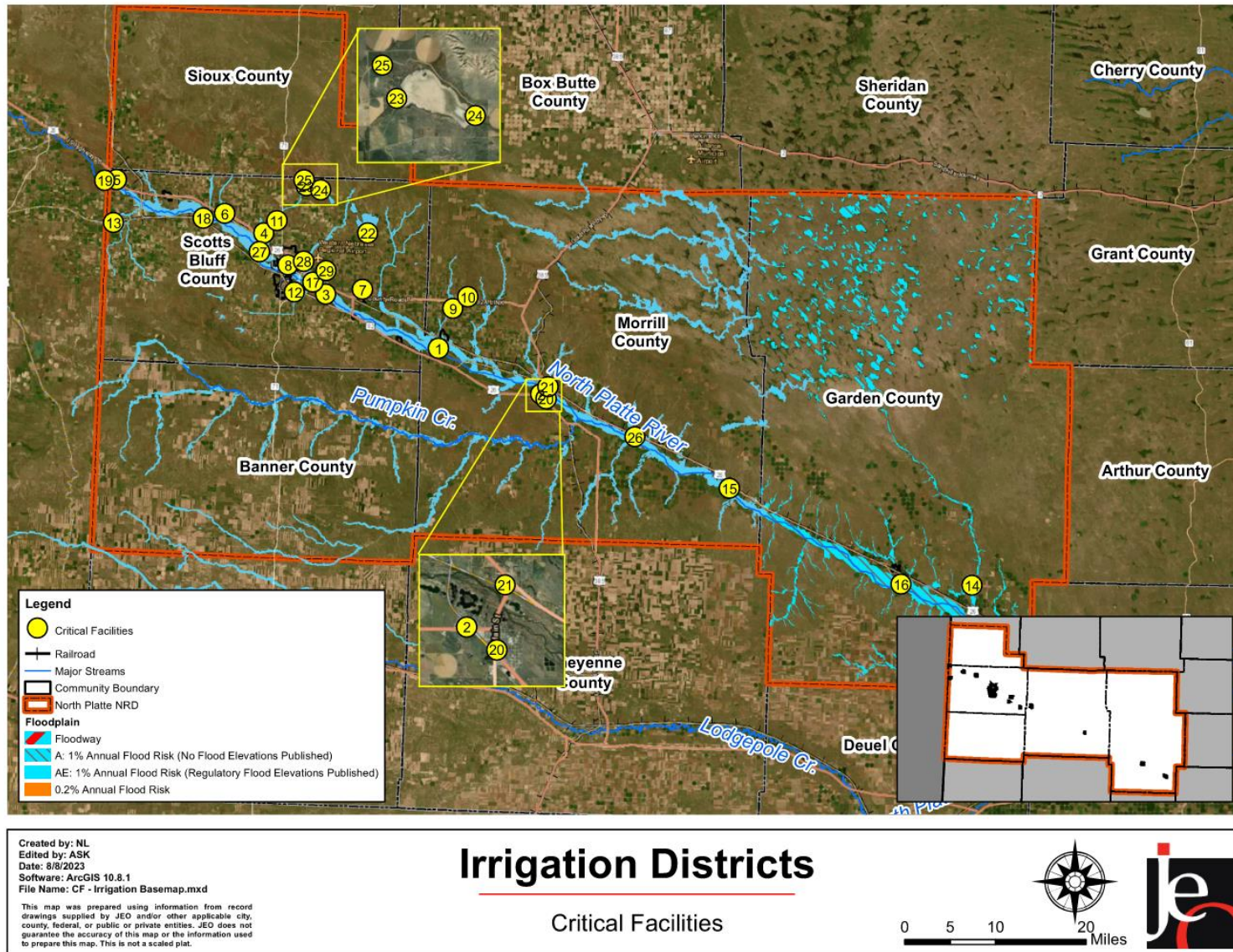
SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

CF #	NAME	COMMUNITY SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
**	Nine Mile Irrigation District – Lateral Canals (Unmapped)	N	N	N/A
**	Short Line Irrigation District – Canal/Diversion Infrastructure (Unmapped)	N	N	N/A
*27	Winters Creek Canal Company – North Platte River Diversion	N	N	Y
*28	Winters Creek Canal Company – Winters Creek Diversion	N	N	Y
*29	Winters Creek Canal Company – Check Structure Automation	N	N	N

*Critical Facilities from Irrigation Districts added in 2023

** Unmapped

Figure ID.2: Critical Facilities



*Floodplains in Banner County and Morrill County are based off a HAZUS created floodplain.

Historical Occurrences

See the county profiles for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the jurisdiction. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district's capabilities. Table ID.8 shows the hazards prioritized by each irrigation district.

Dam Failure

Irrigation districts operate diversion dams that divert water into their canals. Failure of the diversion dams would lead to damage to the canal and the irrigation district's consumers. The district would also lose the ability to divert water, which would impact irrigation and cause crop loss. Failure of any upstream dams could also lead to major flooding and potentially damage the diversion dam. Lisco Irrigation District indicated that their diversion dam is already in a weakened condition. Without it they would have to hire heavy machinery and an operator in order to get water into the ditch. Minatare Mutual Canal and Irrigation Company has had their sand diversion dam wash out for the last eight years due to high water levels on the North Platte River. As the river channel continues to get deeper, it is becoming more expensive to replace any washouts. To help reduce this from happening the company has moved to a different location in the right of way and building the dam to the tallest regulations allowed. Nine Mile Irrigation District has experienced sand dam washouts when neighboring irrigation districts had canal breaches and excess water.

Drought

Drought can be very impactful for irrigation districts. During periods of drought, there is likely to be less surface water that is able to be diverted and provided to irrigators. This would cause crop loss across the districts. Past drought affected irrigation districts in 2002, 2003, 2004, 2012, 2021, and 2022.

Extreme Heat

Extreme heat can impact the efficiency of a district's ability to deliver water. Heat directly impacts delivery to loss ratio that the districts are forced to absorb. This can affect the availability of water to the consumers and can potentially cause crop loss.

Flooding

Flooding can cause erosion of canal sides which causes flow restrictions or lead to flooding of surrounding fields if not repaired. In addition, flooding can damage diversion dams and equipment housed there. Alliance Irrigation District identified a flooding event in July 2014 that washed out part of the canal. Flooding caused \$200,000 in damages to the dirt section of the Castle Rock Irrigation District diversion dam. In 1987 eight inches of rain washed out part of the Farmers Irrigation District canal near Minatare. Gering Irrigation District experienced an overflow of its main canal in 2022. Northport Irrigation District has several siphon tubes in the canal. Flooding in 1997, 2007, and 2010 caused top damage to on the siphon tubes. If one of the siphon tubes were to fail

it would compromise the entire district and could cause damage to homes, Highway 385, and railroad bridges. Replacement of one tube could cost up to \$1,000,000.

Grass/Wildfire

During a nearby grass/wildfire, water from the irrigation district may be used to help in fire response and suppression. This could cause there to be less water for irrigators leading to crop loss.

Hazardous Materials – Fixed Site

If hazardous materials enter the canal system from a chemical spill, it could contaminate the water causing damage to crops. This would likely cause the irrigation district to shut down until the contaminant could be removed.

Levee Failure

Failure of any upstream levee could lead to major flooding and potentially damage the diversion dams for the irrigation districts.

Public Health Emergency

The recent Covid-19 pandemic brought this hazard to the forefront for irrigation districts. District staff can be considered essential workers and therefore required to continue their normal duties in order to provide irrigation water to consumers. An outbreak within the staff could make it difficult for a district to provide typical services. Pathfinder Irrigation District experienced some infections and had to implement social distancing and other protections for staff. Beerline Canal Company expressed concern for this hazard due to the possibility for drinking water sources to be contaminated during flooding.

Severe Thunderstorms

Severe thunderstorms can include heavy rain which could cause flooding issues and erosion of canal sides. This erosion can restrict flows or cause flooding of surrounding fields and property if not repaired. High winds during severe thunderstorms can also cause debris to get into the canal.

Severe Winter Storms

Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. Irrigation District infrastructure can be damaged as a result of severe winter storms and the repeated freeze-thaw cycle.

Tornadoes and High Winds

High winds can blow trees or other debris into the canal. This can cause flow restrictions and possibly lead to flooding of surrounding fields. In 2017 high winds caused debris to go into the Farmers Irrigation District canal and plugged up bridges. This caused the district to shut down until the debris was removed.

Table ID.8: Hazard Prioritization

PARTICIPATING IRRIGATION DISTRICT	ANIMAL AND PLANT DISEASE	DAM FAILURE	DROUGHT	EARTHQUAKES	EXTREME HEAT	FLOODING	GRASS/WILDFIRE	HAZARDOUS MATERIALS – FIXED SITES	HAZARDOUS MATERIALS - TRANSPORTATION	LEVEE FAILURE	PUBLIC HEALTH EMERGENCY	SEVERE THUNDERSTORMS	SEVERE WINTER STORMS	TERRORISM	TORNADOES AND HIGH WINDS
ALLIANCE IRRIGATION DISTRICT			X			X	X					X			
BEERLINE CANAL COMPANY			X		X	X					X				
BRIDGEPORT IRRIGATION DISTRICT		X	X			X						X			X
BROWNS CREEK IRRIGATION DISTRICT		X	X			X						X			
CASTLE ROCK IRRIGATION DISTRICT		X	X			X				X		X			
CHIMNEY ROCK IRRIGATION DISTRICT		X	X			X						X			
EMPIRE CANAL COMPANY		X	X		X	X	X			X		X	X		X
ENTERPRISE IRRIGATION DISTRICT		X				X				X		X			X
FARMERS IRRIGATION DISTRICT		X	X			X		X				X			X

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

PARTICIPATING IRRIGATION DISTRICT	ANIMAL AND PLANT DISEASE	DAM FAILURE	DROUGHT	EARTHQUAKES	EXTREME HEAT	FLOODING	GRASS/WILDFIRE	HAZARDOUS MATERIALS – FIXED SITES	HAZARDOUS MATERIALS - TRANSPORTATION	LEVEE FAILURE	PUBLIC HEALTH EMERGENCY	SEVERE THUNDERSTORMS	SEVERE WINTER STORMS	TERRORISM	TORNADOES AND HIGH WINDS
GERING IRRIGATION DISTRICT			X		X	X	X					X	X		X
GERING-FORT LARAMIE IRRIGATION DISTRICT		X				X						X			X
HOOPER IRRIGATION DISTRICT			X									X			
LISCO IRRIGATION DISTRICT		X				X						X			
MIDLAND-OVERLAND CANAL COMPANY		X										X			X
MINATARE MUTUAL CANAL AND IRRIGATION COMPANY		X				X						X			
MITCHELL IRRIGATION DISTRICT			X			X						X			X
NINE MILE IRRIGATION DISTRICT		X	X			X						X			

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

PARTICIPATING IRRIGATION DISTRICT	ANIMAL AND PLANT DISEASE	DAM FAILURE	DROUGHT	EARTHQUAKES	EXTREME HEAT	FLOODING	GRASS/WILDFIRE	HAZARDOUS MATERIALS – FIXED SITES	HAZARDOUS MATERIALS - TRANSPORTATION	LEVEE FAILURE	PUBLIC HEALTH EMERGENCY	SEVERE THUNDERSTORMS	SEVERE WINTER STORMS	TERRORISM	TORNADOES AND HIGH WINDS
NORTHPORT IRRIGATION DISTRICT		X	X			X						X			X
PATHFINDER IRRIGATION DISTRICT		X	X		X	X					X	X			
SHORT LINE IRRIGATION DISTRICT			X			X						X			
WINTERS CREEK CANAL COMPANY		X	X			X									

Mitigation Strategy

Most irrigation districts have limited financial resources with annual budgets limited to maintaining current facilities and equipment. As such, each district will continue to leverage existing relationships with local, county, state, and federal agencies in the implementation of mitigation projects.

Mitigation and Strategic Actions

Alliance Irrigation District

MITIGATION ACTION	HEADGATE/FLOOD CONTROL
DESCRIPTION	Purchase and install one or more headgates to provide improved flood control.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Alliance Irrigation District
ESTIMATED COST	\$52,000 for one/\$100,000 for two
FUNDING	North Platte NRD
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Alliance Irrigation District Board, North Platte NRD
STATUS	Not Started

Beerline Canal Company

MITIGATION ACTION	HEADGATE/RETURN STRUCTURE
DESCRIPTION	Replace headgate and return structure to provide improved flood control, safety, and water management.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Beerline Irrigation District
ESTIMATED COST	\$247,500
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Beerline Irrigation District Board, North Platte NRD
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Beerline Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Beerline Irrigation District Board, North Platte NRD
STATUS	Not Started

Bridgeport Irrigation District

MITIGATION ACTION	BANK STABILIZATION
DESCRIPTION	Stabilize banks along streams and rivers. This may include, but is not limited to: reducing bank slope, addition of riprap, installation of erosion control materials/fabrics.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Bridgeport Irrigation District
ESTIMATED COST	\$15,000
FUNDING	Irrigation District General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Bridgeport Irrigation District Board
STATUS	The district routinely performs maintenance on the diversion dam.

Browns Creek Irrigation District

MITIGATION ACTION	DIVERSION STRUCTURE
DESCRIPTION	Construct a river diversion structure
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Browns Creek Irrigation District
ESTIMATED COST	\$5,000,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Browns Creek Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	SPILLWAY IMPROVEMENTS
DESCRIPTION	Improve spillway structure
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Browns Creek Irrigation District
ESTIMATED COST	\$300,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Browns Creek Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Browns Creek Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Browns Creek Irrigation District Board, North Platte NRD
STATUS	Not Started

Castle Rock Irrigation District

MITIGATION ACTION	REDESIGN DIVERSION STRUCTURE AND INSTALL AUTOMATED DIVERSION AND SPILL GATES
DESCRIPTION	Redesign diversion structure and install automated diversion and spill gates
HAZARD(S)	Dam Failure, Flooding
IRRIGATION DISTRICT	Castle Rock Irrigation District
ESTIMATED COST	\$900,000
FUNDING	Irrigation District General Fund
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Castle Rock Irrigation District Board, North Platte NRD
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

Chimney Rock Irrigation District

MITIGATION ACTION	NILLEY LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$120,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	DURNALL LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$120,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	SETTELER LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$120,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	EIRICH LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$237,600
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	NERUD LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$240,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	CLARK LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$81,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	AMB LATERAL
DESCRIPTION	Construct a new lateral
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$237,600
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Chimney Rock Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Chimney Rock Irrigation District Board, North Platte NRD
STATUS	Not Started

Empire Canal Company

MITIGATION ACTION	HEADGATE/FLOOD CONTROL
DESCRIPTION	Purchase and install one or more headgates to provide improved flood control.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Empire Canal Company
ESTIMATED COST	To be determined
FUNDING	Canal Company General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Empire Canal Company Board, North Platte NRD
STATUS	Not Started

MITIGATION ACTION	NEW FLUME
DESCRIPTION	Construct a new flume
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Empire Canal Company
ESTIMATED COST	To be determined
FUNDING	Canal Company General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Empire Canal Company Board, North Platte NRD
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Empire Canal Company
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Empire Canal Company Board, North Platte NRD
STATUS	Not Started

Enterprise Irrigation District

MITIGATION ACTION	INSTALL UNDERGROUND PIPELINES
DESCRIPTION	Install underground pipelines
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Enterprise Irrigation District
ESTIMATED COST	To be determined
FUNDING	Loan from local bank
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Enterprise Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	REPLACE DIVERSION DAM
DESCRIPTION	Replace Diversion Dam
HAZARD(S)	Dam Failure, Flooding
IRRIGATION DISTRICT	Enterprise Irrigation District
ESTIMATED COST	\$3 million
FUNDING	Loan from local bank
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Enterprise Irrigation District Board
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

Farmers Irrigation District

MITIGATION ACTION	EMERGENCY SPILLWAY
DESCRIPTION	Build a new emergency spillway
HAZARD(S)	Flooding, Drought
IRRIGATION DISTRICT	Farmers Irrigation District
ESTIMATED COST	\$250,000
FUNDING	Irrigation District General Fund, Bureau of Reclamation
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Farmers Irrigation District Board
STATUS	Not started

Gering Irrigation District

MITIGATION ACTION	AUTOMATED HEADGATE AT MATHERS SPILLWAY
DESCRIPTION	Purchase and install an automated headgate to provide improved flood control.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Gering Irrigation District
ESTIMATED COST	To be determined
FUNDING	Irrigation District General Fund
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Gering Irrigation District, North Platte NRD
STATUS	Applying for funding

MITIGATION ACTION	AUTOMATED HEADGATE AT SANDHILLS SPILLWAY
DESCRIPTION	Purchase and install an automated headgate to provide improved flood control.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Gering Irrigation District
ESTIMATED COST	To be determined
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Gering Irrigation District, North Platte NRD
STATUS	Applying for funding

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	IMPROVE EHRMAN FLUME
DESCRIPTION	Enlarge and make improvements to the Ehrman Flume to handle additional water.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Gering Irrigation District
ESTIMATED COST	To be determined
FUNDING	Irrigation District General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Gering Irrigation District, North Platte NRD
STATUS	Applying for funding

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Gering Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Gering Irrigation District Board, North Platte NRD
STATUS	Not Started

Gering-Fort Laramie Irrigation District

MITIGATION ACTION	INSTALL UNDERGROUND PIPELINES
DESCRIPTION	Install underground pipelines
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Gering-Fort Laramie Irrigation District
ESTIMATED COST	\$20,000-\$100,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Gering-Fort Laramie Irrigation District Board
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	MAINTAIN AND REHAB DISTRICT SIPHONS
DESCRIPTION	Maintain and Rehabilitate district siphons
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Gering-Fort Laramie Irrigation District
ESTIMATED COST	\$100,000-\$300,000
FUNDING	Irrigation District General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Gering-Fort Laramie Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	TOTAL SYSTEM MAINTENANCE
DESCRIPTION	Perform maintenance on the entire irrigation ditch system
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Gering-Fort Laramie Irrigation District
ESTIMATED COST	\$20,000-\$50,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Gering-Fort Laramie Irrigation District Board
STATUS	Not Started

Hooper Irrigation District

MITIGATION ACTION	INSTALL UNDERGROUND PIPELINES
DESCRIPTION	Install underground pipelines
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Hooper Irrigation District
ESTIMATED COST	To be determined
FUNDING	Tax Levies
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Hooper Irrigation District Board
STATUS	Not Started

Lisco Irrigation District

MITIGATION ACTION	REPAIR/REPLACE DIVERSION DAM
DESCRIPTION	Repair/Replace Diversion Dam
HAZARD(S)	Dam Failure, Flooding
IRRIGATION DISTRICT	Lisco Irrigation District
ESTIMATED COST	\$75,000
FUNDING	Tax collected from landowners in irrigation district
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Lisco Irrigation District Board
STATUS	Not Started

Midland-Overland Canal Company

MITIGATION ACTION	HEADGATE
DESCRIPTION	Purchase and install a headgate to provide improved flood control.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Midland-Overland Canal Company
ESTIMATED COST	\$35,000
FUNDING	Irrigation District General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Midland-Overland Canal Company, North Platte NRD
STATUS	Not Started

Minatare Mutual Canal and Irrigation Company

MITIGATION ACTION	DIVERSION DAM IMPROVEMENTS
DESCRIPTION	Perform improvements to the diversion dam such as adding natural rock, cleaning channel to headgate, breaking up sand, etc.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Minatare Mutual Canal and Irrigation Company
ESTIMATED COST	\$207,401
FUNDING	Farmers' operation and maintenance fees
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Minatare Mutual Canal and Irrigation Company, Paul Reed Construction
STATUS	Channel has been cleaned and sand was bulldozed in May 2021.

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

Mitchell Irrigation District

MITIGATION ACTION	CANAL RE-SLOPING
DESCRIPTION	Perform canal re-sloping to provide better flow
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Mitchell Irrigation District
ESTIMATED COST	\$10,000+
FUNDING	Irrigation District General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Mitchell Irrigation District Board
STATUS	The project has begun and is performed annually during the winter.

MITIGATION ACTION	DIVERSION DAM AND HEADGATE IMPROVEMENTS
DESCRIPTION	Perform improvements on the diversion dam and headgates when they experience damage.
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Mitchell Irrigation District
ESTIMATED COST	\$20,000+
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Mitchell Irrigation District Board
STATUS	Not started.

Nine Mile Irrigation District

MITIGATION ACTION	SUPPLEMENT SWIFF FUNDING
DESCRIPTION	Supplement SWIFF funding to increase safety for employees
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Nine Mile Irrigation District
ESTIMATED COST	\$65,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Nine Mile Irrigation District Board, NeDNR
STATUS	Not started.

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	REBUILD CREEK DIVERSION
DESCRIPTION	Completely rebuild the district's creek diversion.
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Nine Mile Irrigation District
ESTIMATED COST	TBD
FUNDING	Irrigation District General Fund
TIMELINE	5+
PRIORITY	Low
LEAD AGENCY	Nine Mile Irrigation District Board
STATUS	Not started.

MITIGATION ACTION	SIPHON RE-LINING
DESCRIPTION	Re-line siphon(s)
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Nine Mile Irrigation District
ESTIMATED COST	TBD
FUNDING	Irrigation District General Fund
TIMELINE	5+
PRIORITY	Low
LEAD AGENCY	Nine Mile Irrigation District Board
STATUS	Not started.

MITIGATION ACTION	SPILLWAY REINFORCEMENT
DESCRIPTION	Reinforce spillway(s)
HAZARD(S)	Drought/Flooding
IRRIGATION DISTRICT	Nine Mile Irrigation District
ESTIMATED COST	TBD
FUNDING	Irrigation District General Fund
TIMELINE	5+
PRIORITY	Low
LEAD AGENCY	Nine Mile Irrigation District Board
STATUS	Not started.

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Nine Mile Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Nine Mile Irrigation District Board, North Platte NRD
STATUS	Not Started

Northport Irrigation District

MITIGATION ACTION	BURY PIPE FOR PROBLEM LATERALS
DESCRIPTION	Bury pipe for problematic laterals
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Northport Irrigation District
ESTIMATED COST	To be determined
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Northport Irrigation District
STATUS	Not Started

Pathfinder Irrigation District

MITIGATION ACTION	CREATE A DISTRICT-WIDE MASTER PLAN TO PRIORITIZE ALL FLOOD RELATED PROJECTS
DESCRIPTION	Identify potential flooding sources and flood-vulnerable areas. Explore solutions and prioritize.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$2,000
FUNDING	North Platte NRD, local counties and communities
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board
STATUS	Currently working to identify flood-vulnerable areas, but a formal plan has not been started.

MITIGATION ACTION	DEVELOP A DROUGHT MANAGEMENT PLAN
DESCRIPTION	Work with relevant stakeholders to develop a drought management plan. The plan would identify water monitoring protocols, outline drought responses, identify opportunities to reduce water consumption, and establish the jurisdictional management procedures.
HAZARD(S)	Drought
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$2,000
FUNDING	North Platte NRD, nearby irrigation districts
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board
STATUS	Water monitoring procedures are in place, but a formal drought plan has not yet started.

MITIGATION ACTION	DRAINAGE STUDY/ STORM WATER MASTER PLAN
DESCRIPTION	Preliminary drainage ditches and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Storm water master plans can be developed to help identify storm water problem areas and potential drainage improvements.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$5,000
FUNDING	North Platte NRD, local counties
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board
STATUS	Currently working to identify flood-vulnerable areas, but a formal plan has not been started.

MITIGATION ACTION	EMERGENCY EXERCISE: HAZARDOUS SPILL
DESCRIPTION	Utilize exercise to prepare for potential explosions or hazardous spills. Ensure that nearby businesses and residents have appropriate plans in place.
HAZARD(S)	Hazardous Materials – Transportation
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$3,000
FUNDING	North Platte NRD, Union Pacific/BNSF railroads, nearby irrigation districts
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board
STATUS	Not started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	GROUNDWATER/ IRRIGATION/WATER CONSERVATION MANAGEMENT PLAN AND PRACTICES
DESCRIPTION	Develop and implement a plan/ best management practices to conserve water use and reduce total use (high water use to low water use) and consumption of groundwater resources by citizens and irrigators of agricultural land during elongated periods of drought. Identify water saving irrigation projects, such as sprinkler systems with soil moisture sensors. Potential restrictions on water could include limitation on lawn watering, car washing, farm irrigation restrictions, or water sold to outside sources. Implement BMPs through water conservation practices such as changes in irrigation management, education on no-till agriculture and use of xeriscaping in communities.
HAZARD(S)	Drought
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$3,000
FUNDING	North Platte NRD
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board, North Platte NRD
STATUS	Ongoing

MITIGATION ACTION	MONITOR DROUGHT CONDITIONS
DESCRIPTION	Jurisdictions can establish specific drought monitoring protocols. These protocols will serve as triggers for implementing drought response actions.
HAZARD(S)	Drought
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$1,000
FUNDING	North Platte NRD, nearby irrigation districts
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board, North Platte NRD
STATUS	Ongoing

MITIGATION ACTION	REMOTE GATE CONTROLS FOR FLOOD EVENTS
DESCRIPTION	Often, during a flood event, the Pathfinder Irrigation District would like to open gates to divert flood waters onto spillways. However, staff members have struggled to gain access to these gates during flooding events due to flood waters on roadways. The district is interested in exploring the possibility of a remote gate control, to control the gates without being physically present.
HAZARD(S)	Flooding
IRRIGATION DISTRICT	Pathfinder Irrigation District
ESTIMATED COST	\$50,000
FUNDING	Irrigation District General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Pathfinder Irrigation District Board, North Platte NRD
STATUS	Not Started

Short Line Irrigation District

MITIGATION ACTION	DIVERSION AND SPILL IMPROVEMENTS
DESCRIPTION	Improve diversion and spill.
HAZARD(S)	Flooding, Severe Thunderstorms
IRRIGATION DISTRICT	Short Line Irrigation District
ESTIMATED COST	\$500,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Short Line Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	SPILLWAY AT CURRENT HEADGATES
DESCRIPTION	Improve/add spillway at current headgates
HAZARD(S)	Flooding, Severe Thunderstorms
IRRIGATION DISTRICT	Short Line Irrigation District
ESTIMATED COST	\$200,000
FUNDING	Irrigation District General Fund
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Short Line Irrigation District Board
STATUS	Not Started

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	JUNCTION BOX WITH HEADGATES
DESCRIPTION	Improve/add junction box with headgates
HAZARD(S)	Flooding, Severe Thunderstorms
IRRIGATION DISTRICT	Short Line Irrigation District
ESTIMATED COST	\$250,000
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Short Line Irrigation District Board
STATUS	Not Started

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Short Line Irrigation District
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Short Line Irrigation District Board, North Platte NRD
STATUS	Not Started

Winters Creek Canal Company

MITIGATION ACTION	NORTH PLATTE RIVER DIVERSION REPLACEMENT
DESCRIPTION	Replace North Platte River Diversion structure
HAZARD(S)	Flooding, Dam Failure
IRRIGATION DISTRICT	Winters Creek Canal Company
ESTIMATED COST	\$1,069,920
FUNDING	Canal Company General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Winters Creek Canal Company Board
STATUS	Inquiring about quotes

SECTION SEVEN: IRRIGATION DISTRICTS PROFILE

MITIGATION ACTION	WINTERS CREEK DIVERSION REPLACEMENT
DESCRIPTION	Replace Winters Creek Diversion structure
HAZARD(S)	Flooding, Dam Failure
IRRIGATION DISTRICT	Winters Creek Canal Company
ESTIMATED COST	\$660,720
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Winters Creek Canal Company Board
STATUS	Inquiring about quotes

MITIGATION ACTION	CHECK STRUCTURE AUTOMATION REPLACEMENT
DESCRIPTION	Replace Check Structure Automation
HAZARD(S)	Flooding, Dam Failure
IRRIGATION DISTRICT	Winters Creek Canal Company
ESTIMATED COST	\$83,040
FUNDING	Irrigation District General Fund
TIMELINE	2-5 years
PRIORITY	Low
LEAD AGENCY	Winters Creek Canal Company Board
STATUS	Inquiring about quotes

MITIGATION ACTION	PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
HAZARD(S)	Animal & Plant Disease, Dam Failure, Drought, Earthquakes, Extreme Heat, Flooding, Grass/Wildfire, Hazardous Materials - Fixed Sites, Hazardous Materials - Transportation, Levee Failure, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism, Tornado & High Winds
IRRIGATION DISTRICT	Winters Creek Canal Company
ESTIMATED COST	\$3,000+
FUNDING	Irrigation District General Fund, North Platte NRD
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Winters Creek Canal Company Board, North Platte NRD
STATUS	Not Started